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Globalisation and human development: Long-term evidence from countries at different levels of development

Dorota Kuder, Justyna Wróblewska

ABSTRACT

Objective: The main goal of this research is to assess the long-term effects of economic, social, and political globalisation on human development, as measured by the Human Development Index (HDI). The study also identifies how these relationships differ across groups of countries at different levels of development, using panel data econometric techniques.

Research Design & Methods: The research used a balanced panel dataset, which included 40 countries grouped by HDI development levels across 33 years (from 1990 to 2022). The KOF Globalisation Index captures globalisation through three dimensions: economic, social, and political. The HDI serves as the dependent variable, representing the quality of life. The research methodology uses log-linear panel cointegration models, which employ common correlated effects (CCE) estimators and include a panel error correction model (ECM) to analyse long-run relationship dynamics.

Findings: Social globalisation creates positive and substantial effects on HDI in countries at all development levels, including those with very high, medium, and low development, especially in countries with limited access to essential services. The effects of economic globalisation on different groups show no pattern of sustained change, and political globalisation benefits only high-HDI countries that possess strong institutional capacity. The research demonstrates that globalisation and HDI share a cointegration relationship, while developed countries exhibit both rapid adjustment and periodic patterns.

Implications & Recommendations: The research demonstrates that globalisation produces varying impacts on human development based on the development stage of a nation and its institutional capabilities. Developing nations need to build stronger institutions and social services to benefit from social globalisation, while economic integration demands domestic reforms that include all segments of society. Advanced countries need to stay actively involved in global politics while developing strategies that suit their individual national situations.

Contribution & Value Added: The research adds value to existing literature through its comprehensive evaluation of globalisation's multiple dimensions on human development, which examines economic, social, and political effects in different development stages. The econometric framework used in this study addresses cross-sectional dependence and heterogeneity while providing policy-relevant insights into the effects of globalisation on quality of life. A key novelty of this article lies in its differentiated analysis across HDI-based country groups, offering long-term evidence on how globalisation's effects vary depending on national development levels and institutional capacity.

Article type: research article

Keywords: Globalisation; human development; quality of life; panel data analysis; long-term effects

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INTRODUCTION

During the early twenty-first century, globalisation developed into a complete transformative force which reshapes institutional structures and cultural foundations and political systems of nations world-

wide. The fast-growing cross-border movement of goods and capital and people and information and ideas has created extensive national interdependence, which transforms how countries develop (Gonzalez-Perez *et al.*, 2024). The increasing depth of globalisation requires a complete understanding of its effects, which extend beyond economic production to human wellness and life quality (Tamasauskiene & Žičkienė, 2021). Scholars extensively researched the economic aspects of globalisation, but the effects of economic, social, and political globalisation on human development continue to be an active area of scientific investigation (Cuyvers, 2001).

The studies by Sapkota (2011), Behera and Sahoo (2023), Figueroa (2014), Cieślik (2014), Ulucak *et al.* (2020), and Asongu (2012) share a common research focus on examining how different dimensions of globalisation influence human development or quality of life, particularly through the lens of the Human Development Index (HDI). They all employ quantitative methods (*e.g.*, panel data econometrics, cointegration, or ARDL models) and emphasise the heterogeneous impact of globalisation across countries at various stages of development or with varying institutional capacities. A recurring conclusion across these works is that the benefits of globalisation on HDI are not automatic, and are often mediated by domestic factors such as governance, education, ICT diffusion, and income inequality.

Our study contributes to an active and policy-relevant area of research by examining how different dimensions of globalisation – economic, social, and political – affect human development across varying levels of national development. Although globalisation has received wide scholarly attention, its nuanced long-term impact on human development remains underexplored, particularly in a post-pandemic world marked by growing global interdependence. By applying panel cointegration techniques, this article offers timely and original insights into how globalisation's effects differ across contexts and what this means for inclusive development strategies.

The human development index (HDI) offers a complete evaluation of societal advancement, which extends past traditional income-based assessments. The index shows advancements in health outcomes together with education levels and standard of living, which respond to policy decisions and institutional strength and external global influences.[1] The effects of globalisation on HDI occur through direct and indirect channels, which include international knowledge diffusion and global health initiatives and educational exchange and capital investments and institutional alignment with global norms. The effects of globalisation tend to vary substantially between nations that differ in their developmental stages. The integration of global markets offers developing nations access to modern technology and better healthcare, but simultaneously exposes them to economic instability and limited freedom in domestic policy decisions. High-income countries gain advantages from international political cooperation and social connections, yet experience decreasing returns from their economic integration activities.

This research aims to assess the long-term effects of economic, social, and political globalisation on human development, as measured by the Human Development Index (HDI). It also identifies how these relationships differ across groups of countries at different development levels, using panel data econometric techniques. The study utilised four balanced panel datasets covering a total of 40 countries (ten countries each with high and very high and medium and low HDI levels) from 1990 to 2022 (T=33, N=10 per group) to investigate long-term structural relationships and dynamic adjustments in HDI. The three components of the KOF Globalisation Index served as our main explanatory variables since they provide standardised economic, social, and political globalisation scores on a 0-100 scale.

Our analysis utilised a log-linear model that applies logarithmic transformations to HDI together with the three globalisation indices to determine long-run relationships. Analysis of the relationship between HDI and globalisation forms becomes easier through elasticity coefficients, which measure how percentage changes in globalisation affect HDI. To address global shocks which affect all panel members, we used the common correlated effects (CCE) estimator that Pesaran (2006) introduced. The method enables the analysis of both cross-sectional dependence and diverse country-specific

[1] HDI is a composite index developed by the UNDP to measure average achievement in three fundamental dimensions of human development: (1) a long and healthy life, measured by life expectancy at birth; (2) knowledge, assessed via mean years of schooling for adults and expected years of schooling for children; (3) decent standard of living, captured by gross national income (GNI) per capita (PPP), using a logarithmic transformation to reflect diminishing income returns. Each dimension is normalized to a 0-1 scale using fixed goalposts, and the HDI is computed as the geometric mean of these three-dimension indices (UNDP, 2025).

slope coefficients, which leads to enhanced result robustness and easier interpretation. Our research employed two methods: CCE Mean Group (CCEMG), which focuses on individual country coefficients and CCE Pooled (CCEP), which determines a shared effect for all countries.

A panel error correction model (ECM) helped us determine the speed at which countries return to equilibrium following temporary disturbances. The model includes lagged levels and first differences of variables to determine long-run relationships. To confirm the validity of the panel framework assumptions for different development contexts, we used Pesaran's (2021; 2007) CD tests for cross-correlation and CIPS tests for unit roots.

This study sought to answer the following research questions:

RQ1: What are the long-term effects of economic, social, and political globalisation on the Human Development Index (HDI)?

RQ2: How do these relationships differ across countries grouped by human development level, as estimated within a panel cointegration framework?

We begin with the background, motivation, research questions, and the analytical framework used to explore the relationship between globalisation and human development. The next section provides theoretical foundations and discusses key definitions of globalisation, followed by an analysis of factors moderating its impact on quality of life. Then, using data, econometric techniques (panel cointegration and error correction models), and variable construction, we present empirical findings by country development groups, verifying or refuting the hypotheses through statistical analysis. The final part of the research synthesises the results, highlights key policy implications, and emphasises the need for context-sensitive approaches to globalisation to enhance human development outcomes.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

There are many definitions of globalisation. In sociology and political science, Giddens (1990) describes globalisation as the 'intensification of worldwide social relations which link distant localities in such a way that local happenings are shaped by events occurring many miles away and vice versa.' He emphasises the intensification of social relations, showing how distant occurrences and focusing on modernity as the foundation of these shifting relationships influence local events.

In fields such as sociology, cultural studies, and international relations, scholars often cite Robertson's (1992, p. 8) formulation. He highlights both the spatial ('compression') and the cultural or psychological ('consciousness') dimensions of globalisation, defining it as the 'compression of the world and the intensification of consciousness of the world as a whole.' Thus, Robertson emphasises how people's awareness of the world as a single place increases.

In political science, international relations, and globalisation studies, many scholars reference the definition by Held *et al.* (1999, p. 16), who describe globalisation as 'a process (or set of processes) that transforms the spatial organisation of social relations and transactions,' generating transcontinental or interregional flows and networks of activity, interaction, and power. They see globalisation as a set of processes that reorganise social relations and transactions over global distances, emphasising networks of activity, interaction, and power, and taking a largely structural and institutional approach.

Scholte centres his analysis on deterritorialisation, proposing that globalisation occurs when social interactions become less tied to specific places (2000). He emphasises that conventional territorial boundaries lose their significance in the formation of social relations, which is a concept further developed in the field of international political economy. According to Steger (2013), globalisation is the expansion and intensification of social relations and consciousness across world-time and world-space. His perspective, similar to Robertson's, combines both structural and subjective dimensions, focusing on how globalisation involves not only economic or political factors but also cultural and psychological ones.

Despite varying emphases, all five definitions share the view of globalisation as involving heightened interactions and interdependencies across long distances. Whether expressed as intensification, expansion, or compression, each author notes how faraway events can influence local or regional processes. Each also underlines that globalisation transcends national boundaries, creating flows of ideas, people,

and goods among previously distant societies. Giddens (1990), Held *et al.* (1999), and Steger (2013) explicitly mention the multiple dimensions of globalisation – economic, political, cultural, and sometimes ideological – while Robertson (1992) and Scholte (2000) imply similarly multifaceted changes to social life. All perspectives highlight some reconfiguration of space, time, or both: Giddens refers to 'linking distant localities,' Robertson to 'world compression,' Held *et al.* (1999), to 'transcontinental flows,' Scholte to 'delinking from territorial geography,' and Steger to 'expansion across world-time and world-space.'

These five definitions present diverse understandings of globalisation as a process that strengthens international connections across distant regions. Each presents a distinct perspective: Giddens focuses on reflexivity and modernity; Robertson emphasises cultural and psychological 'compression;' Held *et al.* (1999) highlight multidimensional processes and power dynamics; Scholte centres on deterritorialization; and Steger offers a balanced view of structural expansion and subjective intensification of consciousness. The five definitions demonstrate that globalisation functions as a complex, multi-layered process which transforms global social organisation and human interaction patterns.

These definitions demonstrate how globalisation shapes various aspects of life. However, we adopted a definition of globalisation consistent with the approach of Dreher A. (2006, p. 3-4), Clark (2000, p. 86) and Norris (2000, p. 155), which defines it 'as the process of creating networks of connections among actors at intra- or multi-continental distances, mediated through flows of people, information, ideas, capital, and goods. Globalisation is a process that erodes national boundaries, integrates national economies, cultures, technologies and governance, and produces complex relations of mutual interdependence.' While earlier definitions also emphasise transnational flows of people, ideas, and capital, this perspective more explicitly frames them as 'networks of connections' spanning different geographic scales. The analysis demonstrates how national borders have become increasingly permeable and different domains have merged, thereby supporting a broader understanding of globalisation as both an economic and socio-cultural process. It also emphasises the interconnectedness of nations and regions – a central theme in globalisation research. The KOF globalisation index[2] methodology adopts this perspective, which matches the research methodology of this study.

Consequently, the network-based perspective advanced by Dreher (2006), Clark (2000), and Norris (2000) allows for the translation of the chosen definition into the KOF methodology.

Factors Moderating the Impact of Globalisation on Quality of Life

From the standpoint of globalisation's impact on quality of life, it is useful to identify factors that moderate this complex relationship. Based on the literature review, there are four main moderating factors, namely: (i) state institutions and policies, (ii) level of development, (iii) cultural context, and (iv) economic diversification.

Firstly, let us focus on the state institutions and policies. Studies indicate that institutions which are well-organised (rule of law, effective tax systems, labour-market regulations) reduce the adverse effects of globalisation while increasing its beneficial aspects. Social policy measures, including education, healthcare and housing programs, function to redistribute economic growth benefits. Bergh and Nilsson (2010) examined the link between globalisation and life expectancy in their study Good for Living? Through panel-data analysis, they examined how the KOF Globalisation Index affects life expectancy as an indicator of quality of life. The research shows that life expectancy rises with higher globalisation levels, but institutions and policies create a stronger positive effect.

Furthermore, Bergh *et al.* (2016) investigated whether globalisation affects the quality of domestic institutions and how stronger or weaker institutions affect socio-economic outcomes, including welfare and quality of life. They found that globalisation can improve domestic institutional quality over time, which in turn reinforces the benefits of globalisation through better governance and economic performance.

[2] The KOF globalisation index is a comprehensive, multidimensional measure developed by the Konjunkturforschungsstelle Swiss Economic Institute to quantify the extent of globalisation for nearly every country in the world. It evaluates globalisation across three main dimensions – economic, social, and political – and is calculated using a combination of de facto (actual flows or activities) and de jure (policy or enabling conditions) indicators (KOF Swiss Economic Institute, 2025).

Dreher *et al.* (2008) examine how globalisation influences state institutions and policies which determine spending priorities for social welfare, education, and infrastructure. The authors demonstrate that increased openness through global integration leads governments to modify their expenditure patterns by allocating funds to manage economic challenges and maintain domestic political support. Strong institutions prove more vital for development results than integration does, according to Rodrik *et al.* (2004). The authors demonstrate that institutional quality factors, such as rule of law and property rights, create better economic development than geographic or trade elements, thus controlling globalisation's long-term effects.

In *Has Globalization Gone Too Far?* Rodrik (1997) argues that globalisation produces economic growth, but the neglect of domestic institutions alongside labour-market policies and social safety nets leads to decreased social well-being. The main discovery reveals that globalisation produces social tensions when governments do not implement suitable policies to distribute its consequences. The benefits of globalisation depend heavily on effective policy decisions and institutional arrangements to overcome its negative aspects.

These studies demonstrate how globalisation affects life quality by affecting life expectancy, welfare spending, economic development and human development, yet state institutions and policies act as intervening factors.

Secondly, let us focus on the level of development. This study's focus depends heavily on the moderating factor of a country's level of development. The integration of markets and capital flows benefits highly developed nations, which possess well-developed service sectors and broad educational access and strong social security programs. Developing nations which have not advanced in their development stage tend to experience severe economic instabilities that make international market competition more difficult, which might result in reduced quality of life.

Tsai (2007) studied the link between economic globalisation and well-being indicators, which include HDI across different developmental stages of countries. The benefits of globalisation tend to increase well-being measures, but this relationship strongly depends on both institutional capacity and developmental stage. The research by Samimi and Jenatabadi (2014) demonstrates that globalisation creates greater positive effects on growth and well-being indicators when complementary policies such as education and governance are implemented. Developing nations fail to benefit brought about by globalisation unless they establish robust institutions which determine whether globalisation brings substantial welfare improvements.

Dollar (2004) investigated the impact of globalisation on poverty reduction together with income inequality across nations based on their initial income levels. The study reveals that global economic integration leads to faster income growth, but the magnitude of these benefits relies on initial development conditions, which affect quality of life improvement. The benefits of globalisation tend to increase more significantly in nations with higher wealth and stronger institutions, yet poor countries may experience reduced advantages and growing inequalities when they do not implement adequate policies.

In *The Social Impact of Globalization in the Developing Countries*, Lee and Vivarelli (2006) state that globalisation produces diverse social effects which strongly depend on development stages and labour-market regulations. Welfare increases more substantially when globalisation occurs with proper labour protections and social policies in place. Chang *et al.* (2009) establish that openness leads to growth when countries maintain strong institutional foundations, yet institutional weaknesses can limit or undo the obtained benefits.

These studies demonstrate that globalisation leads to improved quality of life through growth and human development and poverty reduction, but the extent of these benefits depends on a nation's development level and institutional strength and policy environment.

The third moderating factor is cultural context. The distinct cultural characteristics, along with social trust and social capital, influence how societies respond to globalisation's economic and social transformations. Communities with strong social trust and inclusive social structures leverage changes to improve the quality of life.

Inglehart and Baker (2000) present their research on cultural values in different societies through their article 'Modernization, Cultural Change, and the Persistence of Traditional Values' to

demonstrate how economic development related to globalisation causes societies to adopt secular-rational and self-expression values. People maintain their traditional values strongly because these values shape their experience of modernisation. In Globalisation and Culture, Tomlinson (1999) demonstrates that cultural background functions as a key element for comprehending how different communities experience global economic and social transformations. The author shows that globalisation generates multifaceted changes to cultural identities, which produce new hybrid cultural patterns instead of a unified global culture.

Inglehart (2000) observes that societies becoming more globalised tend to adopt postmaterialist values which focus on self-expression and quality of life instead of economic survival. Different historical and cultural backgrounds influence how societies react to economic integration, thus affecting their social well-being and life satisfaction outcomes. Tov and Diener (2007) demonstrate that local cultural norms have a powerful effect on subjective well-being and show how globalisation's cross-cultural interactions interact with individualistic or collective orientations to produce different results.

The degree of standardised well-being improvements from global economic or technological transformations depends on cultural values and identities. Globalisation's economic benefits lose their effectiveness when cultural identities are perceived to be under the threat of social and psychological problems.

The last moderating factor is economic diversification. Economies that are less susceptible to external disturbances manage market fluctuations better, which arise from integration. Countries with a varied export base and manufacturing structure tend to perform better in times of worldwide crises.

The article by Elmawazini, Sharif, and Manga (2013) demonstrates in Globalisation, Economic Diversification, and Development in MENA Countries that economic diversification creates stability through reduced volatility of globalisation which produces stable economic and social results. Agosin (2009) discovered that countries which diversify their exports achieve stronger resilience through various export sectors, which generate better socio-economic results.

Lederman and Maloney (2012) investigate the impact of export composition on sustainable development and well-being. The authors contend that depending on limited export products makes economies more susceptible to international market disturbances, which negatively affects their growth potential. Papageorgiou and Spatafora (2012) used the example of low-income countries to show that economic diversification reduces output volatility and supports better quality-of-life indicator stability.

The research demonstrates that diverse economies function as buffers against global shocks, which enables globalisation to produce stable improvements in growth and trade and innovation for citizens. The dependence on one main commodity or sector creates unstable income levels, which threaten the progress of quality-of-life improvements. Policy makers can maximise social welfare benefits from globalisation through their support of export diversification and the development of various industrial sectors.

Findings and the Hypothesis

The consequences of globalisation exist between positive and negative extremes. The effects of globalisation on quality of life depend on specific economic, social, and political circumstances that vary between individual nations and regions. Public institutions function as key elements to reduce negative globalisation effects, such as inequality and financial crises and to distribute globalisation benefits through social policies. Provided adequate development levels, supportive cultural contexts, and economic diversification, strong institutions function as moderating factors, which enable countries to maximise globalisation benefits while ensuring its gains benefit the population as a whole.

Considering the reviewed literature, we formulated the main research hypothesis:

H1: In its economic, social, and political dimensions, globalisation exerts a significant long-term impact on the Human Development Index (HDI), with the nature and magnitude of this effect varying across countries at different levels of development.

Given that the study separately investigates the three dimensions of globalisation (a) economic, (b) social, and (c) political), we formulated the following sub-hypotheses:

Ha: Economic globalisation has a positive long-run effect on HDI, but this effect is conditional on the quality of domestic institutions and a country's level of development.

Hb: Social globalisation is positively and significantly associated with HDI across all development groups, especially in low and medium HDI countries.

Hc: Political globalisation positively affects HDI primarily in high and very high human development countries, where institutional frameworks are capable of translating international cooperation into domestic development gains.

Empirical studies such as Rodrik (2004), Bergh and Nilsson (2010), Dreher *et al.* (2008), and Tsai (2007) support **Ha**. These scholars argue that the benefits of economic openness depend largely on institutional quality, governance effectiveness, and the policy environment. **Hb** is grounded in the work of Inglehart and Baker (2000), Tov and Diener (2007), and Tomlinson (1999), who emphasise that social globalisation enhances human well-being by facilitating knowledge diffusion, educational exchange, cultural connectivity, and access to health-related information. **Hc** draws on the research of Held and McGrew (1999), Dreher (2006), and Norris (2000), who contend that more advanced economies are better positioned to capitalise on political globalisation due to their stronger institutional capacity and higher degree of global policy engagement.

RESEARCH METHODOLOGY

The research method employed will be panel data analysis. It is a statistical technique that entails the analysis of data collected from several units (*e.g.*, countries) at different time points (*e.g.*, years). Panel data analysis combines both cross-sectional analysis (country-to-country) and time-series analysis (year-to-year).

Each country has its own fixed characteristics (geography, culture, or institutional framework) that do not change over time to control for unobserved heterogeneity. Panel analysis can isolate these constant factors, reducing omitted-variable bias. The method also allows for tracking changes over time. Because data are collected over multiple years, researchers can capture dynamic effects, such as the impact of policy reforms or economic shocks, on the variables of interest. The third reason for choosing this tool was to improve efficiency and robustness. The larger the number of observations (countries x years), the higher the reliability of statistical estimates and the possibility of detecting dependencies. Panel data methods utilise both cross-sectional and temporal dimensions to provide a more nuanced and accurate picture than single-year or single-country analyses alone.

For the purposes of this study, we measured the process of globalisation by the KOF globalisation index. Table 1 presents its structure. It is a composite index measuring globalisation for every country in the world along the economic, social, and political dimensions:

- economic globalisation characterises long-distance flows of goods, capital, and services as well as information and perceptions that accompany market exchanges,
- social globalisation expresses the spread of ideas, information, images and people,
- political globalisation characterises the diffusion of government policies.

On the other hand, the outcome variable of the study would be the most widely used measure of the quality of life, *i.e.*, the human development index (HDI). The HDI captures the average level of achievement across three key aspects of human development: living a long and healthy life, acquiring knowledge, and enjoying a decent standard of living (UNDP, 2025). One calculates it as the geometric mean of normalised indicators corresponding to each of these three dimensions.

The HDI measures health through life expectancy at birth. It assesses education using the mean years of schooling for adults aged 25 and older and the expected years of schooling for children at the start of their education. Next, it measures the standard of living by gross national income per capita. To reflect the diminishing return of income at higher levels, the HDI uses the logarithm of gross national income. Finally, it combines the three-dimensional indices into a composite index through their geometric mean.

For the study, we selected countries from different areas and with different levels of development. Such a selection allowed us to capture their contrast and diversity.

We selected countries based on their classification by the human development index (HDI), ensuring balanced representation across four development groups: very high, high, medium, and low.

Table 1. Structure of the KOF globalisation index

GLOBALISATION INDEX, DE FACTO	WEIGHTS	GLOBALISATION INDEX, DE JURE	WEIGHTS
Economic globalisation, de facto	**33.3**	**Economic globalisation, de jure**	**33.3**
Trade globalisation, de facto	50.0	Trade globalisation, de jure	50.0
Trade in goods	38.8	Trade regulations	26.8
Trade in services	44.7	Trade taxes	24.4
Trade partner diversity	16.5	Tariffs	25.6
		Trade agreements	23.2
Financial globalisation, de facto	50.0	Financial globalisation, de jure	50.0
Foreign direct investment	26.7	Investment restrictions	33.3
Portfolio investment	16.5	Capital account openness	38.5
International debt	27.6	International investment agreements	28.2
International reserves	2.1		
International income payments	27.1		
Social globalisation, de facto	**33.3**	**Social globalisation, de jure**	**33.3**
Interpersonal globalisation, de facto	33.3	Interpersonal globalisation, de jure	33.3
International voice traffic	20.8	Telephone subscriptions	39.9
Transfers	21.9	Freedom to visit	32.7
International tourism	21.0	International airports	27.4
International students	19.1		
Migration	17.2		
Informational globalisation, de facto	33.3	Informational globalisation, de jure	33.3
Used internet bandwidth	37.2	Television access	36.8
International patents	28.3	Internet access	42.6
High technology exports	34.5	Press freedom	20.6
Cultural globalisation, de facto	33.3	Cultural globalisation, de jure	33.3
Trade in cultural goods	28.1	Gender parity	24.7
Trade in personal services	24.6	Human capital	41.4
International trademarks	9.7	Civil liberties	33.9
McDonald's restaurant	21.6		
IKEA stores	16.0		
Political globalisation, de facto	**33.3**	**Political globalisation, de jure**	**33.3**
Embassies	36.5	International organisations	36.2
UN peacekeeping missions	25.7	International treaties	33.4
International NGOs	37.8	Treaty partner diversity	30.4

Source: Gygli *et al.*, 2019.

Table 2. Division of countries according to the HDI index in 2022

Very High Human Development Countries (VHHDCs) HDI≥0.800	High Human Development Countries (HHDCs) 0.700<HDI<0.799	Medium Human Development Countries (MHDCs) 0.550<HDI<0.699	Low Human Development Countries (LHDCs) HDI<0.550
Australia (Oceania) – **HDI=0,946** – open economy, large inflow of migration, large exchange of raw materials; **Belgium** (Europe) – **HDI=0,942** – highly globalised economy, strong international trade links, EU institutional hub;	**Albania** (Europe) – **HDI=0,789** – small transition economy, progressing in market reforms and regional integration, candidate for EU membership; **Brazil** (South America) – **HDI=0,760** – a large domestic market, exporter of raw materials, part of the BRICS group; **Bulgaria** (Europe) – **HDI=0,799** – EU member	**Bangladesh** (South Asia) – **HDI=0,670** – dynamically developing clothing sector, high importance of production for export; **Bolivia** (South America) – **HDI=0,698** – resource-rich economy with significant natural gas and mineral exports, high dependence on commodity prices; **Cambodia** (Southeast Asia) – **HDI=0,600** – fast-growing	**Afghanistan** (South Asia) – **HDI=0,462** – conflict-affected country with low levels of development, heavily dependent on foreign aid and agriculture; **Burundi** (East Africa) – **HDI=0,420** – one of the world's poorest countries, reliant on subsistence farming, with limited integration into the global economy;

Very High Human Development Countries (VHHDCs) HDI≥0.800	High Human Development Countries (HHDCs) 0.700<HDI<0.799	Medium Human Development Countries (MHDCs) 0.550<HDI<0.699	Low Human Development Countries (LHDCs) HDI<0.550
Germany (Europe) – **HDI=0,950** – the largest economy in the EU, very high integration with the world market; **Iceland** (Europe) – **HDI=0,959** – small, open economy, high standard of living, reliant on tourism and renewable energy exports; **Japan** (East Asia) – **HDI=0,920** – highly developed, with a global network of production and trade; **Netherlands** (Europe) – **HDI=0,946** – major global trading hub, open and export-oriented economy, advanced infrastructure; **Norway** (Europe) – **HDI=0,966** – a highly developed country, based on the export of raw materials (oil), and high quality of life indicators; **Singapore** (Southeast Asia) – **HDI=0,949** – small but strongly globalised leader in the region (financial and trade centre). **Switzerland** (Europe) – **HDI=0,967** – advanced economy, strong financial sector, global leader in innovation and stability; **United States** (North America) – **HDI=0,927** – one of the largest economies, leader in the flow of capital and technology, high level of development.	with an open, export-oriented economy, undergoing structural modernisation since the post-socialist transition; **China** (East Asia) – **HDI=0,788** – a key example of dynamic development and intensive global integration in recent decades; **Dominican Republic** (Caribbean) – **HDI=0,766** – one of the fastest-growing economies in Latin America, reliant on tourism, remittances, and free-trade zones; **Indonesia** (Southeast Asia) – **HDI=0,713** – emerging economy with a large population, strong commodity exports, and increasing global economic engagement; **Mexico** (North America) – **HDI=0,781** – major manufacturing hub integrated with the U.S. market, key participant in regional trade agreements (e.g., USMCA); **Peru** (South America) – **HDI=0,762** – resource-rich economy, heavily dependent on mining exports, increasingly integrated into global trade networks; **South Africa** (RSA) (Africa) – **HDI=0,717** – the most industrialised country on the continent, strongly connected to the global raw materials market; **Vietnam** (Southeast Asia) – **HDI=0,726** – rapidly growing economy, important producer of electronics and textiles, increasingly integrated with world markets.	low-income economy, reliant on garment exports, tourism, and foreign investment **India** (South Asia) – **HDI=0,644** – a large and rapidly developing market, growing role in global services (IT); **Morocco** (North Africa) – – **HDI=0,698** diversified economy with strong trade ties to Europe, key sectors include agriculture, mining, and manufacturing; **Nicaragua** (Central America) – **HDI=0,669** – low-income, export-oriented economy, dependent on agriculture, remittances, and foreign aid; **Nepal** (South Asia) – **HDI=0,601** – economy largely dependent on agriculture and remittances; **Venezuela** (South America) – **HDI=0,699** – oil-dependent economy facing prolonged economic and political crisis, high inflation and emigration; **Zambia** (Africa) – **HDI=0,569** – mineral-exporting country, especially copper, vulnerable to global commodity price fluctuations; **Zimbabwe** (Africa) – **HDI=0,550** – post-crisis economy undergoing stabilization, reliant on agriculture and mining, limited global economic integration.	**Central African Republic** (Central Africa) – **HDI=0,387** – fragile state with ongoing conflict, rich in natural resources but with weak institutions and minimal development; **Congo** (Democratic Republic of the Congo) (Central Africa) – **HDI=0,481** – vast mineral wealth (e.g., cobalt, copper), but limited infrastructure and persistent political instability; **Guinea** (West Africa) – **HDI=0,471** – resource-rich (notably bauxite), but marked by poverty, political instability, and underdeveloped infrastructure; **Mali** (West Africa) – **HDI=0,410** – landlocked, low-income economy reliant on agriculture and gold mining, facing internal conflict and climate challenges; **Mozambique** (Southeast Africa) – **HDI=0,461** – a country rich in raw materials (natural gas), but low level of development and poor infrastructure; **Niger** (West Africa) – **HDI=0,394** – one of the least developed countries, with an economy based on subsistence agriculture and uranium mining; **Sierra Leone** (West Africa) – **HDI=0,458** – post-conflict country, dependent on mineral exports (diamonds), with ongoing challenges in infrastructure and poverty reduction; **Yemen** (Middle East) – **HDI=0,424** – conflict-ridden country with a collapsing economy, severe humanitarian crisis, and limited global integration.

Source: own study.

We chose ten countries from each group, reflecting both geographical diversity and data availability for the period 1990-2022. This balanced panel design allowed for robust comparison of globalisation's long-term effects on human development across different development contexts, while ensuring consistent data quality for econometric analysis.

We measured all the modelled variables in points, and their values vary between 0 and 100. We estimated the long-run relationship given by the log-linear form:

$$h_{it} = \beta_{1i} e_{it} + \beta_{2i} s_{it} + \beta_{3i} p_{it} + u_{it} \quad (1)$$

in which h_{it} is the logarithm of the HDI of the ith country in year t, e_{it} is the logarithm of the economic globalisation index, s_{it} is the logarithm of the social globalisation index, and p_{it} is the logarithm of the political globalisation index, $i = 1,2, \dots, N$, $t = 1,2, \dots, T$. In all considered groups, we examined the determination of the HDI in 10 countries ($N = 10$) over 33 years ($T = 33$). Following Pesaran (2006) (see also Kapetanios *et al.* (2011), Holly *et al.* (2010)), we assumed that u_{it} had a multi-factor structure ($u_{it} = \gamma_i' f_t + \varepsilon_{it}$, where f_t was a vector of unobserved common shocks/factors and ε_{it} were the individual-specific errors). Through the unobserved common components of u_{it} , we accounted for different factors that may drive the HDI. Note that according to equation (1), we allowed the coefficients of the long-run relationship to vary individually across countries. We wanted to estimate the mean effect, $\beta = E(\beta_i)$, so we considered a random coefficient model, *i.e.*, $\beta_i = \beta + \nu_i, \nu_i \sim iid(0, \Omega_i)$. To estimate this mean impact of the selected variables on the HDI, we used the common correlate effects (CCE) estimator proposed by Pesaran (2006), which is consistent under heterogeneity and cross-sectional dependence. We considered both the CCE mean group estimator (CCEMG), which is the average of the individual CCE estimators, and the CCE pooled estimator (CCEP), which one obtains by pooling the information over the cross sections (see *e.g.*, Pesaran, 2006 and Holly *et al.,* 2006). We used the same methods to estimate the panel error correction model:

$$\Delta h_{it} = \phi_i + \alpha_i \left(h_{i,t-1} - \hat{\beta}_{1i} e_{i,t-1} - \hat{\beta}_{2i} s_{i,t-1} - \hat{\beta}_{3i} p_{i,t-1}\right) + \delta_{1i} \Delta e_{it} + \\ + \delta_{2i} \Delta s_{it} + \delta_{3i} \Delta p_{it} + \zeta_{it} \quad (2)$$

The coefficients α_i measure the speed with which the HDI adjusts to a shock. We can also approximate the half-life of such a shock as $-\ln(2) / \ln(1 + \alpha_i)$. The point estimates of the mean long-run elasticities are denoted by $\hat{\beta}_{ji}, j = 1,2,3$.

RESULTS AND DISCUSSION

First, we tested for cross-sectional dependence in the panels. We used a cross dependence (CD) test proposed by Pesaran (2021), which one can apply to both stationary and unit root dynamic heterogeneous panels, allowing for structural breaks. The results (Table 3) show statistically significant cross-correlation in both levels and first differences of the variables across almost all panels; except for the first differences of p_{it} in the panel of highly developed countries (the political globalisation index in the HHDCs). Given these results, we chose Pesaran's CIPS tests (Pesaran, 2007) to test for unit root behaviour. To capture the trend behaviour of the levels, we run the CIPS test with a constant and a linear trend ($CIPS_{\mu t}$), while in the first differences regressions, we only include a constant ($CIPS_{\mu}$). In all panels, we could not reject the unit root hypothesis for h_{it} at all commonly considered significance levels (0.01, 0.05, 0.1). In the case of very high and low human development countries, we also did not reject the hypothesis of a unit root trend in s_{it}. In the group of highly developed countries we did not reject the unit root hypothesis for e_{it}, and at the 0.01 and 0.05 significance levels, we could not reject the unit root hypothesis for e_{it} in the panel of medium-developed countries. The CIPS tests confirmed that the processes were at most integrated of order one (I(1)), as unit roots were present in levels but not in first differences. This justified proceeding with cointegration analysis. Thus, at most, the variables exhibit $I(1)$ behaviour. In each panel, two variables can be considered $I(1)$, making it reasonable to explore the possibility of cointegration between them. We could also augment this relationship with $I(0)$ processes, so we could proceed with estimating the relationship defined by equation (1).

Table 3. Values of statistics of diagnostic tests

Variable	h	e	s	p		Δh	Δe	Δs	Δp
VHHDCs									
CD	37.757***	34.537***	36.500***	30.061***	CD	9.543***	15.715***	9.003***	17.114***
$CIPS_{\mu t}$	-2.373	-3.063**	-2.689	-4.787***	$CIPS_{\mu}$	-5.169***	-5.633***	-5.294***	-5.712***
HHDCs									
CD	33.909***	7.256***	37.439***	30.095***	CD	7.354***	2.772***	8.968***	1.612
$CIPS_{\mu t}$	-1.825	-2.487	-3.611***	-2.940**	$CIPS_{\mu}$	-4.345***	-5.565***	-5.985***	-5.474***
MHDCs									
CD	36.215***	27.719***	37.393***	32.495***	CD	11.209***	5.548***	5.801***	7.315***
$CIPS_{\mu t}$	-2.081	-2.860*	-3.199***	-3.660***	$CIPS_{\mu}$	-4.173***	-5.198***	-5.387***	-5.211***
LHDCs									
CD	33.029***	12.394***	37.151***	26.674***	CD	7.024***	2.400**	7.204***	10.520***
$CIPS_{\mu t}$	-1.923	-3.021**	-2.673	-3.654***	$CIPS_{\mu}$	-4.271***	-5.363***	-5.774***	-5.874***

Notes: 0.1, 0.05 and 0.01 significance denoted by *, ** and ***, respectively; CD – Pesaran's CD test for cross-sectional dependence in panels; $CIPS_{\mu}$ – Pesaran's CIPS unit root test with a constant (critical values: $z_{0.01} = -2.57$, $z_{0.05} = -2.33, z_{0.1} = -2.21$, Pesaran, 2007); $CIPS_{\mu t}$ – Pesaran's CIPS unit root test with a constant and a linear trend (critical values: $z_{0.01} = -3.10, z_{0.05} = -2.86, z_{0.1} = -2.73, \text{Pesaran}, 2007$).
Source: own study in R, CD test – package plm, CIPS test – own procedure.

Findings for the Group of Very High Human Development Countries (VHHDCs)

The long-run economic globalisation index elasticities ranged from -0.398 in the Netherlands to 0.079 in Germany and were positive in four countries (Australia, Belgium, Germany and Singapore), with an average effect not statistically significant. The long-run elasticities for social globalisation ranged from 0.090 in the Netherlands to 0.241 in the United States, with negative values recorded in three countries (Germany, the Netherlands, and Norway). Social globalisation was significant and positive on average (CCEMG: 0.069, CCEP: 0.080). The third dimension was political and had no significant average effect. In five countries (Australia, Iceland, Japan, Norway, and Switzerland) the long-run political globalisation index elasticities were negative. In the considered group, they ranged from -0.167 in Switzerland to 0.061 in Belgium.

Table 4. Very high human development countries: Chosen point estimates

Variables	CCEMG	asymptotic error of CCEMG	CCEP	asymptotic error of CCEP
KOF economic elasticity	-0.032	0.045	0.004	0.021
KOF social elasticity	0.069**	0.033	0.080**	0.038
KOF political elasticity	-0.005	0.022	-0.013	0.011
Speed of adjustment	-0.841***	0.074	–	–

Note: 0.1, 0.05 and 0.01 significance denoted by *, ** and ***, respectively.
Source: own calculations in R, package plm and own procedures.

In all countries, the HDI adjusted significantly to the estimated long-run relationship at the 0.01 significance level, confirming cointegration between the series analysed for all countries. Estimates of the half-life of a shock to the HDI ranged from 2.3 months in Belgium to 1.3 years in Switzerland, while overshooting is observed in Australia, suggesting that the adjustment was cyclical.

Findings for the Group of High Human Development Countries (HHDCs)

The long-run economic globalisation index elasticities ranged from -0.072 in Afghanistan to 0.294 in Yemen, with positive values recorded in five countries: Burundi, Mali, Niger, Sierra Leone, and Yemen. This means that economic globalisation effects were heterogeneous, with positive coefficients in half of the countries. For the social globalisation index, elasticities span from -0.334 in Yemen to 0.565 in the Central African Republic. We observed positive values in four countries, *i.e.*, Afghanistan, the Central African Republic, Guinea, and Mali, but social globalisation was not signif-

icant on average. Except for Afghanistan, all countries exhibited positive long-run political globalisation index elasticities, which ranged from -0.091 in Afghanistan to 0.261 in Mali.

Table 5. High human development countries: Chosen point estimates

Variables	CCEMG	asymptotic error of CCEMG	CCEP	asymptotic error of CCEP
KOF economic elasticity	0.019	0.033	0.056	0.056
KOF social elasticity	-0.022	0.079	-0.023	0.085
KOF political elasticity	0.118***	0.030	0.149***	0.029
Speed of adjustment	-0.757***	0.055	–	–

Note: 0.1, 0.05 and 0.01 significance denoted by *, ** and ***, respectively.
Source: own study in R, package plm and own procedures.

Political globalisation was significant and positive (CCEMG: 0.118, CCEP: 0.149), supporting Hc. In every country analysed, the HDI showed a statistically significant adjustment to the estimated long-run relationship at the 0.01 level, confirming the presence of cointegration among the examined series. The estimated half-life of a shock to h_{it} ranges from 3.6 months in Mozambique to 10 months in Yemen. However, in Burundi and the Central African Republic, the adjustment process was characterised by overshooting, indicating a cyclical pattern of correction.

Findings for the Group of Medium Human Development Countries (MHDCs)

The long-run elasticities for the economic globalisation index varied from -0.042 in Peru to 0.034 in Vietnam, with positive values observed in only two countries: South Africa and Vietnam, but were not significant on average. For the social globalisation index, long-run elasticities spanned from -0.05 in Indonesia to 0.179 in South Africa. Social globalisation was positive and significant (CCEMG: 0.044), supporting Hb. We recorded negative values in four countries, *i.e.*, Albania, Bulgaria, Indonesia, and Vietnam. Regarding the political globalisation index, four countries – China, the Dominican Republic, Indonesia, and Peru – exhibit positive long-run elasticities, which ranged overall from -0.129 in South Africa to a high of 0.201 in Indonesia. Therefore, political globalisation was not significant on average and even negative in several cases.

Table 6. Medium human development countries: Chosen point estimates

Variables	CCEMG	asymptotic error of CCEMG	CCEP	asymptotic error of CCEP
KOF economic elasticity	-0.011	0.007	-0.028*	0.015
KOF social elasticity	0.044*	0.026	0.005	0.030
KOF political elasticity	-0.007	0.027	-0.029	0.022
Speed of adjustment	-0.696***	0.061	–	–

Note: 0.1, 0.05 and 0.01 significance denoted by *, ** and ***, respectively.
Source: own study in R, package plm and own procedures.

At the 0.01 significance level, the HDI exhibited a statistically significant adjustment to the estimated long-run relationship across all countries, confirming cointegration among the analysed series. The estimated half-life of a shock to h_{it} ranged from 2.6 months in Vietnam to 1.25 years in Bulgaria.

Findings for the Group of Low Human Development Countries (LHDCs)

Economic globalisation effects were again heterogeneous, with no significant average effect. The long-run economic globalisation index elasticities ranged from -0.111 in Morocco to 0.095 in Zimbabwe, with positive values observed in four countries: Bolivia, Nepal, Nicaragua, and Zimbabwe. For the social globalisation index, elasticities extended from -0.193 in Morocco to a high of 0.491 in Cambodia, with negative values found in only two countries, *i.e.*, Bangladesh and Morocco. Thus, social globalisation was strongly positive and significant (CCEMG: 0.117), especially in countries with limited public services. The long-run political globalisation index elasticities were negative in four countries, *i.e.*, Bangladesh, Bolivia, India, and Nepal, and spanned from -0.061 in Nepal to 0.227 in Zambia. It showed no significant average effect; coefficients varied widely.

Table 7. Low human development countries: Chosen point estimates

Variables	CCEMG	asymptotic error of CCEMG	CCEP	asymptotic error of CCEP
KOF economic elasticity	-0.011	0.021	0.004	0.025
KOF social elasticity	0.117*	0.062	0.157*	0.081
KOF political elasticity	0.035	0.029	0.016	0.035
Speed of adjustment	-0.703***	0.066	–	–

Note: 0.1, 0.05 and 0.01 significance are denoted by *, ** and ***, respectively.
Source: own study in R, package plm and own procedures.

At the 0.01 significance level, the HDI significantly adjusted to the estimated long-run relationship in all countries, confirming cointegration among the analysed series. The estimated half-life of a shock to h_{it} ranged from just under four months in Bangladesh to 1.4 years in Nicaragua. However, in Nepal, the adjustment followed a cyclical pattern.

In all of the panels analysed, the point estimates of the individual slope coefficients varied enormously across the cross-sectional units, so that the mean group estimates of the average effects were more reliable. For this reason, we focused on the average effects obtained using the CCEMG estimator. The average speed of adjustment coefficient was significant in all considered groups, and the average half-life varied from about 4.5 months for very high developed countries to about 7 months in the case of medium and low developed countries. The average long-run elasticity of the global economic index was not significant in any of the groups of countries considered. The average elasticity of the social global index was positive and significant in the groups of very high, medium, and low developed countries and was 0.064, 0.044, and 0.117, respectively. For highly developed countries, the average long-run elasticity of the political global index was significant, and the point estimate was 0.118. We observed that, on average, a 1% change in the political index led to a 0.11% change in the HDI.

We positively verified the main hypothesis (H) that globalisation, in its economic, social, and political dimensions, exerts a significant long-term impact on the Human Development Index (HDI), with the nature and magnitude of this effect varying across countries at different levels of development. The study confirmed that at least one dimension of globalisation significantly affects HDI in every development group, and that the impact varies across country groups (*e.g.*, political globalisation only significant in HHDCs; social globalisation significant in VHHDCs, MHDCs, LHDCs).

We neither verified nor partially refuted the sub-hypothesis (**Ha**) that economic globalisation has a positive long-run effect on HDI, but this effect is conditional on the quality of domestic institutions and a country's level of development. The average long-run elasticity of economic globalisation was not statistically significant in any of the four country groups (CCEMG results). While individual countries showed variation (positive and negative), the mean effect was null. We discussed the conditional effect on institutions in theory, but did not empirically test it in this study.

We positively verified sub-hypothesis (**Hb**) that social globalisation is positively and significantly associated with HDI across all development groups, especially in low and medium HDI countries. Although we observed individual negative effects in some very highly developed countries, the group-level effect remained significant and positive. We found a statistically significant positive effect of social globalisation on HDI in VHHDCs, MHDCs, and LHDCs (with average elasticities of 0.064, 0.044, and 0.117, respectively). In HHDCs, the relationship was not statistically significant, which is consistent with the hypothesis that the positive effect was stronger in lower and medium development groups.

We partially verified (or verified for HHDCs) sub-hypothesis (**Hc**) that political globalisation positively affects HDI primarily in high and very high human development countries, where institutional frameworks are capable of translating international cooperation into domestic development gains. Political globalisation has a positive and statistically significant effect only in HHDCs (elasticity = 0.118). In VHHDCs, MHDCs, and LHDCs the effect was not significant, and in some cases, even negative for individual countries. This matches the hypothesis' claim that only high-HDI countries benefit meaningfully from political globalisation.

Our empirical results revealed several key findings. Social globalisation demonstrates a consistent and statistically significant positive relationship with HDI across countries that have very high, medium, and low human development levels. The increased availability of global information combined with cultural exchange and international human networks leads to better educational results and healthcare access and improved living standards especially in regions with minimal service availability. The effects of economic globalisation on HDI show no significant long-term relationship but produce different outcomes between individual nations. The advantages of economic integration appear to rely on domestic factors which include governance quality and infrastructure development and the ability to absorb foreign investment. Political globalisation shows a statistically significant positive relationship only with high human development countries because these nations possess better capabilities to convert international cooperation into domestic policy enhancements. The results demonstrate that human development index (HDI) shows significant adjustments to its long-run path across all studied country groups, which supports the cointegration hypothesis between globalisation and human development. Very high HDI countries demonstrate the average adjustment speed because they maintain robust institutional systems for responding to disturbances.

This article provides a general understanding of globalisation's influence on quality of life through its combination of panel econometric methods with separate evaluations of different country groups. The research demonstrates that globalisation produces different effects across nations while showing how tailored approaches can maximise human development benefits from global integration.

CONCLUSIONS

This study presents an empirical analysis of the long-run effects of economic, social, and political globalisation on human development, measured by the Human Development Index (HDI), using a balanced panel of countries classified across four levels of development. By applying robust panel cointegration techniques, the analysis reveals that globalisation does not act as a uniform force but rather comprises a set of interrelated processes whose developmental effects are strongly dependent on national context and institutional capacity. The findings contribute to the expanding body of literature that critically evaluates how global integration interacts with domestic structures to shape long-term human well-being.

Among the three dimensions examined, social globalisation emerges as the most consistently beneficial. The study found a statistically significant and positive relationship between social globalisation and HDI in countries with very high, medium, and low levels of development. These results support the argument that global cultural exchange, access to international information, digital connectivity, and educational flows enhance human development outcomes, particularly in countries where public service provision is constrained. These findings align with those of Sapkota (2011) and Ulucak *et al.* (2020), who highlight the positive role of social globalisation in extending life expectancy and improving access to health and education in developing economies. Similarly, Behera and Sahoo (2023) emphasise that international information sharing and communication technologies have a measurable and favourable effect on the quality of life in emerging economies.

By contrast, economic globalisation does not exhibit a significant average long-term impact on HDI across any of the development groups. Its effects are highly heterogeneous and context-dependent, with positive impacts observed only in select countries. This suggests that economic openness alone is not sufficient to drive improvements in human development unless it is supported by robust domestic institutions, inclusive policy frameworks, and effective governance structures. These results confirm the conditional relationship proposed by Figueroa (2014) and Cieślik (2014), who argue that without supportive institutions and social protections, the benefits of global trade and capital flows may bypass large segments of the population. Asongu (2012) also provides evidence that absorptive capacity, including technological readiness and financial inclusion, mediates the effects of globalisation on inclusive development.

Political globalisation shows a significant positive effect only in the group of high human development countries. This likely reflects the greater institutional maturity and administrative capacity in

these nations, which enables them to convert international political engagement and treaty participation into effective domestic development outcomes. In contrast, low- and middle-income countries, with weaker political institutions, appear unable to fully leverage their involvement in global governance for human development gains. These findings are consistent with the conclusions of Figueroa (2014) and Ulucak *et al.* (2020), who underscore that political globalisation tends to benefit countries with the institutional sophistication necessary to translate global norms into national action.

From a methodological perspective, the study confirms the existence of cointegration between globalisation dimensions and HDI across all four development groups, indicating stable long-run relationships. The speed of adjustment to long-run equilibrium following a shock is highest among very high HDI countries, reflecting their stronger institutional responsiveness and resilience. In several cases, particularly in countries with more advanced institutions, the adjustment process exhibits cyclical behaviour or overshooting, suggesting complex feedback mechanisms between globalisation and development processes.

These results offer several important policy implications. Firstly, the evidence that social globalisation has consistent positive effects highlights the need for policies that foster international educational exchange, digital inclusion, and global knowledge-sharing partnerships, especially in lower- and middle-income countries. Secondly, the absence of a significant average effect of economic globalisation suggests that policymakers should not rely solely on trade and financial openness to enhance human development. Instead, one should approach economic globalisation cautiously and aligned with national development strategies that prioritise equity and institutional capacity-building. Finally, the benefits of political globalisation appear contingent on a country's ability to participate meaningfully in international governance, implying that strengthening public institutions is a prerequisite for leveraging global political engagement.

This study also reinforces the conclusion that globalisation's developmental impact is highly conditional and must be tailored to local contexts. While globalisation can be a force for improving the quality of life, this is not guaranteed. Realising its potential requires active policy engagement, long-term investments in human capital, and the construction of resilient institutions that can absorb, adapt to, and channel global influences effectively.

Despite its contributions, this study is subject to several limitations. Firstly, the use of composite indices such as the KOF Globalisation Index and the Human Development Index, while common in the literature, may mask internal variation and are influenced by subjective weighting schemes. Secondly, the analysis focuses mainly on long-run relationships. Thirdly, grouping countries by HDI level, while analytically convenient, may obscure heterogeneity related to regional characteristics, governance quality, or cultural factors. Fourth, the models do not explicitly incorporate mediating variables such as institutional quality, income inequality, or social policy indicators, which could significantly influence the observed relationships. Lastly, the post-2020 global environment has undergone major transformations due to the COVID-19 pandemic and geopolitical disruptions, which the historical data may not fully reflect.

To build upon these findings, future research could pursue several promising directions. Firstly, scholars could examine the short-run dynamics of error correction models in more detail, or employ time-varying parameter techniques to capture how globalisation affects human development in the presence of structural breaks. Secondly, disaggregating the globalisation indices to study specific sub-components, such as internet access, student mobility, and trade in services, may uncover more nuanced effects. Thirdly, including institutional quality indicators directly into the econometric framework would allow researchers to test governance as a mediating factor. Finally, updated studies are needed to evaluate how post-pandemic shifts in global integration have reshaped the relationship between globalisation and development, particularly in the domains of health, education, and social resilience.

In conclusion, globalisation remains a powerful yet uneven determinant of human development. Ensuring that its benefits are widely shared and aligned with the broader goal of improving quality of life for all requires deliberate, context-sensitive policy choices. This study provides evidence-based insights to guide such efforts and underscores the importance of combining global engagement with local institutional strength to achieve inclusive development.

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Authors

The contribution share of authors is equal and amounted to 50% for each of them.

Dorota Kuder (corresponding author)

Assistant Professor at the Department of International Trade at Krakow University of Economics (Poland), PhD in economics. Her research interests include New Institutional Economics, development economics and economic inequalities.

Correspondence to: dr Dorota Kuder, Department of International Trade, Krakow University of Economics, 27 Rakowicka Street, 31-510 Krakow, Poland, e-mail: dorota.kuder@uek.krakow.pl

ORCID https://orcid.org/0000-0002-1024-1356

Justyna Wróblewska

Associate Professor in Department of Econometrics and Operations Research at Krakow University of Economics (Poland), PhD in economics, Habilitation in economics. Her research interests include macroeconometrics, time series analysis, cointegration, VAR models.

Correspondence to: dr hab. Justyna Wróblewska, Prof. UEK, Department of Econometrics and Operations Research, Krakow University of Economics, 27 Rakowicka Street, 31-510 Kraków, Poland, e-mail: justyna.wroblewska@uek.krakow.pl

ORCID https://orcid.org/0000-0002-9789-2601

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