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Master's Programme in Economic Growth, Population and Development

## **Do governments develop humans?**

The relationship between government quality and human development

by

**Marko Jovanovic**

[jovanovicvrcelj@gmail.com](mailto:jovanovicvrcelj@gmail.com)

### Abstract:

The understanding of development is changing over time. It came a long way from a simple vision of economic progress to the contemporary human-centred perspective. However, the majority of research on institutional impacts continues to focus exclusively on the economic sphere. Thus, I decided to adopt this theoretical concept in a modern, human-oriented framework and analyse how government quality affects human development. In order to do this, I am estimating an OLS panel as it will give straightforward results that can serve as a foundation for further research. I analysed the relationship between government quality and human development on global and regional levels in a sample of 162 countries for the period between 2010 to 2019. The results varied dramatically across regions, thus, suggesting that higher government quality is not necessarily associated with human development. That said, further research is needed to understand the long-term and indirect relationship between government quality and human development.

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## 1. Introduction

Up until recent times, development was almost exclusively measured through the wealth of national economies. Amartya Sen (1980) was among the first to question this approach by arguing that an economy can only be deemed successful if it is able to enlarge real opportunities of its population. This human-centric approach allowed for a wide-range debate that eventually led to the formation of UNDP's (1990) Human Development Report which identified the people as the true wealth of a nation. The implementation of this perspective resulted in great improvements in many national and international policies while, at the same time, it created space for new studies in the sphere of development. However, the majority of researchers and government officials continued to focus exclusively on economic aspects. While this may be viewed as an issue, it should also be considered as an opportunity for future progress in developmental studies and public policies.

Another obstacle to figuring out development is in identifying its origins and the methods through which it could be affected. Perhaps, one of the most well-founded explanations is that the root source of any progress lies in institutions embedded in distinct societies (North, et al. 2009: 1-5). Yet it is important to note that institutional research mostly focused on economic growth while neglecting other aspects significant to human development. Nevertheless, these studies gave important insights that can serve as a foundation for exploring the means through which institutions influence human progress. First of all, Acemoglu, et al. (2004: 6) designed an exceptional framework which shows political power and political institutions to be the base for all other societal institutions. Second, Aron (2000: 128) and Chang (2007) explained that particular forms of governance do not guarantee prosperity. Third, Chang (2011a) deems government functionality to be the true estimate of governance quality and as such fundamental to development.

Based on the presented arguments, I intend to explore the relationship between institutions and development from a human-centred perspective and find out if improvements in government functionality actually benefit human progress, both on a global

and regional level. By doing this I believe that I will shed the necessary light on this mildly explored topic and encourage further research and policy improvements. Furthermore, I also plan to observe other theoretical factors that may influence human development and give them a suitable position within my study.

That said, while the relationship between human development and institutions was not commonly examined, there is an abundance of work on institutional and government impact on its individual aspects, which were defined by UNDP (1990) to be economic well-being, education and health. First, Acemoglu, et al. (2001; 2004: 1-6) find that economic institutions pave the road for economic outcomes, with these institutions being the consequence of political power dynamics and governments. Second, there is a great deal of evidence that suggests that government interventions were fundamental to the provision of mass education with their positive consequences being evident in all societal and economic spheres (Cappelli 2016; Goldin 2016; Lindert 2010). Third, Rodrik, et al. (2004) argue that governments can enhance overall health by implementing adequate health measures while Kapologwe, et al. (2023) and Kesale and Swai (2023) find poor governance to be the main reason behind inferior health conditions in many developing nations.

Nevertheless, as argued by Sen (2004) himself, there are many other factors that can impact human development or even be considered its integral elements. Perhaps, the most influential among them are inequality, the pace of economic progress, national economic structure and the geo-cultural context (Diamond 1999:281-292; Chancel, et al. 2022; Sachs 2005: 33-35; Stewart, et al. 2018: 168). In the case of human development distinct environmental conditions may have an especially important role, mostly due to the uneven spread of diseases, transportation, land fertility, habits, culture, etc. (Sachs 2014: 110-111). Yet, theory suggests that quality governance can help in overcoming many of those issues (Rodrik, et al. 2004). Even so, I will acknowledge all of the proposed factors in my study.

In order to find out the potential impact of government quality on human development I will estimate a panel through an Ordinary Least Squares regression (OLS), while also taking inequality, economic progress and the national economic structure into account. In order to address the geo-cultural context, I will develop a global and two regional models.

The quality of the regional models will be compared and the preferred model will be analysed along with the global model. While the OLS method has its drawbacks, which will be discussed in detail later in the work, its simplicity will allow for a straightforward interpretation and clear understanding of the association between governance functionality and human progress. The regression will be utilized on a panel data set that is composed of 162 countries that are observed from 2010 to 2019. The data will be obtained from multiple renowned sources such as the UNDP, EIU, World Bank and WID.

The main purpose of this work is to add a new perspective to the institutionalist view of development and encourage the adaptation of a more sustainable approach with human prosperity at its core. As the relationship between government quality and human progress was not much explored, the contributions of this study will be evident in both theoretical and empirical spheres. By analysing their relation with the OLS method on a contemporary panel data set on global and regional levels I will create a wide-range foundation for future research in this field. Furthermore, evaluating government quality with EIU's *Functioning of Government Indicator* will allow for estimating its relationship with human development on a broad level, as the indicator takes into account all the essentials of government performance together. Finally, my results suggest that the association between the two is not constant over different regions, and as such gives many possible directions for further analysis.

The subsequent chapters of this research work are organized as follows: (2.) Literature Review, (3.) Data and Methodology, (4.) Results and Implications and (5.) Conclusion. The (2.) Literature Review is composed of five sections, with the first one discussing human development, institutional theory and their relationship, the second, third and fourth individually discussing the impact of governance on economic development, education and healthcare, and the final section discussing the significance of forms and functionality of governments. The (3.) Data and Methodology chapter has two parts with the first one introducing the data and the second one explaining the methodology used, its benefits and drawbacks, software application and statistical methods. The (4.) Results and Implications chapter is organized into three parts with the first one exploring the global model, the second one identifying the preferred regional model and presenting and interpreting results of each region individually, while the third one gives an overview of the impact of government quality

on human development. The (5.) Conclusion chapter brings out the main findings and gives policy implications and suggestions for further research in this field.

## 2. Literature Review

The fundamental issue for observing development lies within identifying the objectives through which it could be measured. In their work, Abu-Ismaili and Ishak (2021) argue that one of the central problems behind national backwardness rests in the fact that development was historically almost exclusively quantified through levels of economic progress, which left plenty of its other objectives neglected, among which the well-being of the population takes the central spot. Thus, it can be concluded that bridging the distinction between economic and human betterment should be considered essential for wide-range prosperity.

That said, it is important to note that the focus on economic growth was largely a consequence of the common belief that economic advancement alone will be able to benefit all societal aspects and that it will eventually lead to general progress (Stewart, et al 2018: 7). However, this was not the case due to the fact that while necessary, economic growth is not sufficient for wider prosperity.

In the period between the 1950s and the 1990s, the idea of development gradually shifted to a more human-centred perspective, with the first signs being apparent in some policies that were adopted during the 1970s (Colclough 2014; Stewart, et al. 2018: 3). Nevertheless, more significant changes in developmental thought only occurred in the early 1990s with the introduction of UNDP's (1990) Human Development Report which brought the concept of human development to the economic frontier by arguing that humans need to be considered as the real wealth of a nation and that progress should be viewed as a process of enlarging people's choices.

The idea of human development was largely based on the work of Amartya Sen (1980) who finds the main concern to be in creating such an environment which can increase human opportunities by enhancing their capabilities. However, this raises the question of defining the favourable set of capabilities that will be beneficial to both the individual and the wider society. While Nussbaum (2003) tries to define such a list, Sen (2004) argues that even if some basic concepts exist, there must not be a definite framework and that the capabilities approach must be adaptable to specific societal conditions. Nevertheless, some simple directions are easily recognizable.

The UNDP (1990) points out that good health, quality education and decent living standards can be regarded as the three quinte essentials of human development. Such a basic concept allowed for this approach to be widely accepted and embedded in not only national but also international policies and frameworks, such as the MDGs and SDGs (Perkins, et al. 2013: 45; Stewart, et al. 2018: 22). Furthermore, since education and healthcare have a strong connection with human capital, it can be assumed that human development should be considered both as a perquisite and the outcome of sustainable progress (Abu-Ismaili & Ishak 2021).

Yet, Oladapo, et al. (2019) suggest that more aspects are significant to human development and that they should thus be included in UNDP's concept. However, it is possible that their incorporation would make the basic framework far more complex and that their inclusion may have more disadvantages than benefits. As discussed, the simplicity of UNDP's approach was crucial for making it possible for human development to be in the global focus. That said, including other aspects can be beneficial for issues that can be addressed on a local level.

Nevertheless, as argued by Seth and Santos (2020), human beings and their prosperity need to be at the centre of developmental attention, as such an approach is a vital prerequisite for opening the path for significant gains on a nationwide scale. However, this leaves the question of the channels through which human development can be influenced widely open for debate. In their work, Stewart, et al. (2018: 168) find government policies, economic growth and the macroeconomic structure as factors that have the highest impact on human



development and thus identify them as the major objectives for enabling prosperity. Yet, this model can be improved in two major areas. First, economic growth should not be viewed alone, but in combination with inequality in order to see true economic progress (Chancel, et al. 2022). Second, the process of defining and implementing government policies should be viewed as an integral part of wider government functions and processes (Kekic 2007), which can influence human development on a broader scope (Ouedraogo, et al. 2022).

If institutions are defined as formal and informal mechanisms of governance (Abu-Ismaïli & Ishak 2021) and it is agreed that they influence the structure of the economy and thus lead a nation towards growth, decline or stagnation (North 1991) it can be debated that governments play a central developmental role, ahead of economic growth and the macroeconomic structure. Furthermore, in their framework, Acemoglu, et al. (2004: 6) argue that the distribution of political power reflects on political institutions which, in their taught, have a major influence over economic outcomes. Hence, it is possible to view governance as an instrument that is able to shape a favourable environment for prosperity (Ahmad & Saleem 2014; Oladapo, et al. 2019). A good example of this can be seen in the progress of the Global West ahead of other world regions. As North and Thomas (1970) put it, the innovativeness of western institutions incentivised development by creating conditions that favoured growth over simple redistribution. However, this raises the question of the reasons behind the persistence of bad institutions in some countries. That said, governments should not be seen as a result of the entire population's will, but rather that of the will of a critical mass capable of holding political power. Acemoglu, et al. (2004: 47) believe that there is a principal trade-off between efficiency and distribution of goods and power and that this struggle is a crucial factor behind underdevelopment. However, multiple cases indicate that even countries in which political power is unevenly distributed can prosper (Sachs 2012; Stewart, et al. 2018: 207). This suggests that equitable power allocation may not be the key element for good governance. However, institutions that are unfavourable for general development usually persist if they are in some way beneficial for the groups holding the political power (Acemoglu, et al. 2004: 11). Therefore, while distributional problems do exist, they should only be considered as one many components behind government quality.

While Rodrik, et al. (2004) further emphasize the role of institutions, they also acknowledge a variety of factors that they are dependent on including the economy, history and geography. Chang (2011a) challenges the idea of institutional dominance, by voicing that causality between institutions and development exists in both directions. However, it is hard to imagine initial development without at least sufficient institutional quality. Furthermore, Diamond (2012) and Sachs (2012) find that geography is not only significant to the form and efficiency of institutions in place but also to development itself. Their idea is, however, not new as Gallup, et al. (1999) already argued that the two most prominent preconditions for progress are government policy and geography. Yet, it is necessary to accept that transforming an unfavourable natural environment into a favourable one is an extremely difficult task, which leaves institutional improvements as the only feasible solution for promoting development. While institutions tend to be persistent, they can change over time (Acemoglu, et al. 2002), especially through the actions of governments and political leaders (Chang 2011b). This indicates that efforts towards improving governance can be of crucial importance for incentivising prosperity.

In his work, Tridico (2011: 199) presents a clear model in which he proposes that political, social and economic institutions have a direct effect on increasing human capabilities and thus take an essential part in human development. That said, it is crucial to understand the ways in which these institutions are integrated (Rawls 1987). While this question was often discussed, Sen (2000: 162) finds that governance plays the primary role as it can serve not only as a driver but also as a platform through which other institutions are connected and through which they interact. Furthermore, Abu-Ismaili and Ishak's (2021) study shows that the relationship between institutions and human development was often unidirectional and yet quite dynamic as it largely differs over time and space. However, good governance is often shown as the principal factor for the progress of a population (Ahmad, Saleem 2014).

Stewart, et al. (2018: 2) argue that initial conditions change even on a national level over time and that while some problems are solved, new ones emerge. This just shows that there is space for a large variety of roles and levels of influence in which governments can affect human development. Tridico's (2011: 200) model suggests that the importance of institutions for capability enhancement gradually grows with human development. This is

further reinforced by Abu-Ismaïli and Ishak's (2021) research which discovered three phases that exist in this relationship. The first one is evident at very low levels of human development and government quality where they find no significant relationship, while the second one implies that the importance of governance grows with the progress of a population until the third phase in which both factors start reaching their peaks which limits possibilities for upgrading thus lowering government significance.

Ahmad and Saleem (2014) debate the idea that the government's impact on development goes far beyond the economic realm, as they are convinced that it has the power to influence all aspects of human life through education, health, environmental protection and multiple other strands. Thus, they proclaim that the main focus of the political apparatus should be to improve the well-being of the population through all available channels. Abu-Ismaïli and Ishak (2014), on the other hand, believe that the economy, education and healthcare are the three most cardinal angles through which governing institutions should deal with progress which goes well in hand with UNDP's (1990) concept of human development. Thus, the following sections will separately analyse the relationship between the state and the three mentioned spheres.

## 2.1. Governance and Economic Development

In his work, Sachs (2005: 73) argues that economic growth is essential for development and that while it can build on itself it can be of great difficulty to initiate it. This can be attributed to the persistent nature of economic institutions which determine the ways in which an economy functions and thus shape the future of a nation (Acemoglu, et al. 2001; 2004: 2-3). Depending on a variety of factors both different and similar ways of societal organization can lead to distinct outcomes. However, this does not imply that fundamental economic principles are inconsistent, but rather that they are expressed through institutions that differ in form and efficiency (Rodrik, et al. 2004).

That said, it is important to note that economic growth is not necessarily inclusive and that it does not always lead to an increase in overall living standards (Perkins, et al. 2013: 39). Acemoglu and Robinson (2012: 450, 466) explain this phenomenon by arguing that extractive

political institutions often have hindering effects on wider economic well-being as they tend to allow political elites to accumulate wealth and power. The negative developmental effects of such institutions are not unavoidable, yet historical evidence suggests that extractive regimes were rarely willing to share the fruits of economic prosperity with the wider population, indicating that inclusive political institutions often lead to greater universal benefits. Evidence of such can be seen in the case of the Global West in which inclusive political institutions enabled economic freedoms and property rights protection and thus acted as an incentive for enhancing economic activity and productivity (North & Thomas 1970; North 1991). However, there is no guarantee that the Western style of political order will have the same positive effects elsewhere. According to Chang (2003: 83; 2011a), the relationship between the government and economic development is far more complex than the liberalization of economic institutions and the protection of property rights, thus suggesting that the key to success is in the ability of native institutions to function efficiently and to adapt to the population's needs over time.

While the impact of societal organization on economic development is widely acknowledged it does not explain why were some communities historically more successful in organizing themselves than others. In his work, Diamond (1999: 112, 261-263; 366) tries to answer this question by arguing that the main purpose of social life lies within basic food procurement. That said, he finds that certain geographical and biological features were more favourable for the emergence of a sedentary lifestyle, which can be considered the backbone of modern civilization. The progress of such communities led to an increase in population, which made economic activities more complex, thus requiring some basic government regulations. As Acemoglu, et al. (2004: 29) believe that economic institutions are the result of political power distribution, it can be concluded that the groups with the most influence were the ones that determined the initial form and functioning of the economy within distinct societies. The communities with better governance and geographical features were able to progress faster and advance through technological innovation, trade and war, gradually absorbing the societies that were less successful, leading to larger and more centralized countries and eventually to modern states (Diamond 1999: 281-292).

Acemoglu, et al. (2004: 22) partially agree on the importance of geography for economic development, as they find that it was only significant in terms that societies with favourable institutions developed agricultural technologies that were specific for their geographic latitude and thus were unable to be implemented in all global regions which were unfit to develop their own due to poor institutions. However, Diamond (2012) believes that they exaggerate the importance of institutions as there are many states with bad institutions located in advantageous regions that are better off than those with preferable institutions and hostile geography. While analysing the success of Britain, Sachs (2005: 33-35) argues that multiple factors need to be aligned in order for economic success, with social, political and geographical ones being most important. Although this theory seems acceptable, it still does not indicate which of these factors has the predominant effect on the economy in the modern world. Yet an earlier study by Acemoglu, et al. (2002) suggests the central cause for the reversal of economic development in many post-colonial countries rests in the fact that these states were unable to maintain the quality and the effectiveness of political institutions that were implemented by the colonialists after their independence. In accordance with this observation, it can be concluded that governance quality is perhaps the most significant variable in modern economic growth.

However, this does not mean that geography and demographic dynamics became irrelevant over time, but that they rather acquired a new global character. The contemporary era of rapid economic growth revealed that both of these factors have set certain developmental limits through planetary and human capital boundaries.

Sachs (2014: 170, 200) believes that the international economy is depriving global resources and thus damaging the planet, and the livelihoods of present-day and future generations. He finds the current patterns of growth unsustainable and argues that new solutions need to be introduced. While addressing the issues of undeveloped regions, he mentions that one of the possible options may be to focus on economic redistribution, rather than development. However, according to the theoretical framework presented by Acemoglu, et al. (2004: 64-65) this is unlikely to happen as the redistribution of resources can lead to the disruption of global political power dynamics and end the predominance of the West. Thus, Sachs (2014: 201-203) suggests that sustaining economic growth is necessary for human

development and argues that it can be achieved only by various government interventions that will favour green development on national and international levels while considering the planetary boundaries.

Underdevelopment of human capital can also pose certain limits to economic progress. In his work, Tridico (2011: 208-215) finds it is possible for economic growth to occur without the advancement of human capital, yet he believes that human progress is necessary for long-term development. It can be concluded that countries which lack adequate education and healthcare systems have certain growth limits, especially in the technologically dynamic world of today. Good political institutions are essential for education and healthcare systems and thus the progress of the labour force, which Tridico (2011: 214) believes always manifests itself in productivity, technology and economic improvements.

That said, it can be seen why good governance can be considered of the utmost importance for contemporary economic development. However, this still leaves the question of why some developing countries that have governments that are willing to change in order to reach nationwide prosperity are unsuccessful, even if they follow adapt institutions and follow policy suggestions of the economically more advanced nations in the Global West. Chang (2003: 2) believes the answer to this question is simple - the Western world tends to institutional forms and policies that they did not use while developing, but rather the ones that they adopted over time and that currently suit them. That said, in order to achieve sustainable economic growth, the governments of developing nations need to find policies and forms that can function in their local context, while investing in education and healthcare as the foundation of long-term development.

## 2.2. Governance and Education

It can be argued that tremendous improvements in human lives that were made throughout the twentieth century instituted the beginning of the age of human development (Goldin 2016). In his work, Becker (1993: 17) communicates that education is the most significant investment in human capital. This idea became even more reasonable with the

advancement of technology which often spurred the demand for a better-skilled labour force (Goldin & Katz 2007). Furthermore, as economies advanced the financial returns on education gradually became greater and its role in wealth distribution and general well-being became undeniably evident (Miller, et al. 1995; Rosenzweig 1995). That said, the importance of political institutions in power should be considered substantial as they have the ability to facilitate or hinder educational systems. As Acemoglu and Robinson (2012: 76-77) discuss, the low levels of education in some nations are a direct consequence of bad governance, which has pernicious economic outcomes not only for individuals but also for the country itself. While it is significantly easier to measure the economic effects of education it is crucial to understand that its influence is much wider as it is the foundation of statecraft and nation-building (Becker 1993: 21; Papanastasiou & Clarke 2019). Thus, it is important to note that state investments in education are beneficial to the country in both economic and social ways as they help with the correction of market failures, raise government revenues and provide citizens with a common set of values (Goldin 2016; Lindert 2010).

However, the initial development of schooling did not occur through political regimes but through local and private initiatives (Andersson & Bergen 2019; Gao 2015). Yet, modern economic growth was not possible until the state intervened and made education available to the wider society (Andersson & Berger 2019; Cappelli 2016). These changes became evident through the economy and the quality of the political debate (Castellano & Garcia-Quero 2012). One of the best early examples of positive outcomes of government intervention in schooling can be found in England where enrolment rates rose rapidly at the end of the nineteenth century resulting in a better economy and governance (Acemoglu, et al. 2004: 75-78).

In their analysis of Sweden, Andersson and Bergen (2019) show how some forms of societal organization are more successful in developing quality education systems. Namely, places with better political power distribution tend to be efficient to a greater extent in providing environments that favours progress. This phenomenon can be explained by arguing that these kinds of societies often require educated leaders and literate citizens in order to function (Goldin 2016). However, this explanation leaves the question of why elitist regimes do often not support mass education. A potential answer may lie in the idea of power

struggles that is advocated by Acemoglu, et al. (2004: 6-7). This approach argues that power will spread out as education increases, and thus endanger the wealth and influence of the ruling elites. Such cases can be evident on a macro level through the examples of the Habsburg Monarchy and Imperial Russia, which both hindered the progress of quality educational systems (Freudenberg 1967; Gregory 1991). However, there is also evidence from the micro level in which the elites often become the ones driving the advancement of schooling. For example, Andersson and Bergen (2019) discover that local centres of power were the most prominent advocates of education in Sweden, with the main reasons behind it being political and not economic. Gao (2015) has similar findings in his case of China. However, he highlights that the importance of social pressures and informal institutions on political regimes grows as they become less democratic.

As Go and Lindert (2010) discuss on a global level and Cappelli (2016) in his example of Italy, decentralized schooling systems are easier to set up and develop. Nevertheless, while some believe that private investments can sponsor mass education, evidence indicates that this is unlikely and that public taxes play the primary role in schooling (Lindert 2010). Furthermore, Gao (2015) shows that the majority of schools in early twentieth-century China were launched and funded by local authorities. This is not a lone case, as Goldin (2016) suggests that the main reason behind the success of mass education in the USA lies in its decentralized nature and finance through local taxation. However, she also brings up the issue of regional inequality which can increase as a consequence of initial financial imbalances. The most apparent example of this problem is Italy. As Cappelli (2016) elaborates, the initial disparity in the funding of education is one of the crucial causes of developmental differences between the north and the south of the Apennine peninsula. Furthermore, he suggests that these inequalities were only addressed when the national government stepped in and introduced a centralized schooling system. Thus, showing that equal access to education cannot be developed and efficient without a unified approach. Furthermore, there is significant proof that centralization is not only beneficial for egalitarianism, but that it also facilitates an increase in overall enrolment rates (Goldin 1998).

However, contemporary actions are showing that well-structured and once-centralized systems are gradually reorganizing themselves towards more liberal practices (Burns, et al.



2016: 16). The belief behind this is that opening-up educational policy to the local communities will result in better implementation, greater trust and preferable outcomes (OECD 2009). However, it should be understood that these steps there is still not sufficient evidence for the long-term effects of taking such steps. Nevertheless, governing such systems is a complex task that can be only achieved within nations where the interests of all stakeholders can be taken into account and where individual, local and national objectives can follow a similar direction (Burns, et al. 2016: 170-176; Burns & Cerna 2016).

That said, the effects that national governments can have on education can be direct and indirect. The direct ones are mainly manifest through educational policies which can address a wide range of questions. Angrist and Krueger (1991) show how even the simplest objectives as mandatory schooling laws can have an effect on education and development, as they reveal that the dropout rate significantly increases among students of legal dropout age. Furthermore, government investments in educational infrastructure also show to be of great benefit to overall prosperity, with these effects being higher in the less developed regions (Duflo 2001). The indirect effects of governance on schooling are made through its general quality and efficiency in all other fields. As Acemoglu and Robinson (2012: 216-218) suggest better governments are more willing to accept innovation and changes in various fields. Such was the case of Gutenberg's printing machine which was rejected in the Ottoman Empire, but widely used in Western Europe, thus resulting in increased access to books and better education.

The schooling system requires constant adaptation and here governments play the central role as through it they can influence the balance of supply and demand of the labour force (Schleicher 2019). While poor education can be a result of a lack of proper funding, it is ever so often the result of the state's unwillingness or inefficiency in addressing its full complexity (Acemoglu & Robinson 2012: 480). Thus, the development of an efficient system is not a one-time task, but rather a continuous process. Furthermore, apart from positive economic outcomes good education is able to increase the population's health by teaching it about the importance of hygiene and the use of proper sanitation (Bleakley 2007). That said, education is not only a part of but also the most significant link between other components of human development.

### 2.3. Governance and Healthcare

It is undeniable that health is the single most important aspect of any human's life. However, when the health conditions of an individual start affecting the wider population, it becomes a public affair (Qureshi, Xiong 2021). While it cannot be deemed necessary that everyone should have the same access to healthcare at all times, it is essential that people are at least able to receive the required level of healthcare in order to live decent lives (Sen 2002).

Gallup, et al. (1999) and Diamond (2012) believe that geography is one of the most significant factors contributing to public health conditions, especially through the spread of diseases, and that the temperate climate is the major reason behind the advantage of most developed countries. This view is based on concrete evidence, as the least developed nations are often positioned around the equator with their populations being more exposed to diseases and having lower life expectancy (Bloom & Sachs 1998: 228-229). Furthermore, Almond (2006) suggests that poor health conditions can even affect humans in the prenatal stage. Thus, generational exposure to illnesses in the tropics can be considered as one of the major causes behind their developmental issues. This school of thought often preaches that national governments are irrelevant to prosperity and that the natural environment limits possibilities for health betterment (Bloom & Sachs 1998: 232; Gallup, et al. 1999).

In his work, while discussing the case of New Guinea, Diamond (1999: 318-320) gives out a good example of why political institutions are inferior to geography. He suggests that the colonialist failed in their attempt to develop this region due to the hostile natural environment and its disease burden, furthermore, arguing that long-term health improvements could only occur through evolutionary adaptation, rather than institutional interventions. While, Acemoglu, et al. (2001; 2003) accept that exposure to illnesses can reduce life expectancy, lower labour productivity and diminish returns on human capital investments, they debate the idea that poor health conditions mainly have negative effects on development by hindering the formation of good organizational and governing structures. In that regard, Sachs (2003) proves that both institutions and disease exposure, in his case malaria, have a significant influence on national prosperity. However, Rodrik, et al. (2004) find this difficult to believe as malaria is a curable disease and hence indicate the high

responsibility that governments hold in tackling such issues. Acemoglu and Robinson (2012: 6-7) provide an interesting example that supports this idea through the study of the bordering city of Nogales which has distinct health conditions on each of its sides, which implies that environmental drawbacks can be improved through good governance.

However, Sachs (2005: 19, 197) finds that the key issue prohibiting governments from supporting needed healthcare changes lies not in the lack of their willingness, but rather in the lack of sufficient resources required to pursue them. Nevertheless, the poverty trap should not be deemed as the universal case behind the inability to tackle diseases as health interventions do not necessarily need to be expensive to be efficient, as was proven in the case of Seva Mandir's intervention in Rajasthan, where simple corrections in organizing hospital work showed to have great benefits for enhancing the quantity and quality in the provision of healthcare (Acemoglu & Robinson 2012: 485-486). Furthermore, multiple recent studies show that flawed governance is the key factor behind poor health in developing nations (Kapologwe, et al. 2023; Kesale & Swai 2023). That said, even a country like England did not historically have a favourable health environment. Instead, it managed to overcome its problems through government interventions and investments over an extended time period (Acemoglu & Robinson 2012: 58). Bleakley's (2007) paper on hookworm eradication is just another good example that shows how powerful intervention policies might be. He further suggests that their effect can be even greater in regions that are most exposed to diseases, thus implying that good governance may be a path towards decent public health in developing nations.

Nevertheless, deterioration of government quality can by itself be a major cause for the decay of public health. Such was the case of Zimbabwe's 2008 cholera outbreak, which was a direct consequence of a standstill in the provision of public health services due to the failing regime (Acemoglu & Robinson 2012: 404). However, poor governance may also have large indirect effects on a population's well-being. In that sense, it is interesting to acknowledge Sen's (2000: 51) argument that a poor state apparatus is one of the main reasons for famines. And indeed, this was proven many times over the course of the twentieth century in countries like China, North Korea and Cambodia (Acemoglu & Robinson 2012: 426)

Perhaps the most recent evidence of the importance of a functioning government for public health was the pandemic of Covid-19. The rapid expansion of the virus swamped national healthcare systems pushing states to balance between the health of their population and the economy based on their abilities and the advice from experts (Coman, et al. 2021; Khan 2020: 9). Thus, the pandemic was a challenge to all levels of governance. In his work, Nunes Silva (2022) comes to the conclusion that even minor differences in quality at the local level played an important role and that the more efficient regimes were the better-balanced their responses to the crisis were.

That said, good health needs to be considered a common goal as it interconnects individuals, communities, organizations and governments through political and market interests (Kuhlmann & Saks 2008; Qureshi, Xiong 2021). The state's primary role is to try to provide high-quality and cost-effective services that will be beneficial to the entire population. The ways in which this goal can be reached can largely differ between nations according to their initial circumstances, preferences and traditions (Allsop & Jones 2008). However, empirical evidence suggests that the development of public health systems almost invariably had a significant positive influence on overall health conditions and economic growth, thus indicating that governments indeed play a major developmental role through healthcare (Chang 2003: 101-103).

#### 2.4. Forms or effectiveness

As it was shown in the previous sections, governments should be acknowledged as one of the major catalysts of human development. This idea, however, leaves the question of why some governments that opt for nationwide prosperity are successful in promoting progress while others are not. UNDP's (2002) Human development report showed that the global population started to lose faith in the effectiveness of their regimes and in democracy as a whole as early as the beginning of the new millennium. Thus, it is inevitable to wonder if Western forms of governance are a guarantee for development or if they were only a context-specific developmental phenomenon. That said, it is also worth questioning if specific forms

of governance are in general a prerequisite for development or if institutional functionality in specific circumstances is actually of higher importance.

There are numerous works that suggest that the reason behind prosperity lies strictly within the superiority of the Western governmental forms (Acemoglu 2004: 58-59; North 1991; Olson 1996). These ideas are mostly based on the fact that the Global West historically managed to develop to a greater extent when compared to the rest of the world. North, et al. (2006: 20-23, 40) argue that one of the crucial causes of Western progress is the minimalistic role of the state and the freedoms that come with it. They deem this a consequence of the open-access order, which they identify as a manner of societal organisation in which all of the stakeholders are engaged. Acemoglu and Robinson (2012: 81-86) deepen this discussion by opting for a powerful, centralized state that is pluralistic in nature and thus inclusive. They showcase the advantage of such institutional order through the example of two Koreas, where they suggest that the root of South Korea's success is in the inclusiveness of its institutions in contrast to the extractives of their northern neighbour. This, however, does not show that countries with non-democratic forms of governance cannot develop, as evidence suggests that, while mostly persistent, government institutions have the ability to change over time and adapt their form in order to follow the progressive path (Acemoglu, et al. 2002; Acemoglu, et al. 2004: 79; Chang 2011b). Yet, it is crucial to understand that differences in form are not always able to explain the differences in governmental actions, even in the Global West, as was evident in the case of Covid-19 (Anttiroiko & Haveri 2022). This indicates that the constant focus on improving institutional structures maybe not be as significant as one may wish (Burns, et al. 2016: 172).

In his work, Chang (2007) reinforces Aron's (2000: 128) argument that particular government forms are not a guarantee for development. Thus, the relationship between the two should be viewed from a much more complex perspective with the main focus being on government effectiveness (Chang 2011a). Development without Western forms of governance is perhaps most evident in East Asia. As Stewart, et al. (2018: 235) notices, China is a perfect example that managed to reach high developmental levels fast without a democratic political system. That said, what Chang (2003: 11, 137) calls the Global Standard Institutions may not be the most essential factor for facilitating progress in developing nations.

He argues that even western-style institutions, which are often viewed as superior, may manifest themselves as dysfunctional in different country-specific contexts, as what works in one place may not always work in another. In that way, political institutions could be viewed to be similar to technology which often requires significant environmental adaptation (Kuznets 1973). Furthermore, Chang (2003: 137) argues the enforcement of Global Standard Institutions may even be harmful to development as it may cause conflicts and imbalances in environments which are just not right for them. That said, identical functions can be embedded in diverse institutions depending on the variety of circumstances and traditions (Chang 2007). Thus, the central question needs to be if governments can perform their responsibilities in a manner that can benefit the whole society. Burns and Cerna (2016) define effective regimes as ones that are focused on processes and capable of building adequate capacity while maintaining their flexibility and sufficient stakeholder involvement. It is possible that focusing on efficiency can allow for a productive political apparatus to emerge, which will consequently benefit the whole system of governance and guide the nation towards prosperity.

While western forms of governance have their advantages, they are far from a universal solution. That said, they should only serve as vague guidelines and a positive example of high government effectiveness for developing nations which should try to make use of their endogenous institutional forms. As Kelsall (2013) suggests - the effective utilization of native institutions should be at the centre of attention, rather than the transplantation of standardized global institutions, thus, suggesting that the quality of governance is more significant to development than its form.

### 3. Methodology and Data

In accordance with the theoretical background that was presented in the previous chapter, it can be expected that there is a significant association between government quality and human development. Based on this, I decided to analyse this relationship, while also taking inequality, economic growth and the national economic structure into account, as these

aspects were also deemed to be important. Furthermore, I will also acknowledge the theoretical framework that suggests that the effects on development may vary depending on the region in which a country is based.

The innovativeness of this model lies in the fact that it is analysing the effect of government quality on human development, which was a rare case in the past with the general focus of the institutionalists being on economic development. This new approach will show if and to what extent governance explains the progress of a population and thus indicate if improvements in the overall quality of the state apparatus help with enlarging people's opportunities and improving national well-being.

In the following sections, the data and methodology used to answer my research question will be presented in detail.

### 3.1. Data

In this study, I chose to use panel data due to the potential it gives to analyse a large number of observations from distinct entities over a specified time period, as noted by Stock and Watson (2020: 53). My sample consists of 162 countries observed over a 10-year time frame from 2010 to 2019. The year 2019 was chosen as the last year due to the significant international disruption caused by the Covid-19 pandemic, which could potentially disrupt the model's results. Although the sample is unbalanced with 1600 observations, the high number of observations indicates that missing data should not significantly affect the overall results.

The figures for this study were obtained from multiple credible organizations that are renowned for their high-quality and comprehensive data. The sources include the United Nations Development Programme, the Economist Intelligence Unit, the World Inequality Database and the World Bank. By using material from these organizations, I intend to produce trustworthy results that will adequately capture the effect of governance quality on human development.

That said, the dataset is composed of relevant variables including country, year, region, human development, governance quality, inequality, economic growth, and national economic structure. To analyse the data designated proxies have been selected as followed: the Human Development Index to represent human development, the Functioning of Government Indicator to measure governance quality, the Gini Index to quantify inequality, GDP per capita growth to evaluate economic progress, the share of agriculture, industry, and services in GDP to represent the national economic structure, and a dummy variable for different regions. All of the mentioned variables and proxies are chosen based on their relevance to the research question. The proxies will be explained individually and in detail in the upcoming sections.

The dataset, however, also has its drawbacks. One of the central problems is that it does not cover all of the internationally recognized independent states, with a significant lacking in the Caribbean and Pacific regions, which may have notable effects on the regression as most of these countries are small island states and thus highly context specific. The second drawback is that most of the data is usually collected with assistance or even by local governments. This causes an issue in countries with poor governance as they tend to have less-accurate figures due to various administrative and political factors (Gerring, et al. 2021).

### 3.1.1. Human development

The United Nations Development Programme (1990) designed the Human Development Index as a quantifiable indicator that evaluates human development through education, health and living standards. The very aim of this index is to follow the process of enlarging people's choices and as such can be considered an advanced measure of development. It is calculated on a state annual level and is measured on a scale of 0 to 1, with 0 being the lowest level of human development and 1 the highest.

While its simplicity can be considered an advantage, it does not come without cost. In their work, Perkins, et al. (2013: 44) and Oladapo, et al. (2019) find the greatest issue of the Human Development Index to be the fact that it does not take all of the possible dimensions of human development into account and thus they believe that it may be considered biased.



### 3.1.2. Governance quality

The Functioning of Government indicator is defined as a separate figure that quantifies governance quality within the Economist Intelligence Unit's Democracy Index. It is calculated based on national and survey data and covers a wide spectrum of topics relevant to governance quality through 14 categorical questions (Kekic 2007). These topics include the degree to which freely elected representatives determine government policy, the effectiveness of checks and balances on the exercise of government authority, the absence of undue influence by the military or foreign powers, the absence of significant political power exercised by special interest groups, the presence of mechanisms for government accountability, the extent of corruption, the capability of the civil service to implement government policy, popular perceptions of the extent to which individuals have free choice and control over their lives, and public confidence in government and political parties. The Economist Intelligence Unit's broad concept was never used to analyse the relationship between government quality and human development on a global level and on a sample of this size. The Functioning of Government indicator is measured on a scale from 1 to 10 and is calculated on the annual level.

While it covers the most crucial aspects of government functioning, its main weakness is that it is based on national and survey data which can be manipulated in countries that have hostile regimes in power.

### 3.1.3. Inequality

The Gini Index will be used to measure inequality as it is a unique figure that can capture the overall inequality within a society (Perkins, et al. 2013: 171). It is measured on a scale from 0 to 1, with 0 being absolute equality and 1 being absolute inequality. Due to the fact that the coefficient is not calculated on a yearly level for all countries and thus is certain to have missing observations, my model will use annual Gini estimates that were quantified by the World Inequality Database.

Apart from the concern of using estimates in the model, there is also an issue with the Gini index itself. Namely, as all of the information on income distribution is converted into a single number, it is inevitable that certain details about the underlying distribution will be lost (Perkins, et al. 2013: 172), thus, making its greatest advantage its main drawback.

#### 3.1.4. Economic growth and national economic structure

The annual data for GDP per capita and the share of agriculture, industry and services in GDP is sourced from the World Bank. The reason behind using GDP per capita is that it can capture economic progress adjusted to the demographic dynamics. While the economic structure is viewed as the share of agriculture, industry and services in GDP as it gives a simple overview of the national economic order (Perkins, et al. 2013: 14).

While the World Bank can be considered a reliable data source, it is important to note that its data may still have flaws. In my case, the main concern is the possibility of overlapping economic sectors which could cause the sum of the GDP shares of agriculture, industry, and services to either surpass or fall short of the actual GDP.

#### 3.1.5. Region

Regions will be used as dummy variables in order to capture how the independent variables affect human development in different environments. However, defining regions could be a difficult task due to the specific geo-cultural factors that can be omitted or overlapped depending on the divisional model. Furthermore, the lack of data on the Caribbean and Pacific countries makes these regions impossible to group individually which may lead to the disruption of other results.

For that reason, I decided to develop two regional models. Each model consists of 162 countries that were selected for the research and is defined based on specific geo-cultural aspects. The first model has a broader approach and covers seven regions, including Asia and

Pacific, Eastern Europe and Central Asia, Global West, Greater Middle East, Latin America and the Caribbean, South Asia, and Sub-Saharan Africa. The main problem of this model is that it views Eastern Europe and Central Asia as a single region and that the Pacific and the Caribbean nations are grouped with significantly larger continental states. The second model has a narrower approach and ten regions, including Asia, Eastern Europe, Global West, Greater Middle East, Latin America, Post-Soviet World, Small Island Nations, South Asia, Sub-Saharan Africa and South-East Europe. The drawback of this model is that it categorizes the majority of island nations in a single group and that it reduces the sample size for the regions that were derived from the previous Eastern Europe and Central Asia region. These models will be compared in the Regional Model section and the preferred model will be analysed in detail. The exact regional divisions for both models can be seen in *Appendix 1*.

### 3.2. Methodology

In order to analyse the relationship that governance quality, economic progress, national economic structure, inequality and geo-cultural factors have with human development, I intend to estimate a pooled panel Ordinary Least Squares model. This approach will allow for a straightforward relationship between human development and the independent variables which will lead to a simple analysis as it will show how well independent variables explain human development and their significance level at the same time. Furthermore, using pooled panel data makes it possible to use a large number of observations and thus increases the quality of the final results if compared to OLS conducted on cross-section or time series data.

However, the use of pooled panel data may not always be beneficial for the intended method as it can assume that the effects of independent variables are the same across time and space and that the unobserved heterogeneity is uncorrelated with the independent variables. Yet, this is only the case when random effects are estimated.

While my theoretical framework implies the use of fixed effects, it is of utmost importance for the model to rely on empirical results. For that reason, I carried out the

Hausman test which suggested using fixed over random effects in my model (*Appendix 2*). These results further improve the intended method as using fixed effects allows to control for time-invariant and space-invariant heterogeneity and to capture time-varying and space-varying effects. That said, including fixed effects on years, countries and regions will allow me to control for unobserved heterogeneity at all three levels.

Due to the fact that my model includes multiple entities and time periods, my regression will make use of both time-fixed and space-fixed effects, as shown in *Formula 1*:

$$(1) \quad Y_{it} = \beta_1 X_{it} + \alpha_1 + \lambda_1 + u_{it}$$

with  $\alpha_1$  representing time-fixed effects and  $\lambda_1$  representing space-fixed effects, while  $Y_{it}$ ,  $X_{it}$ ,  $\beta_1$ ,  $u_{it}$  represent the dependant variable, the independent variable, the causal effect of X on Y and the standard error respectively. The assumption of a fixed effect regression is that the standard error has a conditional mean of 0, that the dependent variable and the standard error are independent and identically distributed draws from their joint distribution, that large outliers are unlikely and that there is no perfect multicollinearity (Stock & Watson 2020: 375).

When *Formula 1* is employed in the context of my research question it results in *Formula 2* and *Formula 3*. In these regressions, human development is the dependent variable represented by the Human Development Index (HDI), while the quality of governance, economic progress and inequality are the independent variables represented by the Functioning of Government Indicator (FoG), GDP per capita growth (GDPPCgrowth), share of agriculture, industry and services in the GDP (AGR, IND, SRV) and the Gini Index (Gini). The difference between the models is in the fixed effects they take into account. *Formula 2* acknowledges country-fixed and time-fixed effects, while *Formula 3* adds region-fixed effects assuming that the same independent variables can have different effects on human development in distinct geo-cultural environments. Thus, the global model will be based on *Formula 2*, while both of the regional models will be based on *Formula 3*.

$$(2) \quad HDI = \beta_1 FoG + \beta_6 Gini + \beta_2 GDPPCgrowth + \beta_3 AGR + \beta_4 IND + \beta_5 SRV + \text{Country Fixed Effects} + \text{Time Fixed Effects}$$

$$(3) \quad HDI = \beta_1 FoG + \beta_6 Gini + \beta_2 GDPPCgrowth + \beta_3 AGR + \beta_4 IND + \beta_5 SRV + \text{Region Fixed Effects} + \text{Country Fixed Effects} + \text{Time Fixed Effects}$$

However, using pooled panel OLS with fixed effects has its limitations. First of all, even if it controls for time and space, it assumes that the relationship is constant, which is often in practice not true as various extraordinary factors can change the supposed relationship dynamics. Second, it presumes that there is no endogeneity between the dependent and independent variables. This is an issue as human development, governance quality and other used independent variables, in reality, have an active relationship and influence each other on multiple levels. Third, it does not have the ability to show the delayed effects of changes in the independent variables. Fourth, due to the complexity of the research question, a linear model will not be able to capture all of the interactions, and thus may not be able to express all the indirect effects that the independent variables have on human development.

To conclude, while using pooled panel OLS with fixed effects has its drawbacks, it offers a straightforward approach that can be easily interpreted. It will be able to show if governance quality matters for human development and to what extent it affects it directly, while at the same time seeing if its association varies across different regions and thus indicate if the geo-cultural aspects matter for human development. Furthermore, it will also show the influence that inequality, economic growth and the national economic structure may have. Thus, this model will tackle some of the crucial questions that were discussed in the literature review.

### 3.2.1. Software, processing and means of interpretation

The data collected from the previously mentioned sources was processed through Excel and Stata. First, all of the available data was organized into a single panel dataset in Excel. There I excluded the entities that had a significant amount of missing information and composed an unbalanced dataset that has 1600 out of 1620 observations for 162 entities over

a 10-year period. This file was used in the next stage of processing. Second, I organized the panel in Stata and conducted the Hausman test in order to see whether to use random or fixed effects. The tests were done for the global and both regional models. The results indicate that fixed effects should be used in the next phase in all models, as shown in *Appendix 2*. Third, I executed pooled panel OLS regressions with fixed effects in Stata for the global and both regional models and obtained the results which will be exhibited and interpreted in the following section.

The obtained results will undergo a thorough analysis by evaluating several key metrics. These metrics include the r-squared, t-statistic, p-value and coefficients. The r-squared will make it possible to select the superior regional model, while the other metrics will indicate the volume, direction and significance of government quality and other independent variables to human development.

#### 4. Results and implications

This section is composed of three parts, with the first one centred around the global model, the second one around the comparison between the regional models and interpretation of the preferred model, with the third one giving an overview of the relationship between government quality and human development throughout the findings.

Considering both the global (*Appendix 3*) and the regional model (*Appendix 6*), the results suggest that government quality was significant to human development in three regions – Greater Middle East, Latin America and South-East Europe. Inequality was significant in four cases, economic growth in five, while the national economic structure was significant in three, with the share of industry in the GDP being significant twice, and agriculture and services each once. The following sections will analyse each case individually with the main focus being on the relationship between government quality and human development and the secondary focus being on the association between other significant variables and human development.

#### 4.1. Global model

Table 1: Global model

Global		FoG	Gini	GDPPCg	AGR	IND	SRV
	t-statistic	-0.41	-0.98	0.13	-3.79	-0.53	1.01
	p-value	0.680	0.330	0.894	0.000	0.600	0.315
	Coefficient	- .0005079	- .0753001	 .0000226	- .0027137	- .000349	 .0006697

*Effect of government quality (FoG), inequalities (Gini), economic progress (GDPPCg) and national economic structure (AGR – agriculture; IND – industry; SRV – services) on human development (HDI). Pooled panel OLS results (t-statistic; p-value; coefficient) Source: Appendix 3*

The results obtained from my global model that are exhibited in *Table 1* suggest that there is no significant relationship between government quality and human development. However, it is important to acknowledge that these implications are made on a global level and do not take into account specific geo-cultural factors. Thus, further investigation will be conducted in the regional model, where I will take into account different developmental environments.

Furthermore, none of the suspected variables prove to be significant to human development globally, except for increases in the share of agriculture in the national economy which has a negative association (-0.003/1) at a 1% significance level.

The indicated effect of farming can be explained through structural transformation. Namely, Perkins, et al. (2013: 587) argue that the higher the share of agriculture in GDP and employment is the lower the levels of human development are. He believes that as the economy develops it gradually shifts towards industry and services which demand a more advanced workforce. Thus, it can be concluded that if the share of agriculture rises the demand for skilled labour will be smaller, resulting in the decrease of human development.

Nevertheless, the share of farming in GDP should not be considered as the only factor that can affect populational progress, and thus in order to find other context-specific dynamics a more in-depth analysis is needed.

## 4.2. Regional model

As it was mentioned I have developed two regional models based on geo-cultural characteristics of countries that are included in the study. While the models are similar, they have two key differences. The first difference is that the second model includes an Islands States region which consists of worldwide island states that are not well integrated into the global market. The second difference is that the second model divides Eastern Europe and Central Asia region into three new regions, namely Eastern Europe, Post-Soviet States, and South East Europe.

In order to distinguish which of the models is a better fit for the regression I ran both of them and compared their r-squared values. The results presented in *Appendix 4* imply that the second regional division was a more accurate fit and thus it will be used in further research and will be addressed as regional model.

The following sections will analyse each of the 10 regions, defined within the regional model, separately. In them, I will discuss the relationship of government quality and human development and other variables that prove to be significant to the dependent variable.

### 4.2.1. Global West

*Table 2: Regional model: Global West*

Global West		FoG	Gini	GDPPCg	AGR	IND	SRV
	t-statistic	0.52	1.12	2.23	-1.62	0.36	0.78
	p-value	0.602	0.262	0.27	0.107	0.720	0.437
	Coefficient	.0003313	.1495735	.0013958	-.008589	.001425	.0031861

*Effect of government quality (FoG), inequalities (Gini), economic progress (GDPPCg) and national economic structure (AGR – agriculture; IND – industry; SRV – services) on human development (HDI). Pooled panel OLS results (t-statistic; p-value; coefficient). Source: Appendix 6*



My model implies that over the course of the past decade government quality had no significant association with human development in the Global West, yet it suggests that GDP per capita growth had a positive relationship (0.001/1) at a 5% significance level (*Table 2*).

These findings imply that the developmental focus in this region shifted away from simple economic expansion and acknowledged the importance of population-wide prosperity and progress (Perkins, et al. 2013: 14, 54). Furthermore, Ferreira et al. (2023) suggest that the process of greening the economy has significant benefits for human development, both in the short and the long run. Thus, it can be concluded that green development is one of the crucial elements of general success in the contemporary Global West. That said, Hui (2003) suggests that quality economic growth cannot occur without adequate state capacity, which he finds to be the among the pillars of Western development.

#### 4.2.2. Asia

*Table 3: Regional model: Asia*

Asia		FoG	Gini	GDPPCg	AGR	IND	SRV
	t-statistic	-1.27	-2.16	-5.32	-0.09	-1.71	-1.36
	p-value	0.207	0.032	0.000	0.927	0.090	0.175
	Coefficient	-.0024425	-.3494975	-.0042641	.0004992	-.0071502	-.0059872

*Effect of government quality (FoG), inequalities (Gini), economic progress (GDPPCg) and national economic structure (AGR – agriculture; IND – industry; SRV – services) on human development (HDI). Pooled panel OLS results (t-statistic; p-value; coefficient). Source: Appendix 6*

In the case of Asia, my model shows that government quality does not play an important role in human development. However, the results from *Table 3* suggest that an increase in three variables may have a negative relationship, including inequality (-0.349/1) at 5% significance, economic progress (-0.004/1) at 1% significance and share of industry in the national economy (-0.007/1) at 10% significance.

Over the past decades globalization, technological progress and labour-intensive industries made it possible for Asia to grow at an astonishing pace, yet its economic achievements were, unfortunately, unable to fully support human development (Zhuang, et al.

2014). One of the main reasons for that may be the rising inequality, which in the belief of Triggs and Urata (2020) is a consequence of the recent absence of inclusive growth. They find this trend to be rooted in the previously mentioned pillars of Asian success. Furthermore, Chongvilaivan (2020) insists that trade openness and the abundance of human capital attracted investments mainly towards labour-intensive industries, which rose the demand for unskilled labour and thus hindered human development. Nevertheless, some Asian countries managed to shift towards advanced production and escape this developmental trap.

Thus, it can be concluded that inclusive growth is an ultimatum for the region to continue on its path to nationwide prosperity. My results follow Zhuang, et al. (2014) work in which they propose that Asian countries need to focus on developing more productive job opportunities that require higher-skilled labour in order to enhance their human development.

#### 4.2.3. Eastern Europe

Table 4: Regional model: Eastern Europe

Eastern Europe		FoG	Gini	GDPPCg	AGR	IND	SRV
	t-statistic	-0.38	0.03	-0.03	-0.25	-3.19	-2.36
	p-value	0.704	0.972	0.977	0.802	0.002	0.019
	Coefficient	- .0019215	- .0047231	- .0000256	- .0015852	- .0161588	- .0122231

*Effect of government quality (FoG), inequalities (Gini), economic progress (GDPPCg) and national economic structure (AGR – agriculture; IND – industry; SRV – services) on human development (HDI). Pooled panel OLS results (t-statistic; p-value; coefficient). Source: Appendix 6*

The results exhibited in *Table 4* suggest that government quality was not significant to human development in Eastern Europe over the past decade, which may imply that both factors reached a level where governance is no longer able to spur progress. However, it may also imply that the great attention paid to government quality was unnecessary.

Furthermore, my model discovers rather interesting human development dynamics in Eastern Europe, which are contrary to Perkins's, et al. (2013: 13, 14) idea that structural transformation and human development usually follow each other. Namely, my findings suggest a negative association between higher shares of industry (-0.016/1) and services (-0.012/1) in the GDP and progress at a 5% significance level. In the context of Eastern Europe,

these results can be explained through uneven regional development and undiversified industry and service sectors.

The first issue is evident in the works by Laskowska and Danska-Borisak (2016) and Smętkowski (2018) in which developmental disparity between rural and urban areas is observed as a key obstacle for human development in this region. As argued in the works, the concentration of industry and services in cities does not allow for even national progress, which in turn leads to lower levels of human development. The second problem is explained by Ali and Canter (2020) who find industrial diversification to be cardinal for long-term human development and Eastern European economies unable to diversify. Thus, it can be concluded that the lack of variety in the industry and service sectors may be the reason for their negative association with human development.

#### 4.2.4. Greater Middle East

Table 5: Regional model: Greater Middle East

Greater Middle East		FoG	Gini	GDPPCg	AGR	IND	SRV
	t-statistic	1.67	-1.92	-1.93	1.02	-0.46	-0.63
	p-value	0.097	0.056	0.056	0.310	0.644	0.532
	Coefficient	.0063886	-.6286927	-.0012137	.0055008	.0018878	.0026395

*Effect of government quality (FoG), inequalities (Gini), economic progress (GDPPCg) and national economic structure (AGR – agriculture; IND – industry; SRV – services) on human development (HDI). Pooled panel OLS results (t-statistic; p-value; coefficient). Source: Appendix 6*

In the Greater Middle East, my model indicates that there is a positive relationship between government quality (0.006/1) and human development, while it is negative for inequality (-0.628/1) and economic progress (-0.001/1) at a 10% significance level (Table 5). From Akacem, et al. (2020: 20) perspective these trajectories can be explained by oil dependency present in most of the region’s economies. They argue that it not only enhanced inequalities but also allowed some governments to adopt undesirable behaviour to the level that is directly evident in human development. Furthermore, Omri and Mabrouk (2020) suggest that government quality in the Greater Middle East is essential for populational

progress even in a long-term perspective. Thus, it can be assumed that great attention needs to be paid to the region's political development.

Furthermore, it is important to understand that as economies grow and income inequalities become larger the space for nation-wide human development becomes narrower (Mousavi & Clark 2021) which often leads to civil unrest. Akacem, et al. (2020: 176) see this to be one of the main causes behind the Arab Spring and the turmoil in the Greater Middle East. However, they also suggest that these social pressures were crucial for motivating some of the region's governments to improve their quality and adopt more human-centred developmental models. This view goes in hand with Acemoglu, et al. (2004: 76) who believe that civil activity is crucial for creating accountable and functioning governments.

That said, my findings only indicate that better functioning governance can help in human development in the Greater Middle East. However, in order for it to succeed it needs to address inequalities and generate economic growth in a way that will benefit the whole population (Abdelbary & Benhin 2019). On that path, there are two main focal points, namely, economic diversification and the productive engagement of the young working force. This follows Akacem, et al. (2020: 220) who argue that human development is essential for the long-term perspective of the Greater Middle East.

#### 4.2.5. Latin America

Table 6: Regional model: Latin America

Latin America		FoG	Gini	GDPPCg	AGR	IND	SRV
	t-statistic	-5.01	-2.88	-2.99	1.12	-0.09	-0.12
	p-value	0.000	0.004	0.003	0.266	0.932	0.908
	Coefficient	-.0084354	-.4798255	-.0026611	.0059856	.0003539	-.0004844

*Effect of government quality (FoG), inequalities (Gini), economic progress (GDPPCg) and national economic structure (AGR – agriculture; IND – industry; SRV – services) on human development (HDI). Pooled panel OLS results (t-statistic; p-value; coefficient). Source: Appendix 6*

In the case of Latin America, my model's results suggest that three of the tested variables are significant for human development (*Table 6*), with higher levels of governance quality having a negative association (-0.008/1) at a 1% significance level, higher inequality having a negative relationship (-0.480/1) at 5% significance and greater GDP per capita growth having a negative association (-0.003/1) at 5% significance.

In his work, Azam (2021) suggests that better governance is the most crucial element for supporting economic growth in Latin America. However, my findings imply that even if those improvements were made, they would possibly have a great negative effect on human development at multiple levels. This goes in hand with Arbia's (2023) argument that there is an elemental trade-off between economic and human progress, especially through wealth distribution. Thus, it can be concluded that even good governance can lead to a decline in human development if aimed in an incompatible direction. Overfocusing on economic growth can lead to increased inequalities not only in the economic sphere but also in education and healthcare, hence, governments should aim for inclusive growth in order to foster long-term human development (Lopez-Calva, et al. 2015; Mousavi, Clark 2021).

Vos, et al. (2010) believe that one of the greatest problems for human development in Latin America is the inconsistency in government policies and investment programs intended to support human development. In their thought, this inconsistency does not allow the labour market to develop and to establish a continuous demand for a skilled workforce that would drive human development over time. While not able to fully analyse this perspective through my model, it gives important insights into some of the central issues for good governance in the region. Namely, if good governance tackles inconsistent policies it will not be able to lead to real development, but just minor annual nudges in the direction of the policies. Yet, in such a case, the findings of my model imply that the policies in Latin America are still not enough human-oriented.

#### 4.2.6. Post-Soviet World

Table 7: Regional model: Post-Soviet World

Post-Soviet World		FoG	Gini	GDPPCg	AGR	IND	SRV
	t-statistic	-0.98	-0.64	-3.41	0.61	-0.44	-0.69
	p-value	0.330	0.523	0.001	0.541	0.661	0.494
	Coefficient	- .0026982	- .1135785	- .0027339	 .0034057	- .0019076	- .0030772

*Effect of government quality (FoG), inequalities (Gini), economic progress (GDPPCg) and national economic structure (AGR – agriculture; IND – industry; SRV – services) on human development (HDI). Pooled panel OLS results (t-statistic; p-value; coefficient). Source: Appendix 6*

My model implies that government quality has no significance for human development in the Post-Soviet World, while economic growth has a negative association (-0.003/1) at a 5% significance level (Table 7). This problem can be explained through the work of Golovnin and Grinberg (2021) who explore the economic struggles of this region while indicating that higher levels of economic growth were most often reached through the export of raw materials. While this model of national progress can be successful to some point, it can seriously hinder human development in the long run, as in accordance with my results. Antonenko, et al. (2022) suggest that even Russia, as the region's most advanced economy, did not have good policies that would support human development since independence and that most of the investments in human capital were not efficient enough. Furthermore, Shor, et al. (2022) argue that further progress in this region will not be possible without significant investments in technological and human development.

That said, in order for long-term success both the public and the private sector need to become aware of the possible negative association between economic growth and human development over the course of the last decade and adapt a human-centred growth model.

#### 4.2.7. Small Island Nations

Table 8: Regional model: Small Island Nations

Small Island Nations		FoG	Gini	GDPPCg	AGR	IND	SRV
	t-statistic	0.30	-3.59	-0.61	1.10	-0.80	-0.95
	p-value	0.768	0.000	0.541	0.275	0.422	0.341
	Coefficient	.0005882	.9223411	.0007635	.0067351	.0037555	.0048619

*Effect of government quality (FoG), inequalities (Gini), economic progress (GDPPCg) and national economic structure (AGR – agriculture; IND – industry; SRV – services) on human development (HDI). Pooled panel OLS results (t-statistic; p-value; coefficient). Source: Appendix 6*

The findings represented in *Table 8* imply that there is no notable relationship between government quality and human development in Small Island Nations, which goes in hand with Read's (2004) work in which he acknowledges the lack of the overall interaction. However, for this region, my model suggests the significance of inequality at a 1% level with its increase having a great negative relationship (-0.922/1). These results follow Vargas, et al. (2021) who argue that wealth concentration is the key element for sub-optimal human development in small states.

Indeed, unequal economic asset distribution does not mean there will be no economic growth. While exploring the case of Caribbean nations, Acemoglu and Robinson (2012: 94-95) find that ones with high inequality often embraced economic models that benefited the elite and that had little spillovers on the nationwide level. Vargas, et al. (2021) deepen this discussion by arguing that income inequality is usually accompanied by unequal access to education and healthcare which can have diminishing effects on human development.

That said, Read (2004) finds that most small island states are doing well in terms of income distribution and human development, but questions their sustainability due to potential effects of globalization on inequalities. Further policies, thus, need to focus on maintaining lower inequality in order to support long-term general progress.

#### 4.2.8. South Asia

Table 9: Regional model: South Asia

South Asia		FoG	Gini	GDPPCg	AGR	IND	SRV
	t-statistic	-0.56	-1.51	1.58	0.33	-0.71	-0.36
	p-value	0.573	0.132	0.116	0.745	0.477	0.717
	Coefficient	- .0049843	- 1.123102	- .0015699	- .0019986	- .0041865	- .0019349

*Effect of government quality (FoG), inequalities (Gini), economic progress (GDPPCg) and national economic structure (AGR – agriculture; IND – industry; SRV – services) on human development (HDI). Pooled panel OLS results (t-statistic; p-value; coefficient). Source: Appendix 6*

My model shows none of the observed variables to be significant to human development in South Asia (Table 9). This can be considered an issue because the model does not suggest an explanation for the region’s current state. However, multiple studies indicate that the reasons behind South Asian human development conditions lay in variables omitted in my model.

For example, Meena (2021) finds the central problem to be in the region’s poor infrastructure which in his opinion hinders its great geographic potential, while Srivastava and Taneja (2021) argue that the issue is in the mismatch between the supply and demand sides of the labour market. Thus, it can be argued that the South Asian case is still somewhat unclear and requires further analysis.

The urgency of this question is evident in Ul Haq’s (2018) work in which he argues that South Asia began to lag behind other global regions in terms of human development as early as 1997. Hence, it is crucial to find the root cause of this issue as soon as possible.



#### 4.2.9. South-East Europe

Table 10: Regional model: South-East Europe

South-East Europe		FoG	Gini	GDPPCg	AGR	IND	SRV
	t-statistic	-1.88	-0.36	0.68	-0.84	-0.02	-0.51
	p-value	0.062	0.717	0.499	0.400	0.982	0.608
	Coefficient	-.0115922	-.0582371	.0005428	.0058636	.0001099	.0024245

Effect of government quality (FoG), inequalities (Gini), economic progress (GDPPCg) and national economic structure (AGR – agriculture; IND – industry; SRV – services) on human development (HDI). Pooled panel OLS results (t-statistic; p-value; coefficient). Source: Appendix 6

The results from *Table 11* imply that higher government quality has a negative association (-0.012/1) with human development in South-East Europe at a 10% significance level. These findings are contrary to the work by Gradev, et al. (2013) who believe that good governance is key to overcoming the region's social and economic difficulties. However, he also mentions that one of the possible reasons for hindering progress may be the misdirection of policies and inefficient investments. This view goes in hand with Uvalić and Bartlett's (2022) view that regional governments have to adopt a more inclusive growth model, that will be able to support human development.

Furthermore, OECD (2020) notices that governments, especially in the Western Balkans, significantly decreased public spending, particularly on the account of education, healthcare and social protection. This suggests that significant human development is unlikely to arise, even if continuous economic growth is present. Thus, in order for higher government quality to have a positive association with human prosperity an inclusive developmental concept has to be adopted in South-East Europe, as suggested by Cojanu (2010).

#### 4.2.10. Sub-Saharan Africa

Table 11: Regional model: Sub-Saharan Africa

Sub-Saharan Africa		FoG	Gini	GDPPCg	AGR	IND	SRV
	t-statistic	-0.91	-0.46	-2.59	1.35	-0.35	-0.64
	p-value	0.366	0.648	0.010	0.178	0.730	0.524
	Coefficient	- .0024877	- .1038813	- .0021351	 .0073329	- .0014267	- .0026938

*Effect of government quality (FoG), inequalities (Gini), economic progress (GDPPCg) and national economic structure (AGR – agriculture; IND – industry; SRV – services) on human development (HDI). Pooled panel OLS results (t-statistic; p-value; coefficient). Source: Appendix 6*

While there are regional studies which suggest that better governance has the ability to raise health (Raheem, et al. 2018) and educational (Ouedraogo, et al. 2022) standards, my research finds government improvements in Sub-Saharan Africa irrelevant to human development over the course of the past decade. Furthermore, my results imply that the growth of GDP per capita had a minor negative relationship (-0.002/1) with human development at a 5% significance level in the same period (*Table 10*).

If this phenomenon is analysed through Akobeng's (2016) work, in which he finds that Sub-Saharan Africa primarily grows through agriculture and simple services, it can be assumed that a rise in demand for unskilled labour can be behind it. While basing long-term development on these branches is unsustainable, it is important to note that Sub-Saharan Africa is still mostly focused on poverty reduction. That said, it is logical that it favours growth through agriculture as it has been proven to be the most effective method for reducing poverty (Perkins, et al. 2013: 613).

If the mentioned is taken into consideration it is simple to understand why the relationship of economic growth and human development was negative, while the association with good governance was unrecognizable. However, depending on the future of development in Sub-Saharan Africa these dimensions might change. While the current approach is good for poverty reduction, sustainable growth requires more attention directed towards human development (Darkwah, et al. 2023).

### 4.3. Government quality and human development: an overview

Table 12: Overview of the effect of government quality on human development.

Region	Global	Global West	Asia	Eastern Europe	Greater Middle East	Latin America
t-statistic	-0.41	0.52	-1.27	-0.38	1.67	-5.01
p-value	0.680	0.602	0.207	0.704	0.097	0.000
Coefficient	-.0005079	.0003313	-.0024425	-.0019215	.0063886	-.0084354
Region	Post-Soviet World	Small Island Nations	South Asia	South-East Europe	Sub-Saharan Africa	
t-statistic	-0.98	0.30	-0.56	-1.88	-0.91	
p-value	0.330	0.768	0.573	0.062	0.366	
Coefficient	-.0026982	.0005882	-.0049843	-.0115922	-.0024877	

The summary of the relationship between government quality (FoG) and human development (HDI). Global and regional model results (t-statistic; p-value; coefficient). Source: Appendix 3; Appendix 6

Based on all of my findings (*Table 12*) it can be concluded that government quality does not have a universal relationship with human development. Moreover, there is no clear regional pattern, as it affects only three out of ten regions. Even so, the effects in those regions are not unidirectional, as higher levels of government quality only support human development in the Greater Middle East (0.006/1), while they have negative effects in Latin America (-0.008/1) and South-East Europe (-0.012/1).

Thus, these findings are contrary to the examined theory which suggests that the functionality of government is crucial for human development at economic, educational and healthcare levels. However, these findings do not indicate that it does not have a significant role, but that its role may rather be supportive than central. That said, based on the results, it

seems policies and social pressure acknowledgement may be more important than the actual quality of the state apparatus.

Furthermore, the results imply that there is a great difference between regions. Based on this and the examined theory it can be concluded that geography does play some kind of a role in human and institutional development. However, the obtained results do not have enough specific details to fully analyse this question.

While important, governance quality cannot be considered as one of the pillars of human development. Yet, it is crucial to put it to good use, as the results imply that it can even hinder progress. Thus, the most significant implication of my work is that government quality needs to be put to the benefit of human development by establishing its adequate, country-specific, supportive role.

## 5. Conclusion

In the past, too much emphasis was put on economic development, with research work and policies often turning a blind eye to the main purpose of progress – the human being. This was no exception in the institutionalist school of thought which mostly focused on the supremacy of institutions over the economy. Based on Acemoglu, et al. (2004: 6) it can be concluded that political institutions, mainly governments, have supremacy over economic institutions, and according to Chang (2011a), the most important aspect of governments is their functionality. Therefore, the aim of this study was to examine if government quality can actually influence human development as the true measure of national success. For that purpose, I chose to use the Ordinary Least Squares method of estimation on a panel data set covering 162 countries over the period from 2010 to 2019. In my model, I have also acknowledged other aspects important for human development such as inequality, economic progress and national economic structure (Stewart, et al. 2018: 168; Chancel, et al. 2022), while controlling for different geo-cultural regions, due to their potential influence (Diamond 2012; Gallup, et al. 1999; Sachs 2012).

The innovativeness of this model can be seen in the fact that it, in accordance with the theoretical background, placed government quality at the centre of human development. Furthermore, its impact was never analysed on a global level using the Economist Intelligence Unit's broad concept on a sample of this size. However, despite its innovative approach, the model has certain limitations as it assumes a constant relationship, does not presume endogeneity, does not account for delayed effects and does not take into account all independent nations and the entire complexity of the relationship. However, the simplicity of my approach can bring out results that can serve as a foundation for further research on this scarcely explored topic.

My results imply that government quality does not have a universal impact on human development and that it varies across different regions. Furthermore, higher levels of government quality only have a positive impact in the Greater Middle East, while they have negative effects in Latin America and South-East Europe, and are not significant to human development in other regions. The added variables were also proven to be significant in specific geo-cultural scenarios, thus signifying the importance of distinct developmental contexts. My findings suggest that government quality can play a major supportive role in human development, yet its impact and direction might be highly dependent on the government's will.

Based on these findings, it becomes evident that significant policy changes are necessary to support inclusive and human-centred development. First of all, new policies need to be region-specific and address their issues, second, they should account for inequality within a set context, third, economic diversification is needed to provide multiple opportunities for the population. Through such an approach, progress could be present on a nationwide scale and benefits from government quality enhancements could become greater. That said, if policies are not directed towards general achievements, better-functioning governments might not affect human development at all or even obstruct it. Thus, it can be concluded that economy-centric policies are not sustainable and that they can be a great obstacle for the population to reach its full potential.

However, this topic warrants additional investigation, particularly in two key areas. Namely, the exploration of the long-term effects of government quality on human development and the analysis of its indirect impacts. Perhaps, better governance is more effective in overcoming various geo-cultural barriers, such as poor mobility through infrastructural improvements or social cohesion through promoting collective values and habits. That said, even if it cannot be considered central to human development like it is to economic growth, it is capable of giving necessary support for reform and prosperity.

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## 7. Appendices

### 7.1. Appendix 1: Regional division models

Table 13: Regional model 1: 162 countries: 7 regions

Region	Country	Number of countries
Asia and Pacific	Cambodia; China; Hong Kong (China), Indonesia; Japan; Laos; Malaysia; Mongolia; Myanmar; Papua New Guinea; Philippines; Singapore; South Korea; Thailand; Timor-Leste; Vietnam	16
Eastern Europe and Central Asia	Albania; Armenia; Azerbaijan; Belarus; Bosnia and Herzegovina; Bulgaria; Croatia; Cyprus; Czech Republic; Estonia; Georgia; Greece; Hungary; Kazakhstan; Kyrgyzstan; Latvia; Lithuania; Macedonia; Moldova; Montenegro; Poland; Romania; Russia; Serbia; Slovakia; Slovenia; Tajikistan; Turkey; Turkmenistan; Ukraine; Uzbekistan	31
Global West	Australia; Austria; Belgium; Canada; Denmark; Finland; France; Germany; Iceland; Ireland; Italy; Luxembourg; Malta; Netherlands; New Zealand; Norway; Portugal; Spain; Sweden; Switzerland; United Kingdom; United States of America	22
Greater Middle East	Algeria; Bahrain; Egypt; Iran; Iraq; Israel; Jordan; Kuwait; Lebanon; Libya; Morocco; Oman; Qatar; Saudi Arabia; Sudan; Syria; Tunisia; United Arab Emirates; Yemen	19
Latin America and the Caribbean	Argentina; Bolivia; Brazil; Chile; Colombia; Costa Rica; Cuba; Dominican Republic; Ecuador; El Salvador; Guatemala; Guyana; Haiti; Honduras; Jamaica; Mexico; Nicaragua; Panama; Paraguay; Peru; Suriname; Trinidad and Tobago; Uruguay; Venezuela;	24
South Asia	Afghanistan; Bangladesh; Bhutan; India; Nepal; Pakistan; Sri Lanka	7
Sub-Saharan Africa	Angola; Benin; Botswana; Burkina Faso; Burundi; Cameroon; Cape Verde; Central African Republic; Chad; Comoros; Congo; Cote d'Ivoire; Democratic Republic of Congo; Djibouti; Equatorial Guinea; Eswatini; Ethiopia; Gabon; Gambia; Ghana; Guinea; Guinea Bissau; Kenya; Lesotho; Liberia; Madagascar; Malawi; Mali; Mauritania; Mauritius; Mozambique; Namibia; Niger; Nigeria; Rwanda; Senegal; Sierra Leone; South Africa; Tanzania; Togo; Uganda; Zambia; Zimbabwe	43
Total		162



Table 14: Regional model 2: 162 countries: 10 regions

Region	Country	Number of Countries
Asia	Cambodia; China; Hong Kong (China), Indonesia; Japan; Laos; Malaysia; Mongolia; Myanmar; Philippines; Singapore; South Korea; Thailand; Vietnam	14
Eastern Europe	Czech Republic; Estonia; Hungary; Latvia; Lithuania; Poland; Slovakia	7
Global West	Australia; Austria; Belgium; Canada; Denmark; Finland; France; Germany; Iceland; Ireland; Italy; Luxembourg; Malta; Netherlands; New Zealand; Norway; Portugal; Spain; Sweden; Switzerland; United Kingdom; United States of America	22
Greater Middle East	Algeria; Bahrain; Egypt; Iran; Iraq; Israel; Jordan; Kuwait; Lebanon; Libya; Morocco; Oman; Qatar; Saudi Arabia; Sudan; Syria; Tunisia; United Arab Emirates; Yemen	19
Latin America	Argentina; Bolivia; Brazil; Chile; Colombia; Costa Rica; Ecuador; El Salvador; Guatemala; Guyana; Honduras; Mexico; Nicaragua; Panama; Paraguay; Peru; Suriname; Uruguay; Venezuela;	19
Post-Soviet World	Armenia; Azerbaijani; Belarus; Georgia; Kazakhstan; Kyrgyzstan; Moldova; Russia; Tajikistan; Turkmenistan; Ukraine; Uzbekistan	12
Small Island Nations	Cape Verde; Comoros; Cuba; Dominican Republic; Haiti; Jamaica; Mauritius; Papua New Guinea; Timor-Leste; Trinidad and Tobago	10
South Asia	Afghanistan; Bangladesh; Bhutan; India; Nepal; Pakistan; Sri Lanka	7
South-East Europe	Albania; Bosnia and Herzegovina; Bulgaria; Croatia; Cyprus; Greece; Macedonia; Montenegro; Romania; Serbia; Slovenia; Turkey	12
Sub-Saharan Africa	Angola; Benin; Botswana; Burkina Faso; Burundi; Cameroon; Central African Republic; Chad; Congo; Cote d'Ivoire; Democratic Republic of Congo; Djibouti; Equatorial Guinea; Eswatini; Ethiopia; Gabon; Gambia; Ghana; Guinea; Guinea Bissau; Kenya; Lesotho; Liberia; Madagascar; Malawi; Mali; Mauritania; Mozambique; Namibia; Niger; Nigeria; Rwanda; Senegal; Sierra Leone; South Africa; Tanzania; Togo; Uganda; Zambia; Zimbabwe	40
Total		162

## 7.2. Appendix 2: Hausman test results

Table 15: Global model: Hausman test results

	Coefficients			
	(b) fixedG2	(B) randomG2	(b-B) Difference	sqrt(diag(V_b-V_B)) Std. err.
FoG	-.0005079	.0018365	-.0023444	.
Gini	-.0753001	-.1717313	.0964312	.0051484
GDPPCg	.0000226	.0000431	-.0000206	.
AGR	-.0027137	-.0037418	.0010281	.
IND	-.000349	-.0003694	.0000204	.
SRV	.0006697	.0008783	-.0002085	.

b = Consistent under H0 and Ha; obtained from xtreg.

B = Inconsistent under Ha, efficient under H0; obtained from xtreg.

Test of H0: Difference in coefficients not systematic

$$\begin{aligned} \text{chi2}(6) &= (b-B)'[(V_b-V_B)^{-1}](b-B) \\ &= 1223.33 \end{aligned}$$

Prob > chi2 = 0.0000

Table 16: Regional model 1: Hausman test results

	Coefficients			
	(b) fixedG2	(B) randomG2	(b-B) Difference	sqrt(diag(V_b-V_B)) Std. err.
FoG	-.0005079	.0016994	-.0022073	.0000384
Gini	-.0753001	-.0921845	.0168844	.0096873
GDPPCg	.0000226	.0000267	-4.15e-0	.
AGR	-.0027137	-.0035988	.0008851	.0000252
IND	-.000349	-.0003781	.0000291	.
SRV	.0006697	.0008539	-.0001841	.

b = Consistent under H0 and Ha; obtained from xtreg.

B = Inconsistent under Ha, efficient under H0; obtained from xtreg.

Test of H0: Difference in coefficients not systematic

$$\begin{aligned} \text{chi2}(6) &= (b-B)'[(V_b-V_B)^{-1}](b-B) \\ &= 229.18 \end{aligned}$$

Prob > chi2 = 0.0000

Table 17: Regional model 2: Hausman test results

	Coefficients			sqrt(diag(V_b-V_B)) Std. err.
	(b) fixedG2	(B) randomG2	(b-B) Difference	
FoG	-.0005079	.0018144	-.0023222	.
Gini	-.0753001	-.1698486	.0945484	.0049425
GDPPCg	.0000226	.0000444	-.0000218	.
AGR	-.0027137	-.0037556	.0010419	.
IND	-.000349	-.0003875	.0000385	.
SRV	.0006697	.0008602	-.0001904	.

b = Consistent under H0 and Ha; obtained from xtreg.

B = Inconsistent under Ha, efficient under H0; obtained from xtreg.

Test of H0: Difference in coefficients not systematic

$$\begin{aligned} \text{chi2}(6) &= (b-B)'[(V_b-V_B)^{-1}](b-B) \\ &= 1220.31 \end{aligned}$$

Prob > chi2 = 0.0000

### 7.3. Appendix 3: Global model results

Table 18: Global model results

Fixed-effects (within) regression	Number of obs = 1,600
Group variable: ccode	Number of groups = 162
R-squared:	Obs per group:
Within = 0.1391	min = 5
Between = 0.7370	avg = 9.9
Overall = 0.7360	max = 10
	F(6,161) = 8.03
corr(u_i, Xb) = 0.7798	Prob > F = 0.0000

hdi	Coefficient	Robust std. err.	t	P> t	[95% conf. interval]	
FoG	-.0005079	.0012305	-0.41	0.680	-.0029378	.0019221
Gini	-.0753001	.0770074	-0.98	0.330	-.227375	.0767747
GDPPCg	.0000226	.0001699	0.13	0.894	-.0003129	.000358
AGR	-.0027137	.0007168	-3.79	0.000	-.0041292	-.0012981
IND	-.000349	.000664	-0.53	0.600	-.0016602	.0009623
SRV	.0006697	.0006646	1.01	0.315	-.0006426	.0019821
_cons	.7598317	.06917	10.98	0.000	.6232343	.8964291

## 7.4. Appendix 4: Regional model comparison

Table 19: Regional model 1: R-squared

Fixed-effects (within) regression	Number of obs = 1,600
Group variable: ccode	Number of groups = 162
R-squared:	Obs per group:
Within = 0.2586	min = 5
Between = 0.0669	avg = 9.9
Overall = 0.0681	max = 10
	F(42,161) = 9.49
corr(u_i, Xb) = -0.7958	Prob > F = 0.0000

Table 20: Regional model 2: R-squared

Fixed-effects (within) regression	Number of obs = 1,600
Group variable: ccode	Number of groups = 162
R-squared:	Obs per group:
Within = 0.3224	min = 5
Between = 0.0087	avg = 9.9
Overall = 0.0090	max = 10
	F(60,161) = 35.62
corr(u_i, Xb) = -0.8934	Prob > F = 0.0000

## 7.5. Appendix 5: Regional model 1 results

Table 21: Regional model 1 results

HDI	Robust					
	Coefficient	std. err.	t	P> t	[95% conf. interval]	
FoG	.0003313	.0006311	0.52	0.600	-.000915	.0015776
Gini	.1495735	.1321983	1.13	0.260	-	.4106398
					.1114927	
GDPPCg	.0013958	.0006213	2.25	0.026	.0001687	.0026228
AGR	-.008589	.005269	-1.63	0.105	-	.0018163
					.0189943	

IND	.001425	.003942	0.36	0.718	-	.0092098
					.0063597	
SRV	.0031861	.0040671	0.78	0.435	-	.0112179
					.0048457	
rcode						
Asia and Pacific	0	(omitted)				
Eastern Europe and Central Asia	0	(omitted)				
Greater Middle East	0	(omitted)				
Latin America and the Caribbean	0	(omitted)				
South Asia	0	(omitted)				
Sub-Saharan Africa	0	(omitted)				
FoG	0	(omitted)				
Gini	0	(omitted)				
GDPPCg	0	(omitted)				
AGR	0	(omitted)				
IND	0	(omitted)				
SRV	0	(omitted)				
rcode#c.FoG						
Asia and Pacific	-.0051788	.0031211	-1.66	0.099	-	.0009848
					.0113424	
Eastern Europe and Central Asia	-.0052154	.0040296	-1.29	0.197	-	.0027423
					.0131732	
Greater Middle East	.0063886	.003809	1.68	0.095	-	.0139106
					.0011333	
Latin America and the Caribbean	-.0033427	.0025647	-1.30	0.194	-	.0017221
					.0084076	
South Asia	-.0049843	.0087764	-0.57	0.571	-.022316	.0123474
Sub-Saharan Africa	-.0025079	.0027617	-0.91	0.365	-	.002946
					.0079618	
rcode#c.Gini						
Asia and Pacific	-.442968	.1875971	-2.36	0.019	-	-
					.8134363	.0724998
Eastern Europe and Central Asia	-.1111905	.1542567	-0.72	0.472	-	.1934368
					.4158179	
Greater Middle East	-.6286927	.3251084	-1.93	0.055	-	.0133341
					1.270719	
Latin America and the Caribbean	-.6124138	.1896617	-3.23	0.002	-	-
					.9869593	.2378684
South Asia	-1.123102	.737362	-1.52	0.130	-2.57925	.3330466
Sub-Saharan Africa	-.1509889	.2177157	-0.69	0.489	-	.2789579
					.5809357	

rcode#c.GDPPCg							
Asia and Pacific	-0.0026871	.0011354	-2.37	0.019	-	-	
					.0049294	.0004448	
Eastern Europe and	-0.0011596	.000842	-1.38	0.170	-	.0005031	
Central Asia					.0028223		
Greater Middle East	-0.0012137	.0006263	-1.94	0.054	-	.0000232	
					.0024506		
Latin America and	-0.0018718	.0010236	-1.83	0.069	-	.0001496	
the Caribbean					.0038932		
South Asia	-0.0015699	.0009874	-1.59	0.114	-	.0003801	
					.0035199		
Sub-Saharan Africa	-0.0021303	.00082	-2.60	0.010	-	-	
					.0037498	.0005109	
rcode#c.AGR							
Asia and Pacific	.0025191	.0061265	0.41	0.681	-	.0146177	
					.0095795		
Eastern Europe and	.0006918	.0056907	0.12	0.903	-	.0119298	
Central Asia					.0105462		
Greater Middle East	.0055008	.0053737	1.02	0.308	-	.0161129	
					.0051113		
Latin America and	.0048986	.0054079	0.91	0.366	-0.005781	.0155781	
the Caribbean							
South Asia	.0019986	.0060934	0.33	0.743	-	.0140319	
					.0100347		
Sub-Saharan Africa	.0073451	.0053924	1.36	0.175	-	.0179941	
					.0033039		
rcode#c.IND							
Asia and Pacific	-0.004745	.0045938	-1.03	0.303	-	.0043269	
					.0138168		
Eastern Europe and	-0.0029497	.0042567	-0.69	0.489	-	.0054564	
Central Asia					.0113558		
Greater Middle East	-0.0018878	.0040594	-0.47	0.643	-	.0061287	
					.0099043		
Latin America and	-0.0006149	.0041152	-0.15	0.881	-	.0075118	
the Caribbean					.0087415		
South Asia	-0.0041865	.0058394	-0.72	0.474	-	.0073451	
					.0157181		
Sub-Saharan Africa	-0.0015294	.0041084	-0.37	0.710	-	.0065839	
					.0096427		
rcode#c.SRV							
Asia and Pacific	-0.0048297	.0048044	-1.01	0.316	-	.0046581	
					.0143174		

Eastern Europe and Central Asia	-0.0036055	.0044008	-0.82	0.414	-	.0050853
Greater Middle East	-0.0026395	.0041921	-0.63	0.530	.0122964	.0056391
Latin America and the Caribbean	-0.0007154	.0042686	-0.17	0.867	.0109181	.0077142
South Asia	-0.0019349	.0052961	-0.37	0.715	.0091451	.0085239
Sub-Saharan Africa	-0.0027226	.0041943	-0.65	0.517	.0123936	.0055604
					.0110056	
_cons	.83425	.079778	10.46	0.000	.6767037	.9917964

## 7.6. Appendix 6: Regional model 2 – results

Table 22: Regional model 2 results

HDI	Robust		t	P> t	[95% conf. interval]	
	Coefficient	std. err.			-	
FoG	.0003313	.0006348	0.52	0.602	-	.0015848
					.0009222	
Gini	.1495735	.1329691	1.12	0.262	-	.412162
					.1130149	
GDPPCg	.0013958	.000625	2.23	0.027	.0001616	.0026299
AGR	-.008589	.0052997	-1.62	0.107	-.019055	.0018769
IND	.001425	.003965	0.36	0.720	-	.0092551
					.0064051	
SRV	.0031861	.0040909	0.78	0.437	-	.0112647
					.0048926	
rcode						
Greater Middle East	0	(omitted)				
South Asia	0	(omitted)				
Sub-Saharan Africa	0	(omitted)				
Asia	0	(omitted)				
Eastern Europe	0	(omitted)				
Latin America	0	(omitted)				
Post-Soviet World	0	(omitted)				
Small Island nations	0	(omitted)				
South-East Europe	0	(omitted)				
FOG	0	(omitted)				
Gini	0	(omitted)				
GDPPCg	0	(omitted)				

	AGR	0	(omitted)				
	IND	0	(omitted)				
	SRV	0	(omitted)				
	rcode#c.FoG						
	Asia	-0.0024425	.0019292	-1.27	0.207	-	.0013673
						.0062523	
	Eastern Europe	-0.0019215	.0050433	-0.38	0.704	-.011881	.008038
	Greater Middle East	.0063886	.0038312	1.67	0.097	-	.0139545
						.0011772	
	Latin America	-0.0084354	.0016845	-5.01	0.000	-.011762	-
							.0051088
	Post-Soviet World	-0.0026982	.0027592	-0.98	0.330	-	.0027508
						.0081471	
	Small Island nations	.0005882	.0019924	0.30	0.768	-	.0045227
						.0033464	
	South Asia	-0.0049843	.0088276	-0.56	0.573	-	.0124485
						.0224171	
	South-East Europe	-0.0115922	.0061781	-1.88	0.062	-	.0006083
						.0237927	
	Sub-Saharan Africa	-0.0024877	.0027453	-0.91	0.366	-	.0029337
						.0079092	
	rcode#c.Gini						
	Asia	-.3494975	.1614405	-2.16	0.032	-	-
						.6683115	.0306835
	Eastern Europe	.0047231	.1356045	0.03	0.972	-	.272516
						.2630698	
	Greater Middle East	-.6286927	.3270041	-1.92	0.056	-	.0170777
						1.274463	
	Latin America	-.4798255	.1664849	-2.88	0.004	-	-
						.8086012	.1510497
	Post-Soviet World	-.1135785	.1774602	-0.64	0.523	-	.2368713
						.4640284	
	Small Island nations	-.9223411	.2566199	-3.59	0.000	-	-.415566
						1.429116	
	South Asia	-1.123102	.7416615	-1.51	0.132	-	.3415373
						2.587741	
	South-East Europe	-.0582371	.1602654	-0.36	0.717	-	.2582564
						.3747306	
	Sub-Saharan Africa	-.1038813	.2268172	-0.46	0.648	-	.3440391
						.5518016	
	rcode#c.GDPPCg						
	Asia	-.0042641	.000802	-5.32	0.000	-	-
						.0058478	.0026803
	Eastern Europe	-.0000256	.0009	-0.03	0.977	-.001803	.0017518



Greater Middle East	-0.0012137	.00063	-1.93	0.056	-	.0000304
					.0024578	
Latin America	-0.0026611	.0008899	-2.99	0.003	-	-
					.0044183	.0009038
Post-Soviet World	-0.0027339	.0008024	-3.41	0.001	-	-
					.0043186	.0011493
Small Island nations	-0.0007635	.0012463	-0.61	0.541	-	.0016976
					.0032246	
South Asia	-0.0015699	.0009932	-1.58	0.116	-	.0003915
					.0035313	
South-East Europe	.0005428	.0008016	0.68	0.499	-	.0021258
					.0010402	
Sub-Saharan Africa	-0.0021351	.0008234	-2.59	0.010	-	-.000509
					.0037612	
rcode#c.AGR						
Asia	-0.0004992	.0054152	-0.09	0.927	-	.0101947
					.0111931	
Eastern Europe	-0.0015852	.0063068	-0.25	0.802	-	.0108694
					.0140399	
Greater Middle East	.0055008	.0054051	1.02	0.310	-	.0161748
					.0051732	
Latin America	.0059856	.0053583	1.12	0.266	-.004596	.0165672
Post-Soviet World	.0034057	.0055647	0.61	0.541	-	.0143949
					.0075835	
Small Island nations	.0067351	.0061493	1.10	0.275	-	.0188788
					.0054085	
South Asia	.0019986	.0061289	0.33	0.745	-	.0141021
					.0101049	
South-East Europe	-0.0058636	.0069479	-0.84	0.400	-	.0078572
					.0195843	
Sub-Saharan Africa	.0073329	.0054266	1.35	0.178	-	.0180495
					.0033836	
rcode#c.IND						
Asia	-0.0071502	.0041879	-1.71	0.090	-	.00112
					.0154205	
Eastern Europe	-0.0161588	.0050638	-3.19	0.002	-	-
					.0261589	.0061587
Greater Middle East	-0.0018878	.0040831	-0.46	0.644	-	.0061754
					.0099511	
Latin America	-0.0003539	.0041139	-0.09	0.932	-	.0077703
					.0084782	
Post-Soviet World	-0.0019076	.0043431	-0.44	0.661	-	.0066692
					.0104844	
Small Island nations	-0.0037555	.0046653	-0.80	0.422	-	.0054577
					.0129686	

South Asia	-0.0041865	.0058734	-0.71	0.477	-	.0074123
					.0157854	
South-East Europe	-0.0001099	.0048416	-0.02	0.982	-	.0094513
					.0096711	
Sub-Saharan Africa	-0.0014267	.0041337	-0.35	0.730	-	.0067366
					.0095899	
rcode#c.SRV						
Asia	-0.0059872	.0043939	-1.36	0.175	-	.00269
					.0146644	
Eastern Europe	-0.0122231	.0051716	-2.36	0.019	-.022436	-
						.0020102
Greater Middle East	-0.0026395	.0042165	-0.63	0.532	-	.0056873
					.0109664	
Latin America	-0.0004844	.0041782	-0.12	0.908	-	.0077668
					.0087355	
Post-Soviet World	-0.0030772	.0044894	-0.69	0.494	-	.0057884
					.0119428	
Small Island nations	-0.0048619	.0050959	-0.95	0.341	-	.0052015
					.0149254	
South Asia	-0.0019349	.005327	-0.36	0.717	-	.0085849
					.0124546	
South-East Europe	-0.0024245	.0047239	-0.51	0.608	-	.0069043
					.0117532	
Sub-Saharan Africa	-0.0026938	.0042227	-0.64	0.524	-	.0056453
					.0110329	
_cons	.8765215	.0763279	11.48	0.000	.7257886	1.027254