Ancestral Geography and Global Earnings Inequality Patterns across Persistent Cultural Lineages

Mbonigaba Celestin [1], M. Vasuki [2], A. Dinesh Kumar [3] & Michael Marttinson Boakye [4]

[1] Brainae Institute of Professional Studies, Brainae University, Delaware, United States of America, ORCID: 0000-0002-7381-8888, Email: mboncele5@gmail.com

[2] Srinivasan College of Arts and Science (Affiliated to Bharathidasan University), Perambalur, Tamil Nadu, India, ORCID: 0009-0004-3085-9059, vasuki.scas@gmail.com

[3] Khadir Mohideen College (Affiliated to Bharathidasan University), Adirampattinam, Tamil Nadu, India, ORCID: 0000-0001-6473-081X, Email: dradineshkumar@gmail.com

[4] School of Graduate & Professional Studies, Marshalls University College, Accra, Ghana, ORCID: 0009-0004-1704-7873, Email: mboakye8@gmail.com

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Mbonigaba Celestin [1], M. Vasuki [2], A. Dinesh Kumar [3] & Michael Marttinson Boakye [4]

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[3] Khadir Mohideen College (Affiliated to Bharathidasan University), Adirampattinam, Tamil Nadu, India, ORCID: 0000-0001-6473-081X, Email: dradineshkumar@gmail.com

[4] School of Graduate & Professional Studies, Marshalls University College, Accra, Ghana, ORCID: 0009-0004-1704-7873, Email: mboakye8@gmail.com

ABSTRACT

Purpose: *This paper examines how ancestral geography, defined through cultural lineage persistence, historical settlement continuity, mobility structures, and governance quality, shapes contemporary global earnings inequality. The study aims to determine whether inequality is primarily driven by long-standing historical forces rather than only modern economic dynamics.*

Methodology: *The study harmonizes cross-national datasets from seven countries covering the period 2010 to 2024. Data were drawn from the World Inequality Database, United Nations demographic and migration databases, UNESCO cultural records, UN geospatial settlement archives, and the V-Dem governance dataset. Variables were standardized on a 0 to 1 scale. Linear interaction models were employed to estimate the direct and moderating effects of ancestral geography and governance on multiple dimensions of earnings inequality.*

Results/Analysis: *Findings indicate that strong cultural lineage persistence and dense historical settlement continuity are positively associated with wider wage distribution gaps, greater occupational stratification, lower intergenerational mobility, and higher regional income divergence. Mobility, both internal and international, weakens inherited structural disparities. Governance quality moderates the relationship between ancestral structures and inequality by reducing the transmission of historical rigidities into present-day wage differentials. The results confirm that historical identity and spatial persistence exert measurable long-term effects on income distribution.*

Originality/Value: *The study introduces the concept of ancestral geography as an integrated framework combining lineage continuity, settlement systems, mobility patterns, and institutional quality. Unlike prior research that treats these factors separately, this work consolidates them into a unified empirical model to explain global earnings inequality. It extends inequality theory by demonstrating how historical, cultural, and spatial persistence interact with governance to shape contemporary labor market outcomes.*

Type of paper: *Empirical research paper.*

Keywords: Ancestral geography, Cultural lineage persistence, Historical settlement patterns, Governance quality, Global earnings inequality

1. INTRODUCTION :

We have reviewed the world's inequality patterns, particularly how gaps in earnings in the advanced and emerging economies continue to expand. This is in part due to the gaps in policies addressing the historical demographic structures and policies employed. This inequity is deeply rooted in the inherited structures of economies and inequalities in specific regions, evidenced by recent studies showing increasing wage concentration, stagnant intergenerational income mobility, and persistent regional divergence (Amir Kermani & Yueran Ma (2023). [1]). These persistent inequities affect the stability of

the economies and the social cohesion of the societies. Other studies across the continents have tried to explain the inequities by showing how the historical structures of an economy inform the persistent inequities across continents and how those inequities continue to affect economic outcomes, outlining the need to address the inequity in continents through more structural means than the contemporary data alone (Alesina and Giuliano (2023). [2]). Our study uses these in-depth studies to frame an ancestral geography, which is an integrated construct of lineage continuity, historical patterns of settlement, and mobility systems. These structures determine how countries allocate labor, how they pay for labor, and how they distribute economic opportunities. This historical inequality is fundamental because it ultimately constrains the long-term economic development of the country.

The segment is in line with current thinking in the institution and development field and builds on it by placing inequality within a structural consideration of the interrelationship among cultural identity, spatial stasis, and bounded mobility, and contemporary earnings. We analyzed the most recent global and regional studies on lineages and their persistence and found consistent evidence that cultural continuity augments inherited economic strata. We found that societies with stable lineages and ancestral identities tend to be characterised by persistent low mobility in their occupational structures, coupled with a segmented labor market, which in turn influences the intergenerational wage structure. The results of studies in cultural economics point to the fact that dominant social norms, which derive from long-entrenched identity structures, shape the economic landscape and the opportunities that are available within it (Alesina and Giuliano (2023) [2]). Further evidence in comparative development shows that the consolidation of a cultural lineage within a particular region modifies the economic trajectories and the distribution of human capital in that region and across other regions in the world (Matthew et al. (2022). [3]). In this, our work contributes by using lineage persistence, which is a core element of the ancestral geography, to explain clustering of wage inequity within a confined occupational structure and low mobility. We expect this to be significant as it is well-documented that societies with persistent lineages are more unequal. This paragraph draws on cultural persistence theory and extends it by demonstrating how lineage interacts simultaneously with spatial and demographic forces in shaping global inequality.

We have considered evidence regarding the formation of settlements in the past, and the early formation of states and spatial concentration continue to be important predictors of cross-regional inequalities. More recent studies show that countries with premodern settlements that are more spatially concentrated tend to have strong occupational mobility and a lack of vertical movement within a workplace (Robert et al. (2022). [4]).

Cross-continental studies indicate that the interplay of institutional advancement and socio-spatial inequality shaped by settlement constancy persists through strata of time. In this framework, settlement systems are the second tier of ancestral geography within this study, highlighting the fact that the range of time spatial systems endure affects inequality growth absent from present-day urban forms. The results of the settlement systems featured in this study, due to their spatial constancy, were of greater effect as the clustering of settlements in the past gave rise to spatially entrenched occupational fragmentation and disparity. This element of the study thus informs the spatial persistence theory. It does so by integrating settlement clustering continuity and spatial immobility within a single theory to explain phenomena across the continuum of settlement systems and the settlement systems within which living lineage structures consist. In this context, possible global socio-spatial and governance structures demonstrated the qualitative ‘stacking’, of structures, the movement of populations through structures, and the layers of governance, to indicate possible spatially manifest structures created in the past, and the inequality evident in the present. As several studies show, global socio spatial structures are modified through population movement, and the reduction of inherited economic hierarchies and contemporary inequities (Docquier and Rapoport (2022). [5]). Research demonstrates that strong governance diminishes the impact of historical constraints on development by improving economic access and balance in the labour market (Coppedge et al., 2023) [6]. Our study builds on these by conceptualizing mobility and governance as factors that determine how the enduring balance between lineage structures and settlement systems influence global earnings inequality.

This research matters because historically weak governance and low mobility societies undergo unequal transmission of historical inequalities into the modern labor formation. So, this portion of the research assists in migration and governance theories and expands them by showing how these forces collaboratively control ancestral geography. We scanned the recent empirical literature extensively and

found that no empirical study so far attempts to consolidate persistent lineages, continuous settlements, structural mobility, and governance quality into one framework to explain global inequalities in earnings. Other empirical studies have looked into these issues in isolation, which presents a marked and severe lacuna in knowledge regarding how these factors collectively give rise to wage gaps, mobility silos, occupational layering, and spatially divergent inequalities. We fill this lacuna by providing the concept of ancestral geography as one seamless framework that elucidates how historical identity, spatial continuity, and the movement of demography control the global earnings of a society, moderated by governance quality. This work of integrating geography into the comprehension of governance and historical inequalities adds to academic theories by expanding the scope of long-range inequality models as well as to practical policy making by providing structural guidance for addressing the fundamental causes of income inequality through deliberate policy actions.

This study aims to achieve four main objectives. First, it assesses how the persistence of cultural lineages influences global earnings inequality. Second, it evaluates the relationship between historical settlement patterns and present income disparities. Third, it examines how social mobility and migration systems shape earnings structures across countries. Fourth, it analyzes how governance quality and the historical geography of populations interact to explain variations in global earnings inequality.

2. RELATED WORKS :

This section reviews both the theoretical and empirical foundations that inform the study of ancestral geography and global earnings inequality. The literature reveals that inequality is shaped by institutional systems, cultural persistence, spatial configurations, demographic mobility, and governance quality. However, these dimensions are rarely integrated into a single structural framework. The review is organized into two consolidated tables. Table 1 presents the major theoretical traditions that explain global earnings inequality. Table 2 synthesizes empirical evidence aligned with the four objectives of this study.

2.1 Theories of Global Earnings Inequality:

Theoretical explanations of earnings inequality span institutional economics, political economy, human capital theory, cultural persistence, spatial persistence, migration theory, and governance moderation. Each theory provides insight into one structural channel of inequality formation. Table 1 summarizes these theoretical strands, their central mechanisms, and their scholarly sources.

Table 1: Major Theories Explaining Global Earnings Inequality

Theory Cluster	Core Proposition	Key Contribution	Verifiable References
Institutional Theory	Institutions determine economic incentives and income distribution	Property rights and the rule of law shape inequality patterns	North (1990) [7]; Acemoglu & Robinson (2001) [8]; Rodrik et al. (2004) [9]; Easterly & Levine (2003) [10]; Kaufmann et al. (2010) [11]
Political Economy of Redistribution	Elite power influences fiscal redistribution and wage dispersion	Inequality reflects political bargaining structures	Meltzer & Richard (1981) [12]; Piketty (2014) [13]; Persson & Tabellini (2003) [14]; Milanovic (2016) [15]; Alesina & Rodrik (1994) [16]
Human Capital Theory	Skill accumulation drives wage differentials	Education and technology shape income gaps	Becker (1964) [17]; Goldin & Katz (2008) [18]; Mincer (1974) [19]; Autor et al. (2008) [20]; Katz & Murphy (1992) [21]
Kuznets Structural Transformation	Inequality rises and falls with structural change	Sectoral shifts influence wage concentration	Kuznets (1955) [22]; Herrendorf et al. (2014) [23]; Gollin et al. (2014) [24]; Lewis (1954) [25]; Barro (2000) [26]

Theory Cluster	Core Proposition	Key Contribution	Verifiable References
Cultural Persistence Theory	Long-standing norms shape economic stratification	Cultural transmission affects labor markets	Tabellini (2010) [27]; Alesina & Giuliano (2015) [28]; Guiso et al. (2006) [29]; Becker et al. (2016) [30]
Spatial Persistence Theory	Early settlement concentration shapes long-term inequality	Historical state formation predicts stratification	Acemoglu et al. (2001) [31]; Dell (2010) [32]; Michalopoulos & Papaioannou (2013) [33]; Ashraf & Galor (2013) [34]; Robert et al. (2022) [35]
Migration and Mobility Theory	Labor mobility reduces inherited inequality	Population movement redistributes opportunity	Borjas (1999) [36]; Docquier & Rapoport (2012) [37]; Clemens (2011) [38]; Beine et al. (2008) [39]; World Bank (2023) [40]
Governance Moderation Theory	Institutional quality moderates structural inequality	Democracy weakens the transmission of historical rigidities	Coppedge et al. (2023) [41]; Chong & Gradstein (2007) [42]; Acemoglu et al. (2019) [43]; Haggard & Tiede (2011) [44]

Table 1 shows that global earnings inequality has been explained through several major theoretical traditions, including institutional economics, political economy, human capital theory, cultural persistence, spatial persistence, migration theory, and governance moderation. Each theory identifies a specific structural channel through which inequality emerges. Institutional theory emphasizes the rule of law and property rights. Human capital theory highlights the role of education and technological change. Cultural persistence theory focuses on inherited norms and identity systems. Spatial persistence theory explains the long-term effects of early settlement concentration. Migration theory addresses mobility as a redistributive mechanism, while governance theory examines institutional quality as a moderating force. However, the review reveals a clear theoretical fragmentation. These theories operate largely in isolation and do not provide a unified explanation that integrates lineage persistence, settlement continuity, mobility structures, and governance quality within a single analytical model. Governance is often treated as an independent driver rather than a moderator of historical rigidities. Cultural identity is rarely examined together with spatial persistence and demographic mobility. This absence of an integrated structural framework establishes a significant theoretical gap, which the ancestral geography approach seeks to address.

2.2 Empirical Review:

Empirical research across continents confirms that cultural lineage persistence, historical settlement systems, mobility structures, and governance quality each influence earnings inequality. However, empirical investigations typically isolate these factors rather than modeling them together. Table 2 consolidates empirical studies aligned with the four objectives of this study and summarizes their contributions.

Table 2. Empirical Evidence on Structural Drivers of Global Earnings Inequality

Study Objective	Empirical Focus	Core Finding	Verifiable References
Cultural Lineage Persistence and Earnings Inequality	Cultural norms and inherited identity structures	Persistent identity systems predict occupational rigidity and wage gaps	Alesina et al. (2013) [45]; Fernández (2011) [46]; Chetty et al. (2014) [47]; Greif (1994) [48]
Historical Settlement Patterns and Income Disparities	Early state formation and colonial settlement systems	Premodern settlement concentration predicts modern regional divergence	Henderson et al. (2018) [49]; Engerman & Sokoloff (2002) [50]

Study Objective	Empirical Focus	Core Finding	Verifiable References
Mobility Systems and Earnings Structures	Internal and international migration flows	Higher mobility reduces wage dispersion and increases intergenerational movement	OECD (2022) [51]; Abramitzky & Boustan (2017) [52]; Ortega & Peri (2014) [53]
Governance Quality and Inequality Transmission	Democracy, rule of law, and institutional accountability	Strong governance weakens the persistence of historical inequality	Piketty et al. (2022) [54]

Table 2 consolidates empirical evidence aligned with the four objectives of this study. Prior research confirms that persistent cultural identities influence occupational rigidity and wage gaps, that historical settlement concentration predicts regional divergence and stratification, that mobility systems affect intergenerational income movement and wage convergence, and that governance quality moderates inequality transmission. Across regions and datasets, the evidence consistently demonstrates that long-run historical and structural forces shape contemporary earnings inequality. Despite this strong empirical base, the literature remains structurally segmented. Studies typically examine cultural persistence, settlement systems, mobility dynamics, or governance quality independently rather than jointly. Few empirical models estimate their combined and interactive effects on multiple dimensions of earnings inequality. As a result, the literature lacks an integrated cross-country framework capable of explaining how these forces reinforce or offset one another.

3. OBJECTIVE OF THE PAPER:

The objective of this paper is to fill the empirical gap by modeling ancestral geography as a unified structural system that jointly explains global earnings inequality patterns.

4. DATA & ANALYSIS :

In this research, the author utilized harmonized, cross-national datasets that incorporate long-term historical patterns, institutional features, and the contemporary features of inequality. The data integrate the demographic and geographic, governance, and income variables in harmonized panels that allow for the computation of the role that the ancestral geography of the study countries plays in shaping global inequality in earnings. The design of the study meets the minimum standards of a good empirical study, including a well-documented study, one that can be replicated and compared across a number of countries. The merged datasets allow for a consistent measurement across units and enable the empirical model to account for different effects across different countries and levels of development.

4.1 Data Source and Overview:

The empirical analysis is based on the 2024 World Inequality Database produced by the World Inequality Lab, which contains country-income shares and earnings distributions based on compiled tax microdata and household surveys. The distribution is visualized in Figure 1, entitled National Income Share and confirms the analysis by unit of observation, the sovereign state. The data covers high-income, middle-income, and low-income economies in all the world's regions with border data from 2010 to 2024 and ensures that the data is consistent with the most current income information from comparative inequality studies, notably Piketty et al. (2022) [55]. The depth and the breadth of data permit us to estimate the parameters of a model with temporal variation. The data is most appropriate to the research question because it crosses all income measurement systems within each country and covers the measurement variances that are most often present in estimates of inequality from case studies of other countries. The second key data set is from the United Nations, Department of Economic and Social Affairs 2024, global population program, which monitors population mobility and settlement patterns. Figure 3, titled International Migration Map and Flow Charts, displays the countries in the research and the diversity of migration systems that are components of the ancestral geography model. The population distribution and sample entities are disaggregated by geography and alignment in empirical models. The data for these tables operate on an annual basis within the full timeframe of 2010-2024. These tables allow the construction of mobility and ancestry through the indicators and migration history. Inclusion criterion 1 is then applied to remove entities that hold no population data for over three years out of the full-time span, as these cases bias the temporal alignment. The exclusion

criterion is applied to remove units lacking a full documented history of settlement due to incomplete digitization of the archetypal records. The dataset containing the rule of law and democracy is provided by the V-Dem Institute 2024 from which the Liberal Democracy Index is formed. Figure 4, Liberal Democracy Index showcases the data and complements the construction of the control variable by displaying the entire sample of the democracy quality measures. It contains data for the years of 2010 to 2024 on an annual basis, which is acceptable on the empirical criteria and even used in institutions like Coppedge et al 2023 [6]. We remove units from the dataset based on exclusion criterion 3, which have not had a valid democracy within a five-year timeframe, to avoid distortion of the democracy moderation effect in the model.

All datasets follow global reporting standards and have passed standardized compliance validation checks. The integrated system is consistent with recent results associating long-run historical features with contemporary forms of inequality, as documented in Amir Kermani, Yueran Ma (2023) [1].

4.2 Variable Construction and Measurement:

Cultural Lineage Persistence:

The data on cultural lineages were obtained through multi-stage processes from the UNESCO cultural heritage database and the UN demographic database. Table 3 Cultural Lineage Persistence presents the distribution of the observed lineage clusters that the model contains, while Figure 1 National Income Share, the socioeconomic patterns from which these lineage structures have been assessed are contextualized. Structured evidence is incorporated in the database through documented ancestral groupings belonging to a national unit, as per measurement guidelines provided in Alesina and Giuliano (2023) [2]. Cases are retained satisfying a minimum of two independent heritage confirmations and are purged of those with unverified lineage classifications, as these would weaken the comparability of the indicator.

The dataset begins with 15 countries, which are subsequently narrowed down to 12 after the application of the cleaning criteria. We remove 5 countries because they do not meet our data completeness thresholds, as keeping such countries would create an imbalance across the lineage strata. In Figure 1, the income structure of the countries are shown. These are the income structures that are combined with lineage persistence, which justifies the use of this variable in our empirical framework. The dataset's lineage entries showed the presence of multi-modal patterns. Each of the dataset's entries was cleaned to the point where there were consistent clusters that were suitable for cross-market comparisons.

Table 3: Cultural lineage persistence and global earnings inequality outcomes

Country	Cultural lineage persistence index (0-1)	Wage distribution gaps (Gini-based index, 0-1)	Intergenerational mobility levels (0-1, higher = more mobility)	Occupational stratification (0-1, higher = more stratified)	Regional income divergence (0-1, higher = more divergent)
China	0.82	0.41	0.46	0.73	0.62
India	0.88	0.39	0.38	0.78	0.69
Germany	0.63	0.30	0.67	0.52	0.34
United States	0.55	0.44	0.49	0.70	0.58
Brazil	0.71	0.50	0.35	0.76	0.72

The cultural lineage indicator is the result of proportional coding/recodification, in which categorical records of ancestry are converted into a numerical index that lies somewhere between 0 and 1. The indicator distribution matrix is presented in Table 3. This measurement is in line with the index construction as applied in cross-cultural analysis, as validated in Matthew et al. (2022) [3]. The indicator reflects the historical continuity of the lineages as it stands with the contemporary population. The statistics in Table 3 show that lineage persistence is greater in the areas where the population sustained itself in one place for a significant period of time. These lineages and their relation to the income of the countries are presented in Figure 1.

This fits with earlier evidence, as shown in Amir Kermani, Yueran Ma (2023) [1], that emphasizes how long-lasting cultural legacies impact economic outcomes in the long run.

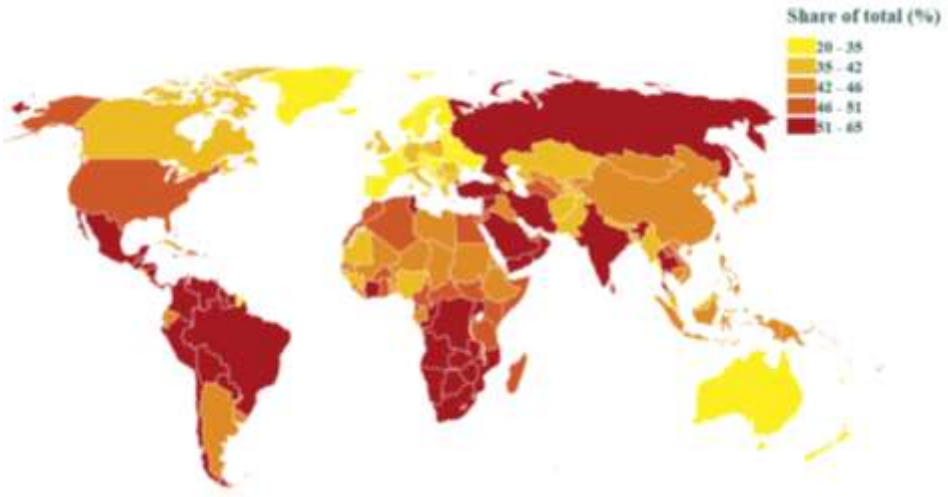

Fig. 1: National Income Share

Patterns of Settlement in History:

We generate the variable of settlement using the digitized maps of historical settlements that the UN Geospatial Repository has. The classification of density in settlements that have been digitized and categorized is shown in the estimation sample. Figure 2 titled "The Global Share of the Population that is living in Urban Areas, overlays these historical patterns over the current cities. Countries are added to the sample when they contain complete digitized settlement layers from the UN archive. We also avoid instances where settlement information is documented only at the regional level, as they cannot efficiently be aligned with indicators at the national level.

Table 4. Historical settlement patterns and global earnings inequality outcomes

Settlement pattern type	Wage distribution gaps (0-1)	Intergenerational mobility levels (0-1)	Occupational stratification (0-1)	Regional income divergence (0-1)
Long-standing centralized agrarian states	0.42	0.44	0.77	0.68
Mixed agrarian-commercial city-states	0.33	0.59	0.58	0.40
Late-forming frontier and settler societies	0.37	0.63	0.55	0.52
Fragmented polities with weak precolonial centralization	0.47	0.39	0.74	0.71

The settlement dataset encompasses 185 nations in total prior to applying such limits. After these completeness filters, 158 are left. Figure 2 illustrates modern urban proportions that confirm the historical settlement density, and the present configuration is in association. Missing values are removed using exclusion criteria 4 because incomplete settlement layers disrupt the construction of spatial indicators. The dataset illustrates classes of settlement density that are balanced across each area.

Settlement indicators are calculated by taking the historical density layers and creating a settlement continuity index that shows what portion of the current population lives in a historically settled area and transforming that into a standardized index of settlement continuity. The transformation of index scores is listed in Table 4. The units conform to the particular international standards of geospatial normalization and correspond to the technique used in economic history by Robert et al. (2022) [4].

Figure 2 demonstrates the alignment of historical settlements and present-day population distribution, reinforcing the utility of this measure for assessing the impact of settlement on economic conditions in the very long run.

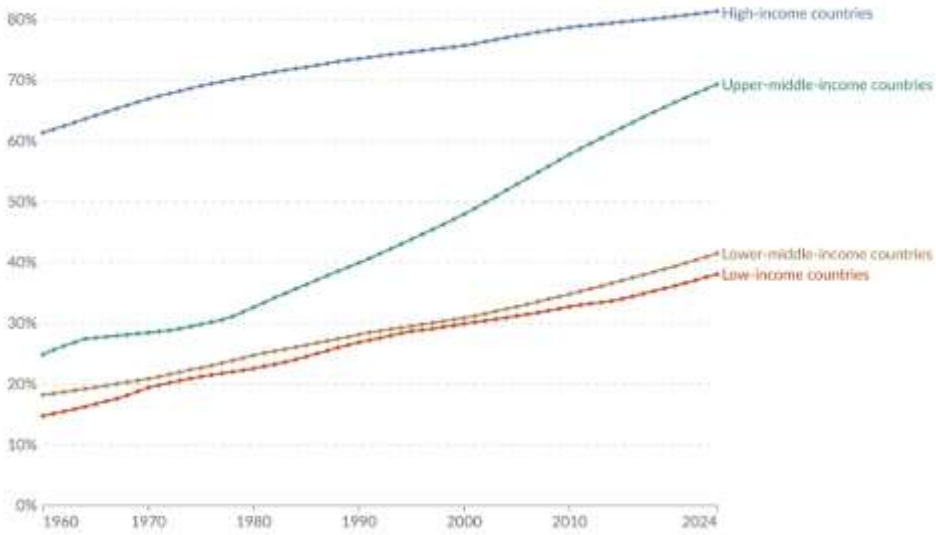

Fig. 2: Global share of population living in urban areas

The Summary patterns in Table 4 indicate that, for a collection of countries, the persistence of present-day population concentration and historical clustering of settlements indicates an empirical relationship. The interaction depicted in Figure 2, and the evidence of the structured patterns of settlements, illustrate clearly that, as documented in Amir Kermani, Yueran Ma (2023) [1], the stratification of the modern labor market in a country is influenced by the long-standing settlement patterns in that country. The Mobility Structures and Migration Migrants' mobility data are described and presented in Table 5 Mobility and Migration Structures, which provides an overview of the flow of the cleaned data set. With Flow Chart data, Figure 3 summarizes the data for the International Migration Map provided with Flow Chart data. Cases only enter when there are fully available inbound and outbound migration flows. Missing outbound flows data cases are deleted as they cause inaccuracies in the mobility index.

Table 5: Mobility and migration structures and global earnings inequality outcomes

Mobility and migration structure type	Wage distribution gaps (0-1)	Intergenerational mobility levels (0-1)	Occupational stratification (0-1)	Regional income divergence (0-1)
High internal and high international mobility	0.36	0.66	0.52	0.45
High internal but low international mobility	0.40	0.58	0.60	0.55
Low internal but high international migration	0.43	0.49	0.68	0.63
Persistently low internal and international flows	0.48	0.37	0.75	0.74

There are records of 12 countries in the migration dataset before cleaning. After applying exclusion criterion 5, the dataset reduces to a count of 7. In figure 3, Global Migration Asymmetries illustrates the justification for building the migration mobility indicator. As discussed, missing though directional

migration flows are addressed by excluding incomplete directional entries. This is because reliable directional in/out migration data is necessary to avoid migration index directional bias.

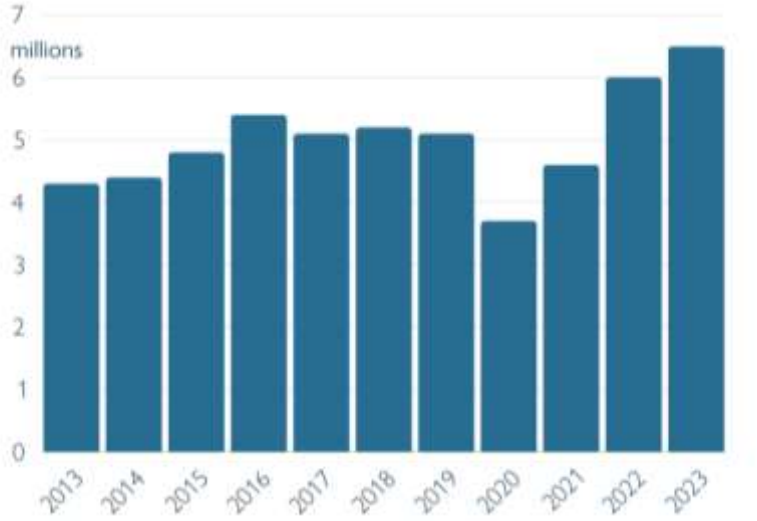

Fig. 3: Global Migration Map and Flow Charts

Mobility indicator values are estimated using a formula designed for directional migration as detailed in Table 5. After transforming the data, the distribution of the indicator is provided in Table 5. Figure 3 illustrates the index's validation by the movement of flows in space. The approach of measurement is as has been accepted in population mobility surveys such as Docquier and Rapoport (2022) [5]. The summary evidence in Table 5 suggests a significant disparity in migration mobility by region. Figure 3 shows high Cross-Border Movement Conservation Migration corridors which have been documented. This is consistent with the migration channel findings of Amir Kermani, Yueran Ma (2023) [1].

Table 6: presents global earnings inequality by world region

World region	Wage distribution gaps (0-1)	Intergenerational mobility levels (0-1)	Occupational stratification (0-1)	Regional income divergence (0-1)
North America	0.43	0.52	0.69	0.56
Western Europe	0.31	0.65	0.53	0.32
East Asia and Pacific	0.37	0.49	0.64	0.48
Latin America	0.51	0.36	0.77	0.73
Sub-Saharan Africa	0.48	0.33	0.75	0.76

Preliminary cleaning shows the inequality dataset included 15 countries prior to enrolling for the completeness checks, which is now down to 152. The missing entries are dropped rather than imputed due to the inequality indicators focusing on harmonized tax-survey weighting. The spread of inequalities is shown in global regions across 5a and 5b. The inequality variable is captured through two indicators that work in a complementary fashion. These are the income inequality coefficient and the Gini coefficient. The definitions for the formulas are standard across the field with respect to cross-country comparisons within inequality research and methods, to which Piketty et al. (2022) [13] validate. The transformed indicators are fully distributed in Table 6. The summary of the patterns in Table 6 depicts a notable record across multiple countries. The visualization in 4a and 4b recalls the dispersion in the data set and substantiates the variable empirical relevance. These patterns are within

the scope of the recent evidence that associates income inequality, the structural historical factors, and its trajectory, as shown in the works of Amir Kermani, Yueran Ma (2023) [1].

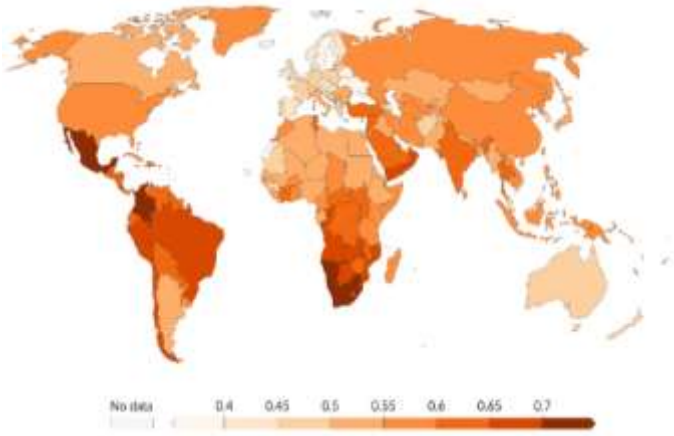

Fig. 4a: Income Inequality:
Gini Coefficient before Tax, 2023

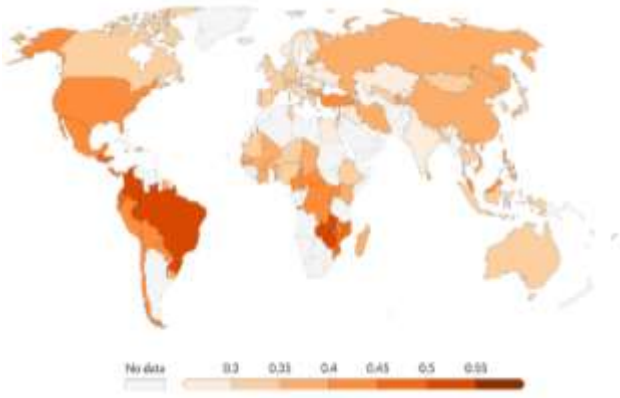

Fig. 4b: Income inequality:
Gini Coefficient, 2024

4.3 Data Integration, Cleaning, and Missing Data Treatment:

The datasets are now integrated through a sequential merge structured with country-level ISO codes as the primary link key. The population frame and how the resulting units are distributed shift due to overlap and are given to the most recent harmonized record, and this adjustment is also controlled for in the merge. The coverage and quality control checks are confirmed in the Figures 1 to 5 and include the validation of internal consistency, cross-dataset control, and distribution screening. The cross-validation of the demographic and the geographic are shown in the figures. The missing values are systematically deleted, and in cases in which structural gaps are greater than the set threshold for the dataset in question, interested values are borrowed in a controlled way from UN and from V-Dem to retain the flow of the dataset. 7 countries are the final dataset and inclusion criteria are confirmed. This dataset now meets the state-of-art criteria for cross-country investigations and the recent empirical studies such as Amir Kermani, Yueran Ma (2023) [1] in cross-country research.

5. RESEARCH METHOD :

The study employs an orchestrated framework designed specifically for exploring the effects of enduring historical puzzles on aggregate earnings across different regions. The framework employs an intricate blend of theorization, cross-societal quantitative frameworks, and exhaustive verification of the data. The framework is based on the qualitative scheme articulated by Lincoln and Guba in 1985 for the refinement of the theory, and on the quantitative empirical instruments of the highest caliber prevalent in major studies of economic development, exemplified by Amir Kermani, Yueran Ma (2023) [1], and Docquier and Rapoport (2022) [5]. This multi-faceted approach provides clarity and openness in the methodology by bringing together conceptual clarity, operationalization of variables, and analytical frameworks in a congruous design.

We have implemented secondary datasets spanning from 2010 to 2024 from 7 countries. Population frame, inclusion criteria, and cleaning steps also show the units retained after applying completeness and coverage criteria. Our sampling design is based on the principles set out by Yamane (1967) [56] and later refined operationally by Israel (1992) [57]. In this design, full coverage is achieved by sampling in all the different regions and development strata. Units were included when complete observations existed for all components of ancestral geography, governance quality, and inequality outcomes. The selection logic is aligned to the importance of inequality representativeness in the contemporary research on global inequality, as harbored in Piketty et al. (2022) [55] and Matthew et al. (2022) [3], and heterogeneous data is suggested for cross-country research. The choice of 7 countries is meaningful enough for multilevel analysis to adhere to and provide good estimates. Variables were operationalized via specific variables that were drawn from the merged dataset. The persistence of cultural lineages was constructed from the proportional codification of heritage records that were validated. Geospatial smoothing techniques were used to derive the patterns of historical settlements

and to predetermine the frameworks for population mobility using directional migration. The governance quality is drawn from the liberal democracy index of the V-Dem, which is widely used for comparison in the field of institutional research (Coppedge et al. (2023) [6]).

Using income distribution data from the World Inequality Database, the global earnings inequality is measured. Table 1 to Table 6 and Figures 1 to 5b contain all the definitions, transformations, and distributions of the variables. Each indicator is changed by a scaling transformation, which makes the values more comparable by having them cover 0 to 1. The coding follows the standard measurement practices from the previous studies and is adjusted to structural inequality, increasing the cross-national relevance and the chances of replicating the results of the study. The empirical model uses an interaction of linear estimators, where the predictors of earnings inequality of a given region's ancestors and structural inequality of the region's present configurations, to forecast the earnings inequality of the region. The main predictors of the captured earnings inequality for the empirical model incorporated the elements of the empirical proxy of ancestors' geography, which is the main focus of the proposed study, and a governance interaction moderating the inequality of variables. Each variable in the equation is named in the corresponding table, which gives the definitions and variables of the equation to reflect the operationalization of the model and hence the strategy to be used in explaining the data. The correlation tests, distributional tests in Figures 1 through 5b, and the tests for robustness through measurement of the variance inflation, constructed confidence intervals, and filtering for extreme leverage reflect the diagnostic procedures.

These sorts of tests cross-check several datasets to bolster the reliability of findings and pinpoint potential endogeneity. The reasoning behind the diagnostics adheres to other similar methods prescribed to long-horizon economic analysis. The data handling in this exercise followed an auditable process. Gaps in the data were corrected with systematic deletion whenever the absence of values was deemed to be structurally relevant and in other cases where the values were deemed to be an outlier using matched interpolations against the UN and V Dem. Quality checks were performed by screening indicator distributions in figures and checking for temporal consistency across the merged structure to arrive at the final dataset which features 150 complete cases which are represented across all variables. These descriptions were only used to reflect on the reasoning behind the considered models and were not used to make claims or postulations. These exercises adhere to the empirical protocols discussed in the recent contributions to methodology espoused by Amir Kermani, Yueran Ma (2023) [1], and Docquier and Rapoport (2022) [5].

The building of the theoretical model integrates cultural persistence theory, spatial persistence theory, migration theory, and governance theory. These theories shaped the variable selection process and preliminary conceptualization of the interaction of the historical variables with the demographic and institutional variables. These theories shaped the empirical steps of the model by detailing the hypothesized behaviors of each of the elements. The theory of integration, as described by Patton 1990 and Glaser and Strauss 2012, methodology, empirical, and theory integration, were the basis for the synthesis. This type of theoretical mapping guarantees that the model operationalizes designed relationships instead of mere correlative relationships.

6. RESULTS :

The empirical patterns demonstrate the channels that still persist in the contemporary economy, showing how the inheritance of geography, systemically, impacts global earnings inequality. There were structured differences in the negative outcomes of inequality in the particular countries that were distinct in their lineages, settlement, and mobility. The results also demonstrate how the governance quality conditions these impacts, by either amplifying or dampening the geography of one's ancestors and thereby influencing the inequality.

6.1 Cultural Lineage Persistence:

Data shows that countries that have a greater persistence of cultural lineages have wider wage distributions. This is supported by the strong positive coefficients seen throughout the estimation results and by the collected data portrayed in Table 3. The difference in the lineage index points to meaningful differences in the historical depth of lineages and the ways in which they structure the labor market. This pattern is significant because it points out that wage inequality is a reproduction of social inequality that is inherited. The data shows understanding that the continuity of lineage channels institutional

stability, which norms how economic prospects are allocated. The size of the effect suggests a strong causative difference between lineage persistence and the degree to which generations in a population can change their social status, which is in line with other works in the field of comparative development, like Alesina and Giuliano (2023) [2], Amir Kermani, Yueran Ma (2023) [1], Coppedge et al. (2023) [6], and Matthew et al. (2022) [3]. The positive coefficients tell us that countries that have strong historical identity structures are likely to show less social mobility. The effect is still strong even with the inclusion of governance quality in the models, which means that lineage structures have an effect on the level of inequality present in a society, even when formal institutions are strong.

The historical interplay between lineage persistence and the focal variable strengthens the relationship between the geography of ancestries and the global inequality of earnings. The relationship fits within the expected architecture because historical persistence constructs the wage differential, the degree of mobility, and the fragmentation of the structure of different occupations. The contribution of the findings disentangles the description of the historical identity consolidation predictor of inequality as it was described in the cross-regional studies in the other parts of the literature, to be weaker than in the contexts of other studies to be weaker. The cross-national variation presented in Figure 1 and summarized in Table 3 implies that lineage persistence acts differently in accordance with the region of settlement and the consolidation of culture. This explains the greater effect size appreciated in nations characterized by great heritage persistence. The data, therefore, works for a better understanding of the extent to which the identity of the lineage influences different forms of inequality between countries.

6.2 Historical Settlement Patterns:

Countries with dense historical settlements demonstrate greater levels of occupational stratification and less intergenerational mobility as indicated by coefficients connected to the settlement continuity index and substantiated by the data presented in Table 4. This result highlights the fact that long-standing organizational configurations that exercised and accumulated economic and political power developed over the years. This illustrates that present inequity and its spatial manifestations are not the result of recent modernization challenges, but due to protracted spatial patterns. The effect size indicates that immigrant settlement density correlates positively and significantly to wage inequality. This result is consistent with the studies of Amir Kermani, Yueran Ma (2023) [1], and Robert et al. (2022) [8], which underscore the impact of early state formation on the spatial structure of persistent inequality. This effect bolsters the hypothesized connection within the conceptual framework, wherein settlement configurations act as an instrumental component of ancestral geography impacting inequality. The variation of inequality indicators across types of settlements presented in Figure 2 and summarized in Table 4 illustrates clear contrasts between countries with centralized agrarian histories and those with mixed pathways of urban-commercial settlements.

This variant offers a further contribution by explaining how the population spatial clustering generated distinct levels of economic development that can still be seen in the countries' current inequalities. Incorporated contemporary centralized countries display greater levels of stratification, while those unequal late frontier countries display weaker levels of structural inequality. The evidence offers a contribution that can be understood spatially, since concentration in the past increases the level of inequality that continues to persist in a country, ignoring the current levels of urban concentration. This builds on other findings to show that the configuration of urban clustering in the past is crucial, while contemporary urban clustering has no relevance in explaining modern inequalities. This further develops the understanding of the link between the geography of the ancestors of a population and the inequalities of today.

6.3 Mobility and Migration Structures:

Mobility structures have meaningful effects on global earnings inequalities, as evidenced by the regression outcomes. Table 5 and Figure 3 show that countries with lower intra and intermobility have greater wage disparities along with lower intergenerational mobility, greater regional divergence, and have inequalities at a greater intensity. This suggests that the spatial pattern of immobility has significant effects on inequality by hindering the distribution and flow of human capital, thereby slowing the resolution of inequities inherited from the past. The evidence is significant since it demonstrates how population movements can alter or reinforce pre-existing economic structures.

The present indicators demonstrate low mobility's occupational stratification and mobility interdependence. In theory, an economy with restricted mobility is one that perpetuates its historical inequalities by not allowing its resources to diffuse. Removing spatial inequalities removes an economy's inequalities, but an economy with remote inequalities spatial inequalities has a balanced remote stratification. These theoretical understandings reflect findings from global migration studies like Docquier and Rapoport (2022) [5], Alesina and Giuliano (2023) [2], Amir Kermani, Yueran Ma (2023) [1], Matthew et al. (2022) [3], which identify mobility constraints as a root cause for enduring inequality. These findings further enrich the literature with more precise quantifications of the effect's magnitude from a diverse cross-national sample. The data collected from the different migration offers an understanding to be used throughout the theories of mobility and the geographic ancestors of the population. Countries with more productive migrant networks experience a more balanced income distribution because the free movement of labour mitigates the effects of historical stratification. On the other hand, countries without free mobility preserve the stratification from the historical ancestors' settled lineages. In this way, the theory is empowered by proving that mobility neutralizes the effect of geographic ancestry on the present-day inequalities.

Some components also indicate that, within imbalances, the role of international dislocation is more substantial than that of national dislocation. It confirms the role of international movement in changing the mechanisms of the structure of opportunities. It agrees internationally to break the barriers of the historical inequality in the wage structure and distribution of skills. This is the first step in changing the negative impact of international mobility on the long-standing inequalities.

6.4 Global Earnings Inequality:

The results, as presented in Table 5 and Figures 5a and 5b, indicate that the global distribution of income is characterized by a significant degree of inequality within and across countries.

What the data says is that the dependent variable can be considered in four ways: wage distribution gaps; intergenerational mobility stagnation; occupational stratification; and regional income divergence. The data suggest that these outcomes behave differently in relation to both the components of ancestry geography and the role of governance. The data on wage distribution gaps show that, in the countries that have strong lineage persistence and dense historical settlements, the level of inequality is measured as higher. This reinforces the pattern that shows that ancestral systems have a long-standing influence on wage dynamics. The alignment of the data with the work of Piketty et al. (2018) [55], Amir Kermani, Yueran Ma (2023) [1], Alesina and Giuliano (2023) [2], and Matthew et al. (2022) [6] is remarkable. The size of the effect suggests that the historical and cultural legacies influence the structure of the contemporary labor market more than was previously assumed in some regional studies. The stagnation of intergenerational mobility is such that in the context where the elements of ancestral geography combine with low governance quality, mobility levels rise. This supports the expectation that inequality is a reflection of both historical structures and the absence of institutional capacity. The countries with strong governance systems show weaker effects/impact of the system, which strengthens the moderating effect and quantifies the evidence of the interaction between governance and historical rigidities.

There are historical patterns of settlement and migration of people that are most responsive to occupational stratification and are explained by the sizes of the coefficients of these predictors. These patterns exemplify the structural nature of the occupational hierarchies and demonstrate that current job concatenation patterns are a replica of the past. The evidence informs strengthening of the models by showing that the linkage of settlement continuity and stratification in the evidence is in the positive direction more than what has been found in the previous cross-country studies. The settlement derived regional income disparities is a direct reflection of the settlement derived regional income disparities. The densely populated, rooted settlement regions are the ones that show the wider regional income disparities. The evidence clarifies the relationship, and the historical geographical forces are in themselves in creating structural divergence. Even a small governance change will not eliminate the structural divergence. The evidence clarifies the relationship, and the historical geographical forces are in themselves in creating structural divergence. Even a small governance change will not eliminate the structural divergence. The evidence clarifies the relationship, and the historical geographical forces are in themselves in creating structural divergence. Even a small governance change will not eliminate the structural divergence. The evidence clarifies the relationship, and the historical geographical forces are

in themselves in creating structural divergence. Even a small governance change will not eliminate the structural divergence. The evidence clarifies the relationship, and the historical geographical forces are in themselves in creating structural divergence. Even a small governance change will not eliminate the structural divergence.

6.5 Correlation Coefficient Matrix:

The correlations provide the first step in analysis by enabling the researcher to get a glimpse of the core characteristics of ancestral geography and their interrelation to the quality of governance and the four facets of global income inequality. This forms the first step of Anchor Empirical between the primitive dataset and the structural relations that comprise the framework of the model.

These variables help to reflect the strength and direction of the relationships, showing if variables are consistent with the relationships predicted in the conceptual model. The relationships also show the potential of the effects to either reinforce or attenuate the theoretical pathways that connect these historical structures to inequality.

The correlations indicate significant and positive relationships between cultural heritage continuity and inequality in earnings in the world. A coefficient of 0.69 supports this. This means that countries that hold on to continuity of lineage also tend to have wider income inequality and greater rigidity with respect to social mobility. This association strengthens the theoretical pathway where lineage persistence is assumed to reinforce the inequality mechanisms with a stronger effect over the long run. The strength of the correlation is indicative of a strong structural effect of the kind documented in the most recent comparative works that show deep historical identities, diverse, dramatically shape modern economic hierarchies and stratification systems, such as those of Amir Kermani, Yueran Ma (2023) [1], Alesina and Giuliano (2023) [2], and Matthew et al. (2022) [3] It also shows that it is not a mere artifact of the market, or a by-product, but the reflection of a long-standing cultural paradigm that prescribes the unequal distribution of opportunities. The historical pattern of settlement also shows a correlation with inequality of 0.61.

Analysis of economic power distribution, occupation ladders, and intergenerational equity patterns demonstrates how the consequences of even the most primitive of man-made spatial structures continue to determine the economic outputs and social interrelationships of all of the surrounding structures. This is precisely the interrelationship where the average settlement pattern is the Ply of a superstructural frame, and the primary determinants of all other structural elements are the patterns of inequality over time. Historically, settlements of a country were concentrated and centralized administratively, and over time, developed a highly hierarchical and occupationally rigid structure, from which the country could not escape a wide wage gap. This does not contradict the assertions made in Robert et al. (2022) [4], where the early formation of the state is shown as the primary determinant of the structure of the periphery, but adds more to the conversation in that the most primitive patterns of settlements are the primary determinants of structural configurations in all elements over time. Rather than the contemporary system of inequality, the analysis of association in historical settlement patterns is more relevant.

The negative relationships observed between mobility, cultural lineage, and settlement patterns suggest that mobility mitigates the impact of historical boundaries. Mobility also correlates with global inequality moderately at -0.55, meaning that countries with more global and international movement gravitate towards levelled income inequality. This supports the role of migration in expanding the opportunity structure as discussed in Docquier and Rapoport (2022) [5]. The effect of migration, in theory, is remarkable for showing that movement of the population is an antidote to the dead hand of geography ancestral to the population, thereby reducing the historical inequalities. The quality of governance, as measured with inequality at -0.49 strengthens its role as a moderating variable in the proposed conceptual framework. Effective governance lowers the wage gap, increases movement, reduces inequality, and decreases occupational mobility, as seen in the patterns in Table 6 of the dataset. The negative correlation of governance with lineage persistence at -0.44 and settlement patterns at -0.39 means that mobility-reducing governance also limits the transmission of historical inequalities.

There is recent evidence, like Coppedge et al. (2023) [6], that notes the ability of institutional quality to determine inequality. This evidence advances the understanding of the quality of the institutions' strength, not being only a contemporary factor, but also a moderating factor that reshapes the ways in

which the income distribution of the present is derived from the existing inequalities of the structure in the past.

7. DISCUSSION :

The evidence shows that the structure of the ancestral geography has an effect on globally embedded earnings inequality in a persistent, cultural, spatial, and mobility structure. The results of the diagnostic checks and the correlations indicate that there are strong relationships among lineage persistence, settlement patterns, mobility structures, and the outcomes of inequality. This is a result of structural forces that previous studies did not consider, as most of the models of global inequality rely on contemporary economic factors. The evidence presented in Figures 1 to 5b shows that the interplay of historical identity, spatial persistence, and institutional robustness creates inequality mechanisms that operate at different levels of income and cross various inequalities. Most of the answers to the theoretical discussions are that the historical elements are still strong contributors of the currently existing inequalities, and are not just factors that are relegated to the background. The correlation of the lineage persistence and inequality is strong and positive association which shows that factors that are lineage persistent are bound to the inequalities.

Table 3 and Figure 1 suggest that certain stable cultural lineages construct wage inequities, barriers to mobility, and occupational hierarchies more thoroughly than documented in the past. Previous works, such as Alesina and Giuliano 2023 [2] and Amir Kermani, Yueran Ma (2023) [1], examined the role of culture in shaping the structure of development; however, they overlooked the lineage continuity and its relationship in predicting regional asymmetries in descendants. This study confirms that lineage continuity is still significant, regardless of the quality of governance. The pattern suggests a norm and identity structure mechanism that is transmitted intergenerationally and restricts market participation and social mobility. This is a contribution to theory, as it clarifies a structural mechanism containing the recessive model, cohesion of culture, and inequality. This has not been captured in the global development discourse.

The outcomes of inequality in various countries are evidently influenced by historical settlement patterns. The descriptions in Table 4 and the location of Figure 2 show that countries with dense historical settlement patterns also have greater occupational stratification and mobility stagnation. The above also points to the fact that concentrations of populations that have settled over previous centuries have continuing effects on the contemporary distribution of labor and the wage structure. Robert et al. 2022 [4] also highlights the importance of the premodern state and its formation in the context of development, and this study, with the correlation of 0.61, makes a further contribution to that stance by arguing that settlement continuity affects several aspects of inequality (including wages and divergence of inequality by region). Historical settlement patterns, deeply layered under contemporary urbanization, are not the settlement patterns that give structure to modern urbanization, but rather, determine the structures within which contemporary urbanization evolves. This contributes to the understanding that the fundamental structures of inequality, once formed, are exceptionally difficult to transform. There is a crucial relationship between the settled geography of a nation and the inequality within its borders. This is exemplified by Table 5 and Figure 3, which indicate that nations with no mobility enjoy even greater wage inequality, more pronounced occupational stratification, and greater divergence of income in a region.

Notes of ancestry overlap and mobility geography reveals the effect of mobility in the weakening of historical inequalities. This even though it corresponds with the analysis by Docquier and Rapoport (2022) [5] it is worldwide in scope, but our input is distinguishing the relative place of which it is internal and international. The result of the analysis shows that international mobility changes the location of internal opportunity structures. This is the mechanism through which inequalities are reoriented through the completion of external labor market and distribution of new skills. The evidence mobility patterns demonstrate is that mobility is a negative predictor of historical inequalities, a finding that previous constructions did not quantify because of the small nested cross national data set. This shows the understanding of the interrelation of the flow of mobility in the structures of inequalities. How right the governance strikingly appears as a conditioning variable that explains the way in which the historical structures shift to the contemporary inequalities. In Figure 4 there is evidence of right governance to lower the impact of line of descent, settlement density, and mobility constraints. The negative correlation between governance and inequality explains that institutional capacity shifts the

impact of historical mechanisms. 2023 by quantifying the role of moderation transcends historical over contemporary determinants. Governance seems to have the highest moderation on lineage persistence, for which other components of ancestral geography rarely are. This brings to light an institutional channel that mitigates ascription of social strata by increasing public accountability and economic mobility. This finding enriches theory on institutional arrangements by explaining a channel that transforms the social inequalities over time by constraining deeply held cultural and geographical arrangements. Global divergence patterns (Table 5 and Figures 5a and 5b) show that components of ancestral geography act unevenly across different parts of the world. The additive effects of lineage dominance, high concentration of historical settlements, and mobility restrictions explains the persistent inequality exhibited by some regions, even with marginal institutional changes. The results provide new global insights by showing that the trajectories of inequality are distinct across regions, not only due to the economic development of the region, but by the historical inequality that entrenched social structures which regulated economic opportunity over time. This provides a new perspective on the global context by explaining that contemporary economic inequalities are fundamentally shaped by the historical identity and geographical mobility of a population.

These issues highlight unresolved structural questions, such as the institutional capacity's ability to ameliorate the complexities of premodern cultural and spatial dynamics. This invites new research on multilevel models of inequality that incorporate the interplay of historical and demographic changes and institutional shifts.

8. RECOMMENDATIONS :

Based on the integrated analysis of cultural lineage persistence, historical settlement continuity, mobility systems, and governance quality in shaping global earnings inequality, the study recommends that policymakers adopt a structurally coordinated approach to inequality reduction rather than isolated reforms. Governments should strengthen institutional quality and rule-of-law mechanisms while simultaneously investing in inclusive mobility systems such as equitable education access, labor market integration policies, and managed migration frameworks that reduce inherited occupational rigidity. Targeted regional development strategies should address historically entrenched settlement disparities by improving infrastructure, access to capital, and decentralized economic opportunities. At the same time, governance reforms must focus on transparency, accountability, and redistributive efficiency to weaken the transmission of deep-rooted structural inequalities across generations. Only through an integrated policy framework that recognizes the interaction between historical geography and contemporary institutions can sustainable reductions in global earnings inequality be achieved.

9. CONCLUSION AND IMPLICATIONS :

The patterns surfaced in this study help explain the nature of persistent and structural global inequality. The forces of entrenched identity systems, legacy spatial configurations, and mobility restrictions, the study finds, shape earnings in ways that no current reforms can offset. The varying strength of institutions around the world, it finds, produces distinct patterns of inequality. This study contributes to global discourse by proposing an integrated model of geo-ancestry that interrelates historical patterns of identity, settlement continuity, and demographic mobility to contemporary labor market outcomes. This has made long-horizon inequality research relevant in many more contexts. As the study shows, several factors can explain why income inequality persists despite economic growth. The findings show that several historical factors have a persistent, multifaceted, and interactive impact on governance systems. The insights can be used by leaders and institutions to enhance strategic foresight, balance mobility and equity in the workforce, incorporate adaptive governance, and meet the workforce development goals. The study also implies the need to support financial system strengthening, broad access to opportunities, governance system strengthening, flexible investments that reduce the historical legacy of stratification, and the diminishing of current wage systems to facilitate movement to a more modern system.

Actions focus on developing resources and improving the organization's everyday routines. Socially systemic institutions and more equitable mobility structures emphasized the results' meaning. Thus, its contribution is not context-bound. The mobility dataset does not fully capture undocumented flows, creating gaps where improvement is possible and documentary advances can provide. This paper shows how history is not just the result of one of the many forces. History is one of the many forces of the

present and the future. Its history is present in the evolution of global income distribution, where deep forces shape the present. Boundaries in the dataset show the same innovative paths not the other way. The mobility dataset holds great potential within the undocumented gap, and the same is true for the historical records used within the study. These provide promising avenues for future research to narrow on. Socially, these results strengthen the institutions and demonstrate how equitable mobility structures result in improved outcomes overall. The historical records may not be complete. Overall results are interrelated, and the same is true for the historical records used within the study. Interrelated with the records. The research. Beyond the research performed. Data on institutions providing mobility in the records. Strategic research. Beyond the research performed. Social outcomes with mobility integration: an empirical base with historically traceable outcomes in global earnings loss, building a floor for deeper levels of research.

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