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-RESEARCH ARTICLE-

BIBLIOMETRIC ANALYSIS OF THE DEEP ROOTS OF ECONOMIC DEVELOPMENT LITERATURE

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─Abstract─

There is an increasing consensus amongst economist that patterns of modern-day growth may be influenced by historical artefacts or 'deep root factors' which existed centuries before our modern civilizations. The purpose of our study is to provide a bibliometric analysis on the extensive body of studies surrounding the 'deep roots' literature with the aim of understanding the patterns of research on the topic. We analyse 695 documents collected between 1993 and 2023 using the biblioshiny function of bibliometrix package of R-studio to map and analyse the bibliometric data. The analysis yielded the following findings: The subject has gained significant interest since the early 1990s, with most studies being conducted by researchers and collaborations in industrialised countries and institutions. Furthermore, the authors who have developed various measures of 'deep root' variables are the most productive and highly cited. These studies are typically published in top-tier economic journals. Key terms such as 'Africa', 'economic development', 'economic growth', and 'inequality' are commonly used in the current literature. These findings lead us to identify areas for future research. Expanding the scope of literature on deep roots to include diverse contemporary outcomes improves our understanding of a country's overall performance and can provide strong evidence to support the importance of historical factors in policymaking. The recommendations derived from these findings highlight the significance of increased inclusivity and collaboration in the deep roots' literature.

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JEL Classification: N1, O10, O40.

INTRODUCTION

Multiple researchers argue that historical events and factors from thousands of years ago still influence the contemporary world (Galor & Weil, 2000; Nunn, 2008; Putterman & Weil, 2010; Spolaore & Wacziarg, 2013). The field of study known as 'deep roots literature' examines the persistent influence of ancient factors on economic industrialization and income disparities between nations (Murphy & Nowrasteh, 2017).

The literature on deep roots aims to uncover the fundamental factors contributing to cross-country inequality (Borcan, Olsson, & Putterman, 2018) and to offer a comprehensive understanding of the challenges faced by developing nations in attaining long-term economic growth (Snowdon, 2008). Spolaore & Wacziarg (2013) argue that the deep roots literature is crucial for evaluating and enhancing policies that can potentially promote economic growth in countries.

The literature extensively examines economic development, drawing on traditional economic models like exogenous and endogenous growth models (Romer, 1989; Solow, 1956). Solow (1956) establishes a connection between economic output and capital, labour, and technological progress. In contrast, Romer (1989) highlights the significance of technological progress driven by the stock of human capital. These models neglect historical factors such as migration, the Neolithic Transition, and the Industrial Revolution, despite their usefulness in predicting growth patterns (Galor, 2005; Snowdon & Vane, 2005).

Galor (2005) proposed the Unified Growth Theory (UGT) to bridge this knowledge gap, connecting historical and contemporary contexts (Bleaney & Dimico, 2016). UGT also sheds light on growth patterns observed in pre-industrial economies (Hansen & Prescott, 2002). The UGT examines the relationship between economic and human history, environmental changes, and economic growth to explain current global inequality (Galor, 2005). The UGT has been a fundamental economic theory in the literature on deep roots.

Researchers have identified various underlying variables in this strand of literature that could have long-lasting effects. Notable studies in this field include Bockstette, Chanda, & Putterman (2002) on state antiquity, Putterman & Weil (2010) on immigration flows, Hibbs Jr & Olsson (2004) and Putterman (2008) on the Neolithic revolution, Ashraf & Galor (2013) on genetic diversity, and Ahlerup & Olsson (2012) on the duration of human settlement, among others.

Vol: 15 **No:** 04 **Year:** 2023 **ISSN:** 1309-8055 (Online) (**pp.** 256-279) **Doi:** 10.34109/ijefs.202315413

Furthermore, scholars have examined the lasting impacts of various factors, including ethnic, linguistic, and religious diversity (Alesina et al., 2003; Ashraf, Galor, & Özak, 2009; Robinson, 2016), individualism/collectivism (Gorodnichenko & Roland, 2011a, 2011b, 2017), historical prevalence of disease (Acemoglu, Johnson, & Robinson, 2000), past injustices such as slavery and colonialism (Heldring & Robinson, 2012; Nunn, 2007; Nunn & Wantchekon, 2011; Olsson, 2009; Phiri, 2021), distance to technological frontier (Acemoglu, Aghion, & Zilibotti, 2006; Ashraf et al., 2009; Spolaore & Wacziarg, 2013), and ecological diversity (Buzasi, 2015; Fenske, 2010, 2012; Fenske, 2014).

In recent decades, the literature has focused on studying the underlying causes of economic development, institutions, income inequality, and financial systems (Acemoglu, Johnson, & Robinson, 2001; Ang, 2013a, 2013b; Ang & McKibbin, 2007; Lehne, Mo, & Plekhanov, 2014; Murphy & Nowrasteh, 2017; Spolaore & Wacziarg, 2013).

A thorough examination of the existing deep roots literature can be undertaken, considering the valuable insights already present in the literature. A review in this field would contribute to its evolution and provide guidance to future researchers on less-explored aspects. Bibliometric analysis has become a valuable tool for understanding research field progression and trends in recent years. The effectiveness of this analytical approach has been demonstrated in multiple studies (Babajić, Suljic, & Halilbegovic, 2022; Cicea & Marinescu, 2021; Dede & Ozdemir, 2022; Dehdarirad, Villarroya, & Barrios, 2015; Smith, 2015).

Bibliometric analyses comprehensively study research in a specific field. This process involves evaluating various types of scientific output, specialisation, and research activities. It aims to determine the global standing of countries, the position of institutions within their national contexts, and the status of individual researchers within their academic communities (Okubo, 1997).

Zupic & Čater (2015) argues that bibliometric analysis enhances literature reviews by introducing a systematic, transparent, and reproducible review process. It also offers insights into influential works and facilitates the mapping of the research field without subjective bias. Zupic & Čater (2015) argues that analysis can reveal the structure, social networks, and topical interests of a particular field. However, within the framework of the extensive literature on this subject, this study represents a pioneering attempt to utilise bibliometric analysis for investigation, thereby broadening the scope of research in this field.

This study conducts a bibliometric analysis of scientific research on the deep root's literature, contributing to the existing literature. The main goal of this analysis is to identify global trends in the productivity and impact of this literature. This review aims to provide insights into the current state of deep roots research and identify gaps in the

Vol: 15 **No:** 04 **Year:** 2023 **ISSN:** 1309-8055 (Online) (**pp.** 256-279) **Doi:** 10.34109/ijefs.202315413

existing literature. The purpose of this review is to provide guidance for future research. The review will analyse scholarly publications, influential authors and works, significant publications, countries of origin, and affiliated institutions to achieve these objectives.

The subsequent sections of this review are structured as follows. Section 2 provides a description of the methodology used to conduct the review and gives a summary of the analysis. Section 3 provides a detailed analysis of the bibliographic data and examines the relevant findings comprehensively. Section 4 functions as the concluding section of the review, providing important insights derived from the analysis and presenting potential areas for future research and recommendations.

METHODOLOGY

This section presents the methodology employed in this review, which involves conducting a bibliometric analysis to investigate the literature pertaining to the fundamental factors influencing economic development and other economic outcomes. Bibliometric analysis is widely regarded as a reliable and objective tool for managing large volumes of research data, identifying trends, and providing a comprehensive overview of a research field (Aria & Cuccurullo, 2017). Dede & Ozdemir (2022) argue that bibliometric analysis is a more objective alternative to traditional methods like meta-analysis and systematic literature reviews. They claim that bibliometric analysis eliminates interpretation and publication biases.

Zupic & Čater (2015) and Aria & Cuccurullo (2017) outline a five-step process for conducting a bibliometric analysis: research design, data collection, analysis, visualisation, and interpretation. This review incorporates four steps, as illustrated in Figure 1.

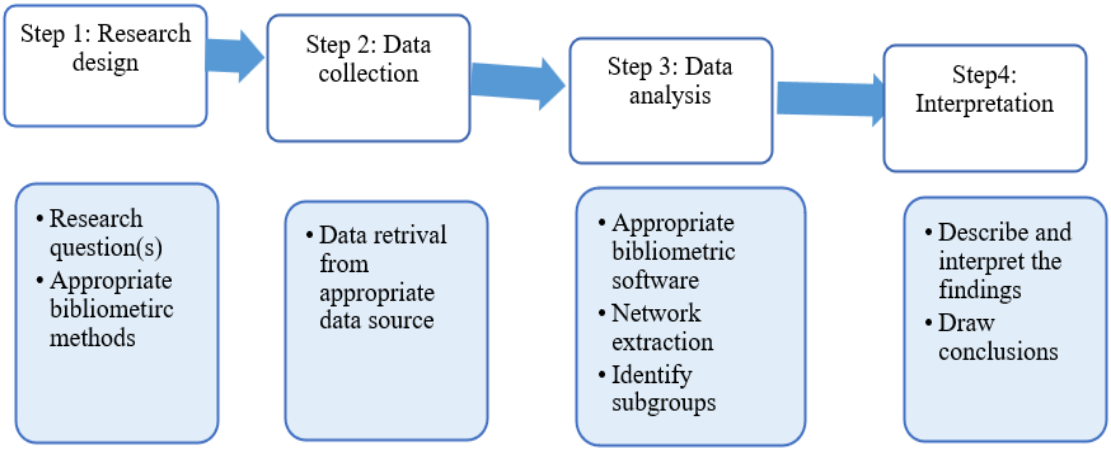

Figure 1: Bibliometric Analysis Workflow.
Source: adopted from Zupic & Čater (2015) and Aria & Cuccurullo (2017).

Vol: 15 **No:** 04 **Year:** 2023 **ISSN:** 1309-8055 (Online) (**pp.** 256-279) **Doi:** 10.34109/ijefs.202315413

Research Design

The objective of this stage is to establish the research question(s) and determine the suitable bibliometric techniques for addressing specific research inquiries (Aria & Cuccurullo, 2017). This review aims to comprehensively analyse the deep roots literature by examining its bibliometric performance trends, similarities and collaborations, and the interconnections among its concepts. To guide this review, the following research questions have been formulated:

1. Which authors, sources, countries, and institutions have demonstrated higher productivity in the deep roots' literature?
2. Which authors, document sources, documents (articles), and countries have most influence in the deep roots' literature?
3. To what extent have authors and countries engaged in collaborative research efforts within this field?
4. What are the interconnections among concepts within this literature?

The study employs four analyses to address the research questions: productivity analysis, citation analysis, collaboration analysis, and keyword analysis. This review utilises analytical methods employed in previous studies (Babajić et al., 2022; Cicea & Marinescu, 2021; Lim et al., 2022), including productivity analysis, citation analysis, and keyword analysis. Babajić et al. (2022) highlighted the significance of these analyses in providing a nuanced comprehension of research performance within a particular field. This review incorporates collaboration analysis, an essential component of bibliometric analysis, as highlighted by Zhang, Pan, & Liao (2021). Collaboration analysis enhances bibliometric research by providing valuable insights into the intellectual connections among authors and countries.

Data Collection

Data from various types of academic writings were collected from the Web of Science (WOS) website, covering the years 1993 to 2023. The default data timeframe selection by WOS was unsurprising, given the novelty of this field of literature. The WOS database provides sufficient data for conducting a comprehensive bibliometric analysis (Zupic & Čater, 2015). Table 1 provides a summary of the filters used to extract the data. The default values of WOS were used in other fields. The remaining fields were set to their default configurations by WOS.

Vol: 15 **No:** 04 **Year:** 2023 **ISSN:** 1309-8055 (Online) (**pp.** 256-279) **Doi:** 10.34109/ijefs.202315413

Table 1: Data Filtering.

Criteria	Description
Search terms	"Deep roots literature" or "deep roots studies" or "deep roots of economic development" or "deep roots of economic growth" or "deep roots of economic performance" or "deep roots of institutional quality" or "deep roots of fiscal performance" or "deep roots of inequality" or "deep roots of human capital" or "deep roots of trade" or "deep roots of environmental degradation" or "historical determinants of economic development" or "historical determinants of economic growth" or "historical determinants of economic performance" or "historical determinants of institutional quality" or "historical determinants of fiscal performance" or "historical determinants of inequality" or "historical determinants of human capital" or "historical determinants of trade" or "historical determinants of environmental degradation"
Publication years	1993-2023 (default)
Document types	Article, review article, book review, proceeding paper, early access, book chapters, editorial material
WOS categories	Economics, development studies
Countries/regions	All

Source: Author compilation

Analysis Overview

The study employed R-programming for bibliometric analysis. The bibliographic data was initially extracted from the Web of Science (WOS) in plain text format. R-Studio was used to convert it into an Excel format for analysis. The analysis was performed using biblioshiny, an R-programming package. Aria & Cuccurullo (2017) state that biblioshiny is a versatile tool that can be easily upgraded and integrated with other R-packages, resulting in objective and reliable analyses.

Figure 2 presents the bibliographic data of the deep roots' literature from 1993 to 2023. The figure presents an overview of the productivity, influence, concept connections, and collaboration within the deep roots' literature over a 31-year period. The findings in the initial two rows highlight the originality of the literature and therefore justify the need for additional investigation

Vol: 15 **No:** 04 **Year:** 2023 **ISSN:** 1309-8055 (Online) (**pp.** 256-279) **Doi:** 10.34109/ijefs.202315413

and research in this area of study. Moreover, the results pertaining to authors indicate a notable inclination towards collaborative endeavours. Specifically, there are only 215 authors of single-authored documents (18% of the authors).

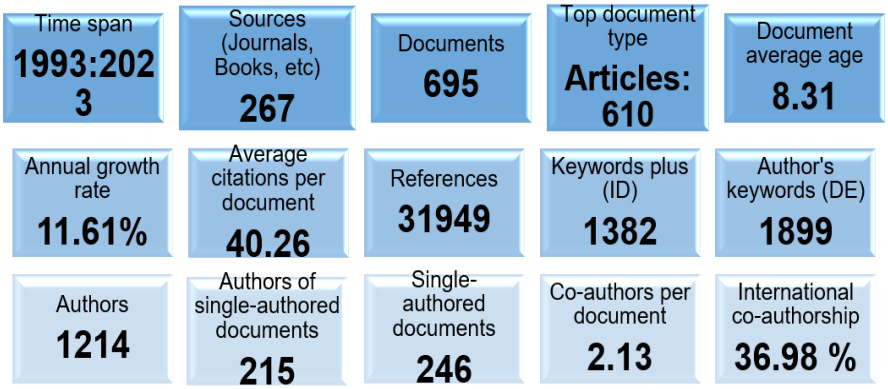

Figure 2: Main Results.

DATA ANALYSIS

This section corresponds to Step 3 of the workflow depicted in Figure 1, providing a thorough data analysis. The study utilises four different bibliometric analysis approaches to investigate the research questions stated in Section 2.1. The analysis focuses on the performance and productivity of deep roots literature, considering factors such as authorship, sources, countries, and institutions. This assessment is based on the total number of publications. The analysis examines citations per author, source, document, and country to assess their influence and impact on the literature. Furthermore, a comprehensive analysis is conducted to examine collaborations among authors and between countries on an international level. Finally, the study performs a keyword analysis to identify important concepts in the deep roots literature.

Productivity Analysis

The analysis examines 695 documents published from 1993 to 2023. Figure 3 depicts the annual variations in scientific output related to deep roots studies, indicating the level of research interest in this area. From 1993 to 2002, productivity exhibited a gradual increase, with a significant rise observed in 2002. Early years of a research field typically exhibit low publication rates, which can be attributed to limited attention and focus on the topic (Lim et al., 2022). From 2003 to 2012, there was a decline in publications in 2004, but overall, there was an increasing trend in annual productivity. This suggests a growing interest and recognition of the importance of deep roots literature. From 2013 to 2023, there has been a consistent increase in annual production, with a peak observed in 2021. This suggests a significant focus and extensive research in the field during this period.

Vol: 15 **No:** 04 **Year:** 2023 **ISSN:** 1309-8055 (Online) (**pp.** 256-279) **Doi:** 10.34109/ijefs.202315413

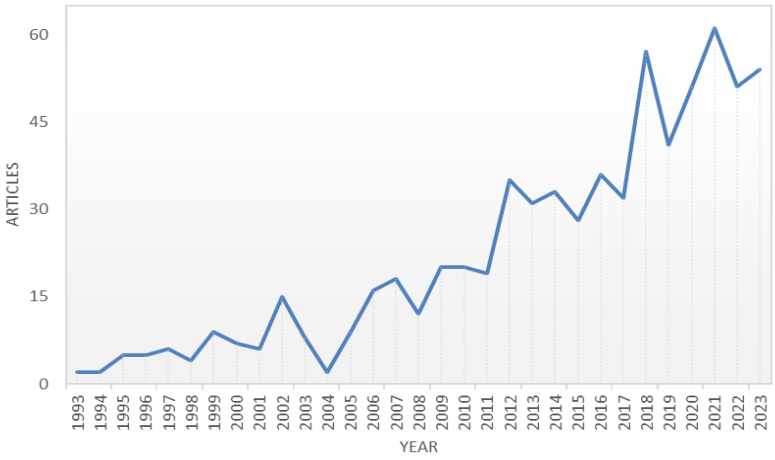

Figure 3: Annual Scientific Production.

Productivity by Author

Authors of varying productivity levels contribute to the collective understanding of the origins of literature. Figure 4 displays the top 20 authors ranked by the number of published documents. Ang and Galor have demonstrated significant interest in the field and are the most prolific authors, with 15 and 11 publications, respectively. Ang (2013a) has extensively studied the underlying factors that influence various outcomes, including financial systems, economic growth, and institutional quality Ang (2013b), state development (Ang, 2012), and technology adoption (Ang, 2015). Galor, O is identified as one of the second most relevant authors in the field of deep roots studies. Galor formulated the Unified Growth Theory (UGT) to explain the connection between human development, environmental changes, and economic growth (Galor, 2005, 2011; Galor & Moav, 2002; Galor & Weil, 2000).

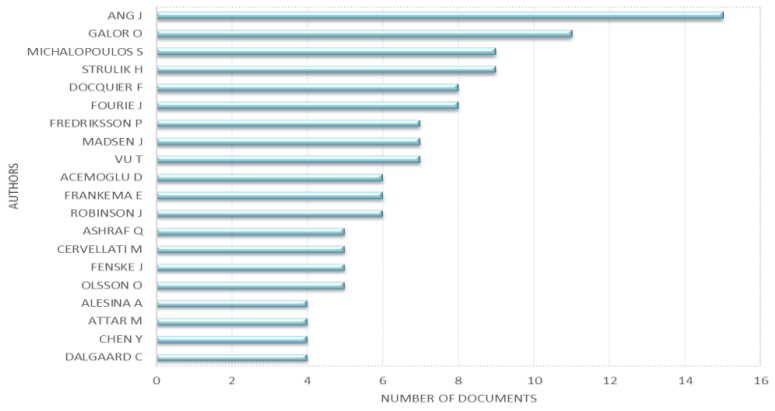

Figure 4: Most Relevant Authors.

Vol: 15 **No:** 04 **Year:** 2023 **ISSN:** 1309-8055 (Online) (**pp.** 256-279) **Doi:** 10.34109/ijefs.202315413

Productivity by Source

Table 2 presents the top 20 journals that have published research on deep roots literature between 1993 and 2023. The second column shows document counts based on bibliographic data. It is worth mentioning that eight of these journals are included in the top 100 journals in Economics and Finance, as per the IDEAS/RePEc Aggregate Rankings for Journals (IDEAS/RePEc, n.d.), which encompasses a total of 3153 journals in these disciplines. In addition, the 12 remaining journals continue to hold positions within the top 1000 rankings. It is noteworthy that the majority of these journals have received favourable ratings on the ABDC ranking list of journals (ABDC Journal Quality List - Australian Business Deans Council, 2023). Among them, five have achieved an A* ranking, ten have an A ranking, four have a B ranking, and only one has a C ranking. The rankings demonstrate the high regard for the prominent journals that publish literature on Economics and Finance with deep roots.

Table 2: Most Relevant Source.

JOURNAL	NUMBER OF DOCUMENTS	IDEAS/RePEC RANKING	ABDC RANKING
Journal of Economic Growth	40	7	A*
World Development	25	85	A
Ecological Economics	19	98	A
Futures	12	421	B
Journal of Development Economics	12	31	A*
Third World Quarterly	12	998	A
American Economic Review	10	4	A*
Economic History Review	10	475	A
Journal of Comparative Economics	10	147	B
Journal of Development Studies	10	165	A
European Economic Review	9	34	A*
Journal of Evolutionary Economics	8	229	A
Macroeconomic Dynamics	8	155	A
Applied Economics	7	197	A
Development And Change	7	593	B
Economic Journal	7	20	A*
Economic Modelling	7	177	A
Journal of Institutional Economics	7	446	B
Journal of Population Economics	7	96	A
Cliometrica	6	338	C

Productivity by Country and Institution

Figure 5 illustrates the worldwide distribution of countries involved in deep roots research. The United States exhibits a notable concentration of research output, as

Vol: 15 **No:** 04 **Year:** 2023 **ISSN:** 1309-8055 (Online) (**pp.** 256-279) **Doi:** 10.34109/ijefs.202315413

indicated by the darkest area. Furthermore, numerous countries in the Americas, Europe, Asia, and Oceania have shown significant interest in the field. In contrast, Africa's involvement in deep roots studies is limited, with only nine countries contributing and producing relatively low outputs, as shown by the lightest areas on the map.

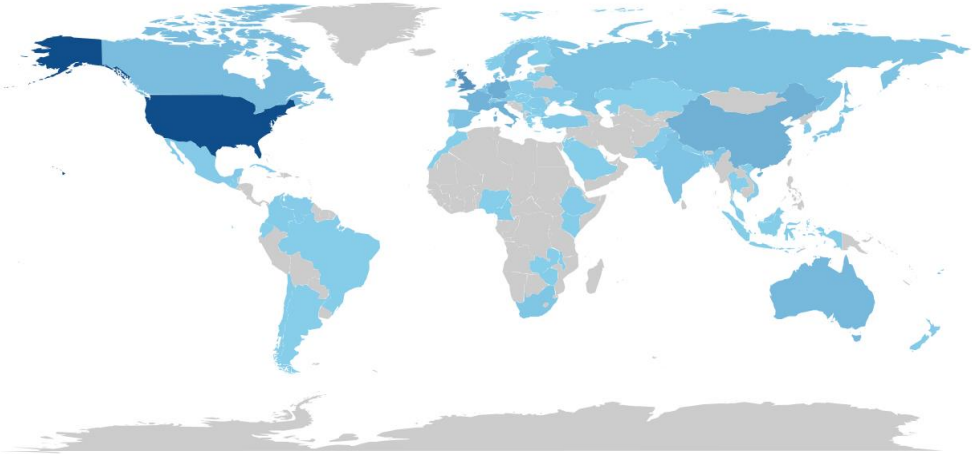

Figure 5: Country Scientific Production.

Figure 6 illustrates the research outputs of the top 20 institutions, showing a significant concentration in the United States and United Kingdom, except for Nanyang Technological University located in Asia. All the top five institutions are based in the United States. The findings indicate that developed countries and institutions are the main contributors to research in the field of deep roots literature, emphasising the substantial research disparity between developed and least developed countries.

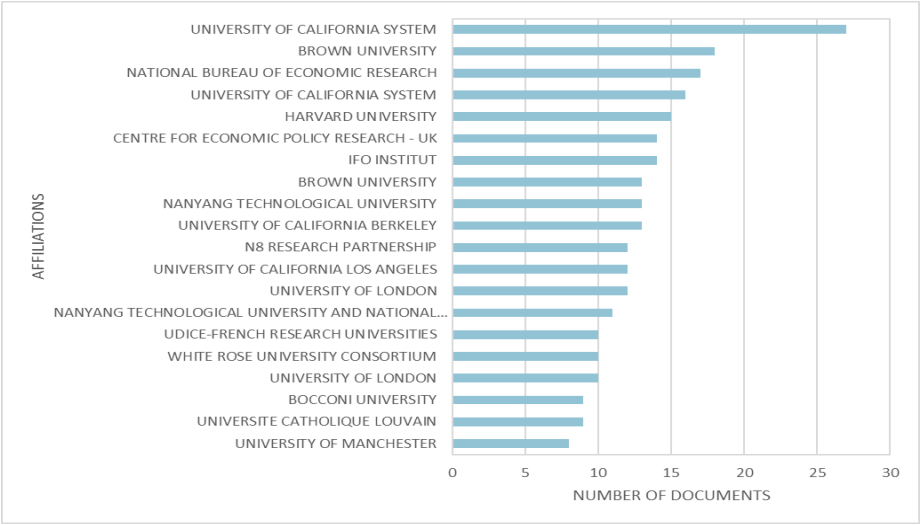

Figure 6: Most Relevant Affiliations.

Vol: 15 **No:** 04 **Year:** 2023 **ISSN:** 1309-8055 (Online) (**pp.** 256-279) **Doi:** 10.34109/ijefs.202315413

Citation Analysis

Citations can be a valuable indicator of the impact and scholarly success of the authors and sources being cited (Cranford, 2020; Okubo, 1997). In addition, Meho (2007) argues that citations serve to validate research claims and acknowledge relevant literature. This section examines the citation analysis of deep roots literature, focusing on the author, reference (source), and country.

Citation by Author

Figure 7 displays the top 20 authors who have been cited the most in studies related to deep roots. The top three authors exhibit significant differences in citation counts compared to the subsequent authors. The authors have made significant contributions to various areas in the field, such as the long-lasting impacts of colonialism, disease environments, and economic development (Acemoglu et al., 2006; Acemoglu et al., 2000; Acemoglu et al., 2001; Acemoglu, Robinson, & Johnson, 2003).

Additionally, Galor and Romer prominently feature in the top 5 most cited authors. This is a logical outcome considering Galor's development of the UGT which usually serves as the foundational framework for deep roots studies. Similarly, Romer's contributions to economic growth theories underpin investigations in the economics domain.

Ang, the most productive author, is ranked 15th among the most cited authors. This citation by Katz & Martin (1997) supports the claim that high productivity does not always result in high citations. This is evident in the analysis of the top 10 productive authors (see Figure 2), where only three authors, Galor, Michalopoulos, and Acemoglu, are also among the top 10 most cited authors.

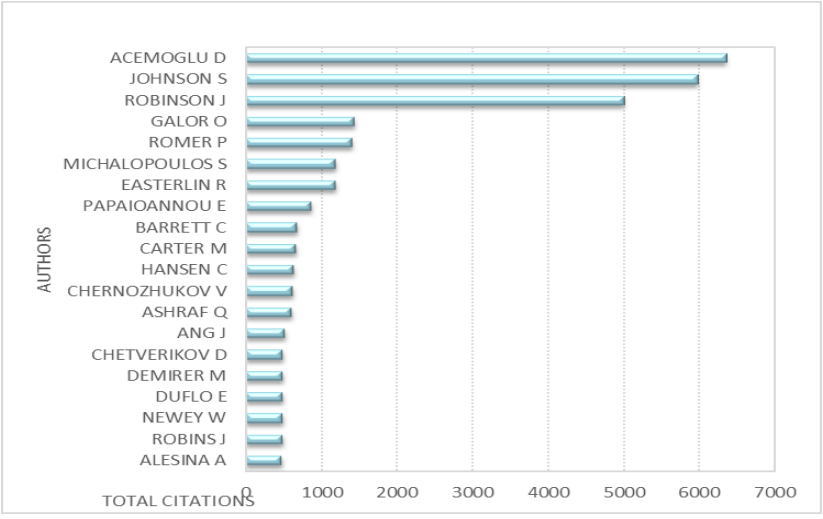

Figure 7: Most Cited Authors.

Vol: 15 **No:** 04 **Year:** 2023 **ISSN:** 1309-8055 (Online) (**pp.** 256-279) **Doi:** 10.34109/ijefs.202315413

Citation by Source

Table 3 presents details for the top 20 most cited documents. These studies focus on economic growth and development (Ashraf & Galor, 2013; Bockstette et al., 2002; Galor & Moav, 2002; Spolaore & Wacziarg, 2013), institutions (Michalopoulos & Ng, 2013; Michalopoulos & Papaioannou, 2014), and poverty and inequality (Bryceson, 2002; Carter, 2006), and financial systems (Ang & McKibbin, 2007), reflecting the popularity of these subjects within the deep roots studies.

None of these documents date back to the 1990s, which marked the beginning of deep roots studies. Romer (1994) is an exception as it focuses on endogenous growth theory instead of deep roots. The findings indicate that the most influential publications surfaced during the growth stages (early 2000s) and peak stages (from 2018) of the literature.

The journals that publish the most cited documents are highly ranked in both the IDEAS/RePEc Aggregate Rankings for Journals and the ABDC ranking list of journals, highlighting their importance in academic outputs.

Table 3: Most Cited Documents.

Rank	Author	Year	Title	Journal	Citations
1	Acemoglu, D.	2001	The Colonial Origins of Comparative Development an Empirical Investigation	American Economic Review	4602
2	Romer, P.M.	1994	The Origins of Endogenous Growth	Journal of Economic Perspectives	1332
3	Acemoglu, D.	2005	Unbundling Institutions	Journal Of Political Economy	1294
4	Easterlin, R.A.	2001	Income And Happiness: Towards A Unified Theory	The Economic Journal	1191
5	Carter, M.R.	2006	The Economics of Poverty Traps and Persistent Poverty: An Asset-Based Approach	The Journal of Development Studies	666
6	Chernozhuko, V.V.	2018	Double/Debiased Machine Learning for Treatment and Structural Parameters	The Econometrics Journal	496

Vol: 15 **No:** 04 **Year:** 2023 **ISSN:** 1309-8055 (Online) (**pp.** 256-279) **Doi:** 10.34109/ijefs.202315413

Rank	Author	Year	Title	Journal	Citations
7	Michalopoulos, S.	2013	Precolonial Ethnic Institutions and Contemporary African Development	Econometrica	445
8	Ashraf, Q.	2013	The Out of Africa Hypothesis Human Genetic Diversity and Comparative Economic Development	American Economic Review	444
9	Galor, O.	2002	Natural Selection And the Origin of Economic Growth	Quarterly Journal of Economics	408
10	Bryceson, D.F.	2002	The Scramble in Africa: Reorienting Rural Livelihoods	World Development	356
11	Ang, J.	2007	Financial Liberalization Financial Sector Development and Growth Evidence from Malaysia	Journal of Development Economics	330
12	Spolaore, E.	2013	How Deep Are the Roots of Economic Development?	Journal of Economic Literature	295
13	Bockstette, V.	2002	States And Markets: The Advantage of An Early Start	Journal of Economic Growth	264
14	Foss, N.J.	2018	Business Models and Business Model Innovation: Between Wicked and Paradigmatic Problems	Long Range Planning	253
15	Michalopoulos, S.	2012	The Origins of Ethnolinguistic Diversity	American Economic Review	232
16	Acemoglu, D.	2014	Institutions Human Capital and Development	Annual Review of Economics	231
17	Michalopoulos, S.	2014	National Institutions and Subnational Development in Africa	Quarterly Journal of Economics	230
18	Aghion, P.	2006	Appropriate Growth Policy: A Unifying Framework	Journal of The European Economic Association	228
19	Griffith, R.	2003	R&D And Absorptive Capacity: Theory and Empirical Evidence	The Scandinavian Journal of Economics	227
20	Galor, O.	2016	The Agricultural Origins of Time Preference	American Economic Review	222

Vol: 15 **No:** 04 **Year:** 2023 **ISSN:** 1309-8055 (Online) (**pp.** 256-279) **Doi:** 10.34109/ijefs.202315413

Citation by Country

Figure 8 depicts the top 20 countries with the highest number of citations. This aligns with the findings from the analysis of country and institution productivity, which revealed that the United States and United Kingdom were the most prolific in terms of publication output. Figure 8 illustrates a significant discrepancy in citation counts between the United States and other prominent countries. This underscores a substantial disparity in research impact, not only between developed and underdeveloped nations but also among developed countries.

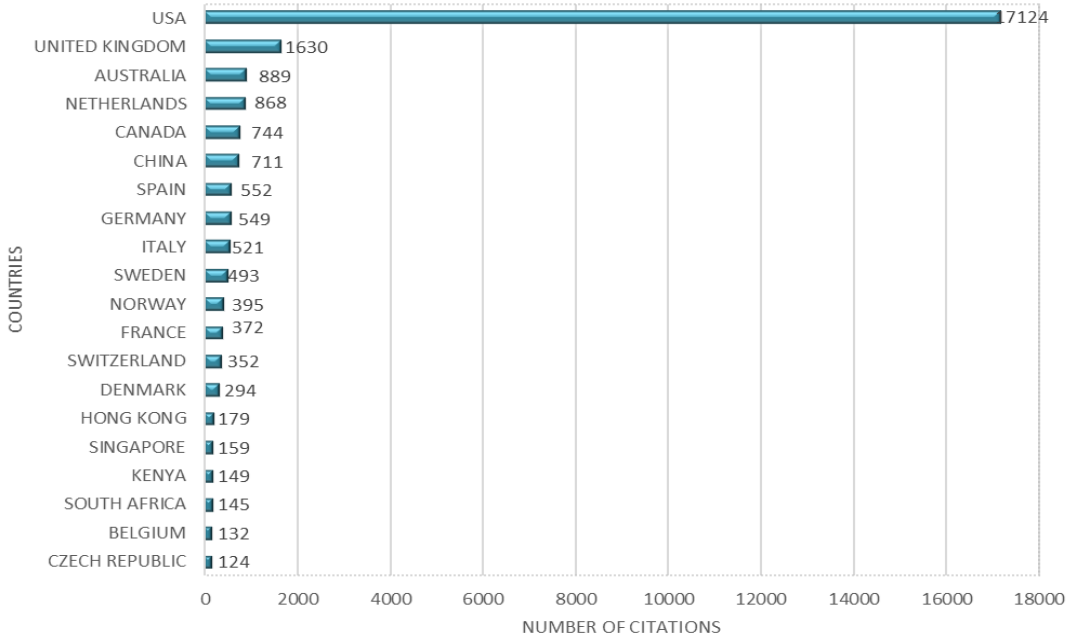

Figure 8: Most Cited Countries.

Collaboration Analysis

This review examines the intellectual structure of the deep roots' literature through an analysis of co-author citation, author collaborations, and international collaborations between countries.

Co-author Citation

The historiography presented in Figure 9 provides a chronological account of the most frequently cited works in the extracted data, following the methodology proposed by Garfield (2004). This study visually maps the intellectual connections among authors by analysing the most prominent direct citations. This approach helps identify the fundamental works in the bibliographic dataset (Zhang et al., 2021).

Vol: 15 **No:** 04 **Year:** 2023 **ISSN:** 1309-8055 (Online) (**pp.** 256-279) **Doi:** 10.34109/ijefs.202315413

Acemoglu (2002) is the most cited document, as indicated by the patterns observed in Figure 7 and Table 3. The majority of the top 20 cited documents reference this article. The upper part of the historiography demonstrates the foundational role of Galor & Moav's (2002) theoretical contribution, which has influenced several subsequent studies, including those associated with Acemoglu et al. (2001). These observations highlight the substantial impact and relevance of these two articles in the deep roots' literature. Figure 10 illustrates the same phenomenon.

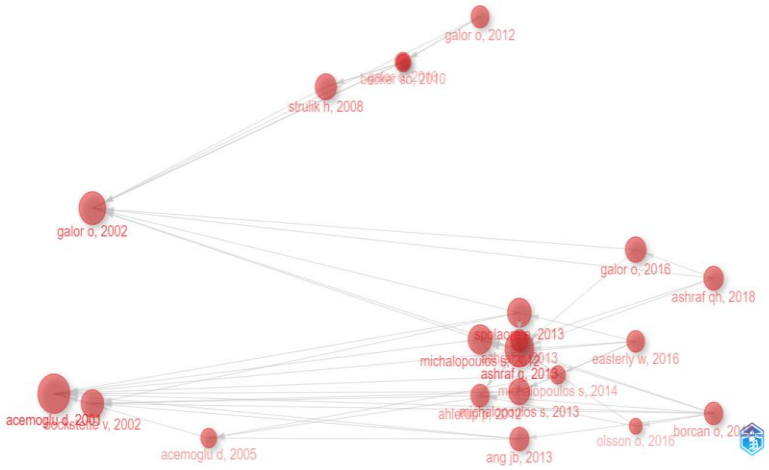

Figure 9: Historiograph.

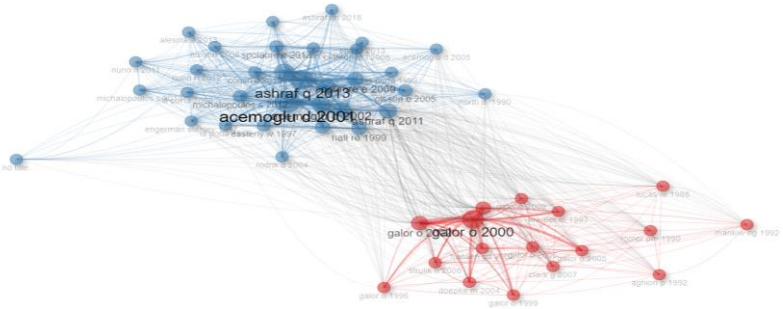

Figure 10: Co-Citation Network.

Author Collaboraions

Figure 11 illustrates a network of author collaboration in the field of deep root literature. The network is divided into eight clusters, each representing different deep root variables and color-coded accordingly. The cluster networks offer insights into the intellectual structure of the deep roots literature, highlighting the varied focuses of

Vol: 15 **No:** 04 **Year:** 2023 **ISSN:** 1309-8055 (Online) (**pp.** 256-279) **Doi:** 10.34109/ijefs.202315413

authors in this field (Zhang et al., 2021).

Authors in the dark green, orange, and purple clusters primarily contribute to the UGT. The brown and blue clusters comprise authors who specialise in state antiquity and the Neolithic revolution. The red and pink clusters comprise authors who focus on diverse measures, including birthplace, ethnic, and linguistic diversity. The final cluster consists of research on colonialism, diversity, and the historical occurrence of diseases.

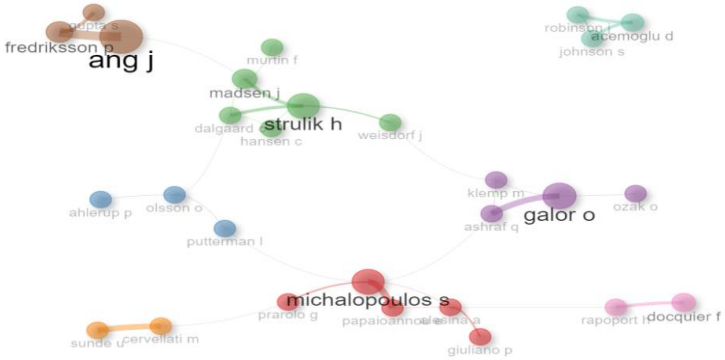

Figure 11: Collaboration Network.

Country Collaborations

Figure 12 presents a breakdown of the research output from the top 20 productive countries into two categories: multi-country publications (MCP) and single-country productions (SCP). Most countries, such as the USA, UK, Russia, and Japan, have a higher number of SCPs compared to MCPs. By contrast, Germany, Sweden, Netherlands, Denmark, South Africa, Singapore, and Belgium are the countries that have a higher number of MCPs, accounting for 35% of the total.

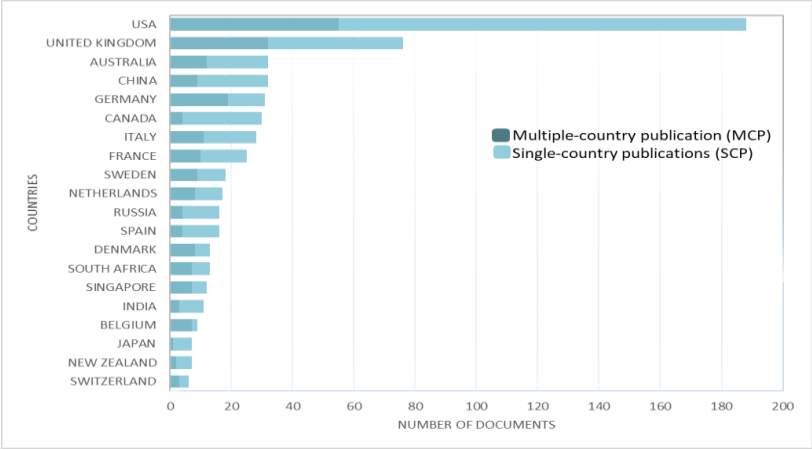

Figure 12: Corresponding Author's Countries.

Vol: 15 **No:** 04 **Year:** 2023 **ISSN:** 1309-8055 (Online) (**pp.** 256-279) **Doi:** 10.34109/ijefs.202315413

Figure 13 presents a global overview of collaboration efforts among researchers studying deep roots literature. Most of these collaborations are concentrated in the United States and Europe. Moreover, Australian authors frequently collaborate with their counterparts in the USA, Asia, and Europe. It is worth noting that only three South American countries engage in international collaborations, while New Zealand exclusively collaborates with Australia. South Africa is unique among African countries due to its collaborations with countries outside its borders, particularly in Europe.

Figure 13: Countries' Collaboration World Map.

Keyword Analysis

The keyword offers insights into the development of research themes (Zhang et al., 2021). The Sankey plot in Figure 14 illustrates the top 20 items in three categories: keywords, countries, and titles. The diagram depicts the relative significance of these items in their respective categories and demonstrates the interconnections between the categories. The items in each category are represented by rectangular boxes. The height of each box represents its influence strength compared to other entities in the same category, as well as its interconnectedness with items in other categories. Taller boxes signify greater dominance in terms of influence and relationships with other items.

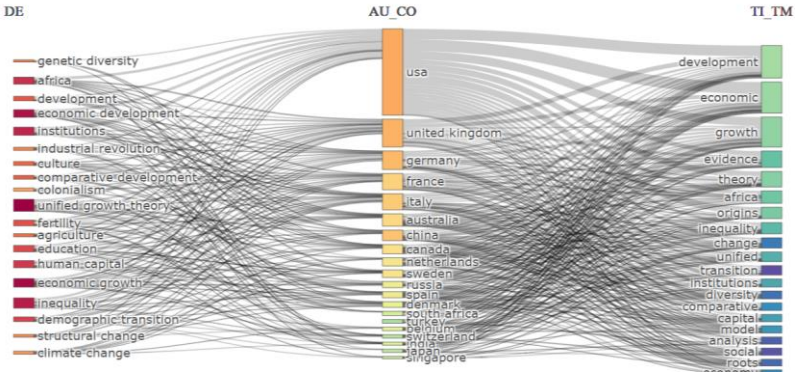

Figure 14: Three-Field Point.
(DE: Keywords, AU_CO: Countries, TI_TM: Titles)

Vol: 15 **No:** 04 **Year:** 2023 **ISSN:** 1309-8055 (Online) (**pp.** 256-279) **Doi:** 10.34109/ijefs.202315413

The keywords 'Africa', 'Economic Development', 'Institutions', 'Unified Growth Theory', 'Economic Growth', and 'Inequality' are the most dominant ones in terms of their box length within the keywords category. The USA is the most influential country in the country category, followed by the UK, Germany, France, and Italy. The varying heights of country boxes effectively represent the hierarchical significance of these countries in the deep roots' literature. The title category indicates that 'development,' 'economic,' and 'growth' are the dominant themes in deep roots studies, as indicated by the longer boxes associated with these titles. The terms are central to the research topics explored in the dataset.

Figure 15 presents a word cloud that visually represents the frequency of keywords in published works, with the size of each word indicating its prevalence. The diagram highlights the prominence of 'Unified Growth Theory' in the deep roots' literature. These keywords, such as 'economic growth,' 'economic development,' 'institutions,' 'inequality,' 'Africa,' 'human capital,' 'education,' and 'demographic transitions,' are frequently used in the literature, as evidenced by their larger presence in the word cloud.

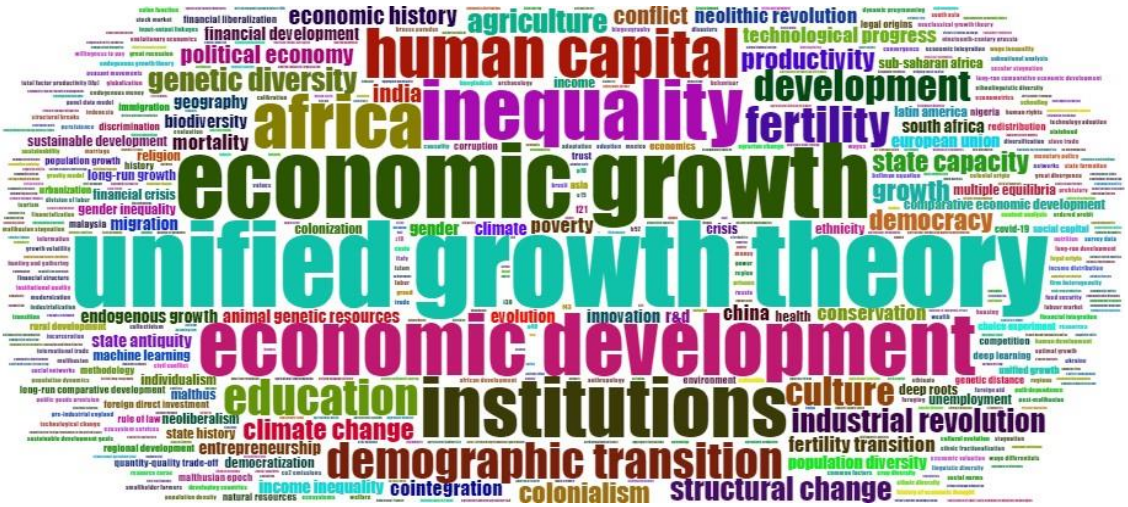

Figure 15: Word Cloud.

CONCLUSION

Summary of Key Findings

This study conducts a bibliometric analysis on the 'deep roots literature', which examines the long-lasting effects of historical events and factors on current economic and societal conditions. The analysis spans from 1993 to 2023, including 695 documents. The study employs bibliometric methods, such as productivity analysis, citation analysis, collaboration analysis, and keyword analysis, to address specific research inquiries.

Vol: 15 **No:** 04 **Year:** 2023 **ISSN:** 1309-8055 (Online) (**pp.** 256-279) **Doi:** 10.34109/ijefs.202315413

The field of literature has experienced substantial growth since its establishment in the 1990s, with a consistent increase in research outputs over time. The field underwent substantial growth in the early 2000s and continues to attract attention. Ang and Galor stand out among the authors in this literature. Ang's research primarily examines various aspects of deep roots, while Galor's work is considered foundational to the field due to the development of the Unified Growth Theory (UGT). The literature on deep roots primarily focuses on economic growth, development, institutions, inequality, and poverty as its main topics. These influential works emerged during the later stages of the field's development (from the early 2000s).

Research in this field is primarily conducted in developed countries, such as the United States and the United Kingdom, indicating a notable disparity in research efforts between developed and developing nations. Collaboration among authors and countries is widespread, especially among developed nations. Nevertheless, collaborations involving developing countries and regions such as Africa are limited. The deep roots literature focuses on core themes such as Africa, Economic Development, Institutions, Unified Growth Theory, Economic Growth, and Inequality, which are highlighted as keyword.

Recommendations

The review emphasises the importance of enhancing inclusivity and diversity in the literature on deep roots. Encouraging research contributions from a wider range of countries, particularly underdeveloped and developing nations, can help bridge the research gap and introduce diverse perspectives into the existing body of literature. Furthermore, fostering cross-country collaborations and author-collaborations is encouraged to enhance the productivity and impact of deep roots literature. International collaborations and partnerships with esteemed institutions worldwide can facilitate this achievement.

The review emphasises the limited scope of the existing deep roots literature, which primarily focuses on themes such as economic growth and development. Hence, it is advisable to further investigate alternative contemporary results. The outcomes encompass environmental, fiscal, and international relations aspects. The analysis of literature reveals compelling evidence that highlights the significance of historical factors in policymaking for addressing inequality and fostering economic growth and development.

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