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Convergence of Income: A Review of the Literature

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Abstract

In growth theory and development economics income convergence is an important issue. There have been diverse methodologies and thoughts on Income convergence on the global front. This paper reviews the literature on convergence, highlighting the evolution of economic thought and discussing diverse factors influencing the income convergence process. It also highlights the challenges and limitations associated with the approaches used in research done so far. The paper is divided into four sections. The first section highlights the evolution of economic thought on income convergence. The second section reviews existing literature on income convergence1991 onwards. The third section identifies the challenges and limitations of research done during the above period. The paper concludes that there is the presence of both absolute and conditional convergence, as well as divergence in certain cases.

Keywords: Convergence, Solow model, Endogenous growth model, Institution

1. Introduction

The nineteenth century has witnessed gaps in the growth of per capita income and the level of development, between the West and the rest of the world. In the twentieth century, there was a gap in per capita incomes in the 1970s, then, in the late 1980s, some reduced gap in income between the First and Third World were observed. Convergence means that incomes of different regions or countries tend to come closer together, implying a reduced income gap between wealthier and poorer regions or nations. The significance of studying income convergence in economics gives implications for economic growth, development, and overall societal well-being. This can lead to improved living standards, reduced poverty, and a more equitable distribution of resources in lower-income countries. This phenomenon is a crucial concept in economic development and growth studies.

The idea behind income convergence is grounded in economic theories that less developed economies also have the potential to grow at faster rates than their more developed counterparts. The literature provides insights into the growth determinants that help an economy to grow faster through the accumulation of human capital, technological advancements, and trade flows. These determinants of growth are necessary factors for regional growth and development. However, researchers found that the effects were different for the countries based on their stages of development.

Neoclassical economists, such as Solow and Swan, emphasize that capital accumulation and technological progress are fundamental drivers of economic growth which can help less developed economies grow more rapidly by adopting technologies and increasing capital investment, leading to a convergence in income levels. Suggestions of endogenous growth theories are that policies promoting investments in education, R&D, and innovation will help in sustained economic growth and potentially reduce income disparities.

2. Objective

Owing to the heterogeneities between the world economies, the problem of differences in income, employment, and productivity is acute across regions within and between countries. The promotion of specific growth determinants may also mean unbalanced regional growth within the country, and the concern for achieving balanced growth within a country has become more difficult in the globalized world. However, some of these growth determinants like technological progress and trade may have controversial impacts on the growth of countries.

Therefore, this paper aims to contribute to the understanding of the dynamics of income convergence in the economic landscape comprehensively. The objectives of this paper are

1. To discuss the existing theories on income convergence.
2. To identify methodologies used while measuring income convergence from 1991 onwards.
3. To review the trends and patterns of income convergence.
4. To identify challenges or limitations in the existing approaches.

3. Literature Review

3.1 Neoclassical Theory (Solow Model)

The model was developed by Solow based upon the Harrod Domar Model, and observes the relation between factors; changes in population growth, savings rate, rate of technological changes, and the level of output in a country. They take a continuous production function that connects the output to capital and labor inputs, with unchanging technical progress, that is

Y = F (K, L), Where Y is income or output, K is capital and L is labor.

Solow model takes a continuous increase in capital investment which raises the growth rate. As the capital-labor ratio rises, an economy comes to a long-term development path, with real GDP expanding at the same pace as the workforce plus a factor to account for improved productivity. When the rate of expansion for output, capital, and labor rate is the same, then output per worker and capital per worker remain constant, this is called a 'steady-state growth path', while differences in the rate of technological change between countries give observed difference in growth rates largely.

If poor countries receive better technology and information, lags in the diffusion of knowledge differences in real income shrink, and convergence is observed. The international capital flow allocation will be more efficient because the rate of return on capital is higher in poorer countries, given the assumption that poor countries have not yet reached their steady state. The convergence in income is supported by (Solow, 1956; Mankiw et al., 1992, Barro, 2001; Durlauf et al., 2001). According to the neoclassical view of the convergence hypothesis, the divergence of growth paths is unlikely to persist because divergence would facilitate self-correcting movements in prices, wages, capital, and labor that disseminate strong tendencies toward convergence (Martin and Sunley, 1998).

In the field of growth economics, there is ongoing development and refinement. Researchers have provided empirical analysis for both of the convergence approaches using diverse data and methodologies. while the Solow Growth Model provided a solid framework for understanding certain aspects of economic growth, subsequent research, and extensions have aimed to address its limitations and incorporate more complex factors, such as human capital, institutions, and endogenous technological change.

3.2 Endogenous growth theories:

Long-run economic growth in endogenous growth theory (Romer and Lucas) is measured by the growth rate of output per person, which is determined by the rate of technological progress (growth rate of total factor productivity). It emphasizes the role of human capital, innovation, and knowledge in driving economic growth, and policies promoting education, research, development, and innovation can contribute to the convergence of income levels.

Robert Lucas (1988), emphasizes the human capital role and knowledge in driving economic progress. Romer based his model on increasing returns in the production of output due to externalities, and diminishing returns of new knowledge. According to him, spillovers from research efforts by a firm lead to the creation of new knowledge by other firms and spill over instantly across the entire economy. Investment in research technology is taken as an endogenous factor and the acquisition of new knowledge is taken by rational profit-maximizing firms.

Lucas emphasizes investment in human capital rather than physical capital which has spillover effects and increases the level of technology. The individual worker becomes more productive after training, this is possible after investment in education, which spills over and increases the productivity of capital and other workers in the economy.

According to Romer and Lucas convergence of growth rates per capita of developing and developed countries will not occur and the rate of return on investment on physical and human capital in developed countries will not fall relative to developing countries Therefore, capital need not flow from developed to developing countries. Therefore, according to endogenous growth theories, there may not be a natural convergence to a steady state, unlike neoclassical theories.

Aghion and Howitt (1998), emphasize innovation, creative destruction, and policy in fostering economic growth. Jones (1995) stresses the relationship between research and development (R&D) and economic growth. Barro and Sala-i-Martin (2004) have emphasized human capital accumulation and knowledge spillovers in driving economic growth.

The endogenous growth theory stresses that government policies should raise a country's growth rate through more internal competition in markets and stimulate product and process innovation. According to them there are increasing returns to scale from capital investment, especially in infrastructure and investment in education, health, communications, R&D, and technological progress. The protection of property rights and patents gives incentives for businesses and entrepreneurs to engage in R&D.

3.3 Institutional Theories:

Institutional economists talk about the quality and improvements of institutions, including legal and political systems, property rights, and governance, all these can give a better environment for economic growth, that leads to the convergence of income. Institutional quality is seen as an endogenous factor influenced by historical and cultural factors.
According to Acemoglu and Robinson (2012), inclusive political and economic institutions are essential for sustained economic growth, extractive institutions concentrate power and wealth in the hands of a few, hindering economic development. Soto (2000) emphasizes on the importance of property rights and formal institutions which help individuals to use their assets as collateral for credit, which is vital for economic growth. North (1990), highlights that economic behavior and outcomes are shaped by institutions. Rodrik (2007), talks about the relationship between institutions and economic growth which is complex and context-specific, and emphasizes the importance of finding the right institutional recipes for different countries. Fraser Institute and the Cato Institute provide an empirical assessment of economic freedom and institutions and their relation to economic growth and prosperity. World Bank, emphasizes the significance of good governance, the rule of law, and institutions in their development policies and reports. These economists and institutions give significance to the role of institutions in economic development and have influenced policy discussions and initiatives towards reduction in income disparities through improved institutions in various countries.

3.4 Comparison

Models of endogenous growth and neoclassical counterparts differ in their assumptions and conclusions.
According to neoclassical theory, long-run growth rate is taken exogenously, and talks about convergence toward a steady state. The model proposes that poor economies catch up with the richer ones through exogenous technology, diminishing marginal returns, augmented labor, and export-led growth.
Endogenous growth theory challenges the neoclassical view and gives various channels for the rate of technological progress, suggesting that sustained growth does not necessarily lead to convergence. Investments in human capital improve productivity and generate external economies, explaining the existence of increasing returns to scale and the divergent long-term growth patterns among countries.
Institutional perspectives highlight the role of governance and institutions in shaping economic outcomes, suggesting that the quality of institutions is a main determinant of convergence.

In practice, a combination of these theories might provide a more comprehensive understanding of the complexities involved in income convergence. Policymakers often consider a mix of strategies, including investment in physical and human capital, technological innovation, and institutional reforms, to foster sustainable economic growth and reduce income disparities.

3.5 Iron Law of Convergence

The conditional convergence rate was proposed to be two percent by many studies which came to be known as the "law of convergence". However, a lot of studies found evidence of nonconvergence, some of them did show hardly any convergence or decrease in the income gap between rich and poor regions. Moreover, some researchers highlighted that the neoclassical convergence hypothesis is evident for countries only at the early stages of development as they are capable of experiencing faster income growth and hence catching up with the richer economies. Therefore, the evidence shows a disconnect between theoretical propositions and empirical evidence and a great deal of debate is present over convergence predictions proposed by the neoclassical models.

The literature supported the "law of convergence", which states that countries eliminate gaps the rate of 2 percent per year of real per capita GDP after controlling for differences in rates of accumulation of human and physical capital (Barro, 1991; Barro and Sala-i-Martin, 1991; Mankiw et al., 1992; Sala-i-Martin, 1996). Convergence at two percent

means that it will take 35 years for half of the initial income gap to disappear and 115 years for 90 percent to disappear. Barro (2015) studied the law of convergence rate for post-1960 and post-1970 panels of 89 countries and suggests that the conditional convergence rate of per capita GDP was close to two percent, thus supporting the law of convergence, and emphasizes this might be a robust empirical regularity as well. The evidence implies that as long as countries keep factors like government policy and human capital accumulation constant, the differences in incomes between economies will eventually disappear.

Some studies suggest faster rates of elimination of the income gap while some suggest no presence of the law at all. For instance, Caselli et al. (1996) and Canova and Marcet (1995) have shown that countries are converging at a much faster rate of 10-11 percent than 2 percent per annum. An empirical exploration of regional economies also reveals that the income gaps between regions will also eventually disappear (Magrini, 2004; Badinger et al., 2004). On the other hand, Kant (2019) used Penn World Data (PWD) from 1951- 61 to 2013 and showed persistence in the income gap. Similarly, Karnik (2018) analyzed 25 high-income, 20 middle-income, and 28 low-income countries and found varying rates of convergence for different subgroups of countries based on their changing total factor productivity (TFP). In addition, criticizing convergence, Quah (1996b) has suggested that the two percent rule was a 'statistical artifact' as convergence could arise from a lot of factors unrelated to convergence. The study argued that the face value of two percent implied uniform characteristics across economies for the suggested causes of convergence— technology, preferences, and endowments. Studies have shown that regions having below-average per capita income did show improvements but their relative position in the cross-sectional distribution was expected to be almost the same (Johnson and Papageorgiou, 2020; Le Gallo, 2004; Korotayev and Zinkina, 2014). Thus, poorer regions on average stay relatively poor over time, and the income gap is reduced by only a very small amount. This indicates persistence in the gap between rich and poor economies.

3.6 Trends and pattern of convergence

Examining the evidence of convergence of income, European regions seem to show a common convergence rate of two percent until 1973; however, after 1975 several regions started to show weaker convergence (Tondl, 1999; Magrini, 2004; Badinger et al., 2004). As the focus shifted from between-country to within-country analysis post-2000, Gennaioli et al. (2014) highlighted that regional convergence is faster within richer countries and countries with better capital markets. Tondl (1999) briefly mentioned that due to the complete integration of southern cohesion countries (e.g., Greece, Spain, Italy, etc.) in the European Union after 1981, the income disparity increased. For instance, Greece experienced only modest growth due to strong foreign competition from the European integration process (Petrakos and Saratsis, 2000). Similarly, Davies and Hallet (2002) and Petrakos et al. (2005) provide evidence of growing regional income imbalances for the poorest EU countries. A report by the European Commission (2004) shows that regional inequalities have increased in countries such as the Czech Republic, Hungary, Poland, and the Slovak Republic since 1995. Thus, it appears that incomes converge at the national level, whereas at the regional level income convergence is weak (Geppert and Stephan, 2008; Badinger et al., 2004). Therefore, there has been variation in the findings or mix of findings on convergence outcomes in the literature.

Club convergence is studied for a group of countries having the same structural characteristics with similar initial conditions (Galor, 1996). Researchers argue that neoclassical growth models yield conditional convergence against the prevailing knowledge of absolute convergence (Barro, 1991; Quah 1996; MRW, 1992; Quah, 1996). The source of conditional convergence lies within the assumption of diminishing marginal returns, shown with the help of a concave production function. Since the neoclassical production function is strictly concave in the capital-labor ratio, the evolution of the capital-labor ratio is characterized by a unique steady state. However, if heterogeneity is allowed across economies, then multiple equilibria exist instead of a unique steady-state growth path (Azariadis, I996; Fischer and Stirböck, 2006; De Siano and D'Uva, 2006; Lim, 2016). The model of multiple equilibria is contrary to the linear model of neoclassical growth theory. The implication of this assumption is that all countries converge to the same steady state. Researchers have criticized the linear relationship that gives rise to a single steady-state equilibrium to which every country converges. For instance, Caggiano and Leonida (2007) used data for 15 OECD countries for the period 1900 to 2000 and found that the observed pattern of convergence was not explained by the simple linear model 43 for 14 out of 15 countries. Similarly, Kremer et al. (2001) advocate a different approach (distribution dynamics approach) that allows growth to have a flexible relationship rather than the standard approach of assuming a linear relationship/function

between the growth and income levels of countries. Therefore, the criticism of the assumption of linear relationships gave rise to the literature on club convergence and multiple equilibria. Therefore, the assumption of a linear model gives same steady state for all countries was criticized in favor of multiple equilibrium models for different clubs of countries demonstrating similar characteristics.

Almost all of the studies have confirmed conditional convergence across different groups of countries; though the rate varies from below 2% to as high as 10% depending on the type of the data and the specific estimation technique utilized for the analysis. Notwithstanding numerous studies on cross-country conditional convergence involving various groups; few of the studies have analyzed conditional convergence for the African and Latin American continents, but the continents of Asia and Europe are yet to be investigated. Besides, maintaining the superiority of the panel data framework in the empirics of the conditional convergence, the question of a better estimation technique for the panel data analysis is not completely answered as there is only a single study on system GMM estimators compared to a few on difference GMM estimators and the IV technique. As far as intra-country conditional convergence is concerned, the analysis is mostly confined to industrialized countries, and few studies on the regional convergence of developing countries. Almost all the studies have utilized either the OLS method with cross-sectional data or the panel data methodology to examine absolute or conditional convergence or both. A higher rate of conditional than absolute intra-country convergence tended to be found. Based on the endogenous growth theory, the notion of convergence entailing a multiplicity of steady states was another significant development in convergence empirics. Club convergence was estimated utilizing both panel and time-series data, by analyzing as many as 119 countries of the world though only until the year 1990. However, an updated and comprehensive analysis of club convergence is required based on both an endogenous classification of countries into distinct groups and perhaps utilizing advanced panel data techniques. Panel data techniques and time series data analysis were used in the convergence empirics. Over time, stochastic, β, deterministic, absolute, and conditional stochastic convergences were analyzed utilizing the Kalman filter and a range of pair-wise unit root, pair cointegration, and panel unit root and stationarity tests. The distinguishing aspects of time-series convergence empirics are different interrelated notions, a substantial majority of studies, relatively up-to-date techniques, and relatively recent endpoints to the periods. However, the majority of the studies, specifically those using bivariate unit root tests with endogenous structural breaks and panel unit root/stationarity tests, have analyzed either the sample of OECD countries or of the US states. Therefore, analysis of different concepts of time-series convergence is warranted for various clusters of world countries.

Nevertheless, very few studies have utilized inferential statistics for the analysis of σ convergence. Reviews of earlier studies on the cross-sectional data approach of σ convergence indicate comprehensive analysis with a better methodology and data. Specifically, the application of inferential statistics in σ-convergence analysis is pertinent. Initiated as a cross-sectional concept, σ-convergence was also estimated utilizing time-series techniques. In the σ-convergence analysis, Markov transition matrices and Kernel density functions have studied the dynamics of the entire income distribution. However, the cross-sectional data-based evidence is on σ-convergence, while the time-series analysis of the topic is limited. In addition to the cross-sectional and time-series methodologies, analysis based on the distribution dynamics approach has added an interesting comparative aspect to the investigations of income convergence. Besides separate analyses for each of the concepts of convergence, an appropriate inter-relationship among its various types is required to be developed for some useful conclusions regarding the convergence/divergence of economies. Specific in this context is the relationship between β and σ convergences and their time-series and cross-sectional/panel analyses. Finally, convergence empirics lack evidence for the Asian continent despite its wide-ranging nature, both in terms of concepts and their empirical application to real-world data sets,

4. Challenges and limitations in existing Literature

4.1 Convergence Concepts

The advancement of various diverse and sophisticated econometric methodologies and their respective application have played a significant role in the development of wide-ranging concepts of convergence. Beginning with the simple concepts of β and σ convergence, conditional, club, and the concept have been used in the convergence empirics. This β convergence between that growth of income and initial income after controlling for country-specific factors known as conditional β convergence shows a negative relationship.

Alternatively, the concept of σ-convergence is defined as the reduced income dispersion of countries over a certain period.

Table 3.1. Definitions of Different Notions of Convergence

Concept	Definition
β-convergence	The negative relationship is observed in the growth rate of GDP per capita/worker and its initial value in a regression framework
Absolute convergence/Unconditional Convergence	The negative relationship between the GDP percapita growth rate and its initial value in a simple regression framework involving only two variables
Conditional β-convergence	Negative relationship between the growth rate of GDP per capita and its initial value after controlling for macroeconomic variables determining the steady state of cross-sectional units
Conditional convergence-II	Alternative term for the intra-country absolute convergence
Local convergence	Convergence among a specific group of countries
Global convergence	Convergence across countries in the world
σ convergence	Over time reduction in income dispersion among cross--sectional units

4.2 Related issues

Some initial studies use cross-sectional data to compare income levels across different regions or countries at a specific point in time. However, cross-sectional data-based inference of growth was considered inconsistent because of omitted variable bias; Cross-sectional studies often identify disparities in income levels but were not able to capture dynamic changes over time.

The distinguishing aspects of time-series convergence empirics are different interrelated notions, a substantial majority of studies, relatively up-to-date techniques, and relatively recent endpoints to the periods. Time series studies focus on trends within individual regions or countries over time, examining how their income levels evolve. Time series analysis shows long-term trends in income convergence or divergence. The distinguishing aspects of time-series convergence empirics are different interrelated notions, a substantial majority of studies, relatively up-to-date techniques, and relatively recent endpoints to the periods. However, the majority of the studies, specifically those entailing bivariate unit root tests with structural breaks and panel unit root/stationarity tests, have been analyzed. Therefore, analysis of different concepts of time-series convergence is warranted for various clusters of world countries.

A panel data methodology was utilized as the better alternative; panel data studies track the same units (countries or regions) over time, allowing for the examination of trends and convergence dynamics. Panel data analysis provides a more dynamic perspective, capturing changes in income levels and assessing convergence over time. Subsequently, additional explanatory variables, the IV method, and the GMM technique were significant developments in the panel data analysis of the cross-country conditional convergence. Parallel in time to the application of panel data, time series analysis of data was also introduced in the convergence empirics.

Ordinary Least Squares (OLS) in cross-section convergence studies (Barro, 1991; Barro and Sala-i-Martin, 1991; Barro and Lee, 1994) have been criticized by some scholars (Fischer and Stirböck, 2006; Chen et al., 2014) based on two aspects. First, most of the convergence literature suffers from omitted variable bias. For example, they ignore the influence of regions on convergence and focus on national-level convergence more than regional-level convergence. The importance of regional growth and its ability to influence national-level parameters were established by regional economists during the mid-1990s. The regions could not be treated as isolated economies because their interactions and

linkages need proper consideration when evaluating national growth (Rey and Janikas, 2005; Barrios and Strobl, 2009; Magrini, 2004). While studying European convergence, Rey et al. (2016), Le Gallo and Dall'Erba (2006), Armstrong (1995), López-Bazo et al. (1999) and Rodrıguez-Pose (1999) reported the presence of́ significant spatial autocorrelation both for income levels and for growth rates. Thus, it is evident from several studies that the traditional convergence analysis suffers from misspecification of omitted variables bias (Badinger et al., 2004; Fischer and Stirböck, 2006; Magrini, 2004; Thayn and Simanis, 2013). The second criticism of OLS cross-section analysis is related to the hypothesis of the same steady state across countries due to fixed exogenous technological development (Chen et al., 2014; Canova and Marcet, 1995; Bliss, 2000).

4.3 The Endogeneity Issue

Endogeneity is a common issue in research on income convergence, as it can introduce bias and make it challenging to establish causal relationships between variables. Researchers studying income convergence often encounter several problems related to endogeneity. Addressing endogeneity is crucial to ensure that research on income convergence provides valid and reliable insights into the factors influencing income disparities and the convergence process. Researchers often need to carefully design their studies, consider the appropriate econometric techniques, and use robust data to mitigate endogeneity concerns.

4.4 Sample Selection

Income convergence often focuses on regional or geographic disparities. However, these disparities can be influenced by various factors, such as migration, urbanization, and spatial agglomeration effects, making it challenging to isolate the convergence mechanism. Income convergence may not always follow a linear pattern. Non-linear convergence dynamics, such as conditional convergence or club convergence, can complicate the analysis and interpretation of results. Differences in economic structures, industrial composition, and sectoral specialization can affect income convergence. Researchers must consider these structural variations when assessing convergence.

Selecting countries for studying income convergence presents several challenges for researchers. These challenges are often related to the diversity of economic, social, and political contexts across countries and the potential biases that can arise from their selection. The process of selecting countries for studying income convergence is complex and requires careful consideration of the research objectives and potential biases. Countries vary significantly in terms of size, population, economic structure, culture, and governance. This heterogeneity can complicate the analysis of income convergence, as different factors may be at play in different contexts. Researchers must be cautious about which countries they include in their study sample. Biased or non-random selection can lead to misleading results. For example, focusing only on a particular group of countries, such as high-income nations or those with rapid growth rates, can skew the findings. The availability and quality of economic data can vary widely from one country to another. Researchers struggle to obtain consistent, reliable, and comparable data for all selected countries, which can hinder cross-country comparisons. Different countries may have variations in how they define and measure income, making it challenging to compare income levels and trends accurately.

Currency exchange rates, inflation adjustments, and different methodologies can all introduce measurement biases, political and institutional environments in countries can influence their economic performance and income convergence. The choice of control variables is subjective and may influence the results. The economic conditions and growth trajectories of countries can change over time. Researchers need to consider how to address these dynamic changes when selecting countries and interpreting convergence patterns. Some countries have limited or missing data, especially in conflict-ridden or unstable regions. This can create gaps in the analysis, and the absence of certain countries might limit the generalizability of the findings. Countries may not always report accurate or complete economic data for various reasons. Researchers need to be aware of data reporting biases when selecting countries and interpreting their data.

4.5 Quality of Data

It is important to ensure the reliability of the data to get reliable estimates which in turn can be used for policy-making. The World Bank, IMF, OECD, and the Penn World Tables provide better quality data for research which are used frequently in cross-country growth analysis. A general observation is that governments in less-developing countries manipulate the data through their influence on state agencies and do not want to show the true picture of the economy to

the international community. Researchers use different methodologies and definitions of income, which lead to inconsistent results. Harmonizing data across different sources and studies is a complex task. Income convergence is not solely about the average income level but also about income mobility – the ability of individuals or groups to move up or down the income ladder. Tracking income mobility over time is challenging, as it requires longitudinal data and can be affected by various factors. Researchers studying the convergence of income encounter several challenges in data collection.

5. Conclusion

The review of the extensive literature on income convergence revealed important insights and contributed to our understanding of the complex dynamics of economic development. The literature offers a nuanced view of income convergence, emphasizing the empirical complexity of the phenomenon. While there is evidence of convergence in some regions and contexts, significant heterogeneity persists. The presence of both absolute and conditional convergence, as well as divergence in certain cases, underscores the importance of considering specific circumstances and determinants.

Researchers have employed a wide range of methodologies to study income convergence, reflecting the diversity of approaches in the field. Cross-sectional and panel data analyses, time series modeling, and spatial econometrics have all been valuable tools. However, methodological choices can significantly influence the outcomes, necessitating careful consideration in future research.

The literature has identified numerous determinants that influence income convergence, including human capital accumulation, technological progress, institutional quality, and policy interventions. Understanding the multifaceted nature of determinants is crucial for effective strategies to be developed to address regional disparities and promote sustainable growth. Insights drawn from this literature inform the design of policies aimed at reducing inequality and fostering inclusive development. The importance of evidence-based decision-making is evident, with lessons for national governments and international organizations seeking to improve economic well-being. Policymakers should focus on building and maintaining strong institutions to create a conducive environment for sustainable growth.

Significant progress has been made in understanding income convergence, but there are promising avenues for future research, including the exploration of non-economic determinants, the consideration of emerging economic challenges, and the need for more comprehensive and comparable data. Future studies can examine the impact of globalization, trade dynamics, and environmental sustainability on income convergence.

In conclusion, this review contributes to the ongoing dialogue surrounding income convergence by consolidating the existing literature, synthesizing key findings, and offering valuable insights for researchers and policymakers. The concept of income convergence remains a pivotal area of research, addressing critical questions about economic development, regional disparities, and inclusive growth. Scholars must continue exploring this concept's intricacies to develop effective strategies for addressing global economic challenges.

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