Galor, Oded

Working Paper

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Working Paper, No. 2009-3

Provided in Cooperation with:
Department of Economics, Brown University

This Version is available at:
http://hdl.handle.net/10419/62622

Inequality and Economic Development: An Overview*

Oded Galor**

Abstract

This paper provides an overview of the modern perspective on the relationship between inequality and economic development.

Keywords: Inequality, Growth, Development

JEL Classification: 010, 015, 040

1. From the Classical and Neoclassical Viewpoints to the Modern Perspective

Conventional wisdom about the relationship between income distribution and economic development has been subjected to dramatic transformation in the past century. While the Classical economists advanced the hypothesis that inequality is beneficial for economic development, the neoclassical paradigm, which subsequently dominated the field of macroeconomics, dismissed the Classical hypothesis and advanced the viewpoint that the study of income distribution has no significance in the understanding of the growth process.

A metamorphosis in these perspectives has taken place in the past two decades, and analysis of the role of income distribution in economic development was brought in from the cold.[1] Both theory and recent empirical evidence have demonstrated that income distribution does, in fact, have a significant impact on the growth process. Moreover, unlike the Classical viewpoint, which underlined the beneficial effects of inequality for the growth process, the modern perspective has highlighted the potential adverse effects of inequality on the growth process.

1.1. The Classical and the Neoclassical Approach

Classical approach advanced the hypothesis that inequality is beneficial for economic development in the post-industrialization period (Keynes, 1920, and Kaldor, 1957).[2] It suggested that since the marginal propensity to save increases with wealth, inequality channels resources towards individuals whose marginal propensity to save is higher, increasing aggregate savings, capital accumulation, and economic growth.[3]

The classical hypothesis, however, was implicitly dismissed by the representative agent paradigm that had dominated the field of macroeconomics. The influential neoclassical approach rejected the relevance of heterogeneity, and thus the distribution of income, for macroeconomic analysis, interpreting implicitly the observed relationship between inequality and economic growth as capturing the effect of the growth process on the distribution of income.[4]

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[1] This metamorphosis was the focus of Atkinson (1997)'s presidential address to the Royal Economic Association.

[2] Development economists advanced an additional hypothesis about the relationship between inequality and economic development that is largely tangential to the understating of the effect of inequality on economic growth in the modern, post-industrialization era. As argued by Rosenstein-Rodan (1948), Lewis (1954), Baldwin, (1956), and North (1959), and formulated by Murphy, Shliefer and Vishny (1989), in the absence of international demand for domestic industrial goods, a wide distribution of income from the leading agricultural sector may be critical for industrialization.

[3] Echoing the insight of the Classical economists, it was established that within a neoclassical growth model with a convex saving function, the distribution of income might lead to a two-class equilibrium (Stiglitz, 1969) where the less egalitarian one is superior (Bourguignon, 1981).

[4] This viewpoint can be traced to Kuznets (1955)'s findings of the inverse U relationship between inequality and economic development, and his suggestion that they reflect causation from development to distribution.

1.2. The Origins of the Modern Perspective

The Neoclassical viewpoint has been challenged in the past two decades, as both theories and subsequent empirical evidence have demonstrated that income distribution has a significant impact on the growth process. The origin of the modern perspective can be traced to Galor and Zeira (1988, 1993). In contrast to the representative agent approach that dominated the field of macroeconomics for several decades, Galor and Zeira analyzed the role of heterogeneity in the determination of macroeconomic activity. They advanced the novel viewpoint that heterogeneity, and thus income distribution, plays an important role in the determination of aggregate economic activity and economic growth. Their research demonstrated that under plausible conditions (i.e., credit market imperfections and fixed costs in the acquisition of human capital), income distribution has a long lasting effect on investment in human capital, aggregate income, and economic development.[5] Moreover, in contrast to the Classical hypothesis, which underscored the virtues of inequality for economic growth, this research advanced the hypothesis that inequality, in the presence of credit market imperfections, may be detrimental for human capital formation and economic development.

The modern perspective about the relationship between inequality and economic development has subsequently evolved, resulting in hundreds of research papers that have highlighted the adverse effect of inequality on the process of development.[6] The initial research on the subject has been widely classified into two broad approaches for the examination of the relationship between inequality and growth: the credit market imperfection approach and the political economy approach.[7]

1.3. The Credit Market Imperfections Channel

The credit market imperfection approach explored the implications and the robustness of the effect of inequality on the process of development in the presence of credit market imperfections.

Galor and Zeira have demonstrated that in the presence of credit market imperfections and fixed costs associated with investment in education, occupational choices (and thus the efficient segmentation of the labor force between skilled and unskilled workers) are affected by the distribution of income. In particular, if the interest rate for borrowers is significantly higher than that for lenders, inequality may result in an under-investment in human capital.[8] Inequality may

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[5] The main hypothesis of the credit market imperfection approach is robust, however, to the removal of the assumption of a fixed cost of education or investment projects, as long as savings are an increasing function of wealth (Moav, 2002 and Galor and Moav, 2004).

[6] This book, written from a macro-growth perspective, focuses on the literature that deals with the effect of inequality on the development process, rather than on the forces that prevent (Loury, 1981) or generate persistent inequality within an economy (Benabou, 1996, Durlauf, 1996, Fernandez and Rogerson, 1996, and Mookherjee and Ray, 2003), or across economies (Galor and Mountford, 2008).

[7] An additional line of less influential research has focused on the effect of inequality on aggregate demand and thus on innovations and growth, in the presence of non-homothetic preferences (Chou and Talmain, 1996, Matsuyama, 2000, Foellmi and Zweimuller, 2006).

[8] The provision of public education may mitigate *part* of the adverse effect of inequality. Nevertheless, the potential adverse effect of inequality still operates via the differential effects of the foregone earnings associated with education on investment in human capital in different segments of the income distribution, as well as through its differential impact on the allocation of parental inputs in the production of the children's human capital (Galor and Tsiddon, 1997b) and on the ability of parents to select optimal

therefore adversely affect macroeconomic activity and economic development in the short-run, and due to intergenerational transfers and their effect on the persistence of inequality, it may adversely affect economic development in the long-run as well.[9]

The basic Galor-Zeira model establishes the potential adverse effect of inequality on economic growth in an economy in which wages, for simplicity, are unaffected by the composition of the labor force. However, as established in the second model developed in Galor and Zeira (1993), the main hypothesis is robust to the endogenization of wages and thus to the incorporation of interdependence in investment decisions across dynasties.

The credit market imperfection approach for the study of the effects of income distribution on economic growth, which subsequently emerged, maintained the two fundamental assumptions of the Galor-Zeira model (i.e., credit market imperfections and fixed costs associated with investment), and established the robustness of its main hypothesis.[10] Notably, Banerjee and Newman (1993) examine the effect of inequality on a different type of occupational choice (i.e., the choice between becoming an entrepreneur or a worker, rather than the choice between becoming either a skilled or an unskilled worker). They demonstrate that if credit markets are imperfect and fixed costs are associated with entrepreneurial activities, inequality may result in an under-investment in entrepreneurial activity and may therefore be harmful for economic development.[11] Their study establishes that as long as wages are endogenous, the main hypothesis of the credit market imperfection approach as a whole is robust to the introduction of random shocks to the outcome of investment (in human capital or entrepreneurial activities).[12]

The interplay between income inequality and equality of opportunities that was emphasized by Galor and Zeira led to an additional strand of research within the credit market imperfection approach. This research examines the effect of inequality on the degree of intergenerational mobility and thus the efficiency in the allocation of talents across occupations (Fershtman, Murphy and Weiss, 1996, Owen and Weil, 1998, Maoz and Moav, 1999, Checchi, Ichino and Rustichini, 1999, and Hassler, Mora and Zeira, 2007). [13]

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neighborhoods, and thus schooling environment, for their children (Benabou, 1996, Durlauf, 1996, Fernandez and Rogerson, 1996).

[9] While wage inequality and its effects on the skill premium may provide an incentive for human capital formation that may counterbalance the constraints on efficient investment in human capital associated with inequality, most forms of inequality (e.g., wealth inequality as well as inequality in the distribution of income between labor, capital and land), do not affect the incentive to invest in human capital. Furthermore, in sufficiently poor economies, where the fixed cost of education is high in comparison to the level of income per capita, inequality may permit at least some individuals to undertake investment in human capital, and thus more inequality would be expected to be associated with higher investment in education.

[10] The Galor-Zeira setup was further exploited by Quah (1996) to shed light on the emergence of convergence clubs (and thus persistent inequality) in the world economy, in the presence of imperfect capital mobility across economies and fixed cost of investment.

[11] Aghion and Bolton (1997) further demonstrate that redistribution improves the efficiency of the economy, because it enhances equality of opportunity and the trickle-down process from the rich to the poor.

[12] See also Piketty (1997).

[13] The adverse effect of inequality on occupational choice and intergenerational mobility is robust to the removal of the central assumption of credit market imperfections as long as parental human capital and social background are introduced into the analysis (Galor and Tsiddon, 1997a, 1997b, Hassler and Mora, 2000, Zilcha, 2003, and Mejia and St-Pierre, 2008, Brezis and Temin, 2008).

Furthermore, the interaction between income inequality and credit market imperfections has been placed at the center of an important literature that examines the relationship between segregation and persistent inequality. These studies have demonstrated that in the presence of credit market imperfections, inequality enhances segregation across communities, and thus, in the presence of local externalities in the production of human capital, it may generate persistent education and income gaps (Benabou, 1996, Durlauf, 1994, 1996, Fernandez and Rogerson, 1996).

1.4. The Political Economy Channel

The political economy approach further advanced the viewpoint that inequality is harmful for economic development. Earlier studies have argued that inequality generates a pressure to adopt redistributive policies, and that distortion associated with these policies adversely affect investment in physical and human capital and thus the growth process.

The incentives for productive accumulation of physical capital, human capital, and knowledge hinge on the ability of individuals to privately appropriate the return on their investment. In societies that are characterized by inequality, distributional conflict may bias political decisions in favor of appropriation and may therefore diminish investment and economic growth. In particular, using the median voter paradigm, it was hypothesized that in a more equitable society, taxation on physical capital (Alesina and Rodrik, 2004) and human capital (Persson and Tebellini, 2004 and Perotti, 1993) will be lower, limiting the degree of distortions in investment decisions, and promoting economic growth.

In light of the inconsistency of this mechanism with empirical evidence (Perotti, 1996), subsequent theories advanced the hypothesis that inequality may in fact generate an incentive for better endowed agents to lobby against redistribution, preventing efficient redistribution policies from being implemented (Saint-Paul and Verdier, 1996, Benabou, 2000, 2002).

Others have examined the long-run effects of inequality in the ownership of factors of production on the incentive for better endowed agents to block the implementation of institutional changes and policies that promote human capital formation and thus economic growth (Engerman and Sokoloff, 2000, and Galor, Moav and Vollrath, 2009).

2. A Unified Theory of Inequality and Development

The impressive research that constituted the modern perspective on the relationship between inequality and economic development has been initially largely segmented. It lacked a unified hypothesis regarding the role of inequality in the process of development, particularly in light of the contrasting predictions generated by the classical and the modern approaches.

2.1. From Physical to Human Capital Accumulation as the Main Engine of Growth

The development of a unified theory of the dynamic implications of inequality on the growth process (Galor and Moav, 2004) has provided a needed intertemporal reconciliation between the Classical viewpoint and the modern perspective, while permitting the dominating theories within the modern perspective to be placed within a broader structure.

The theory suggests that the replacement of physical capital accumulation by human capital accumulation as the prime engine of economic growth has changed the qualitative impact of

inequality on the process of development. In early stages of industrialization, as physical capital accumulation is a prime source of economic growth, inequality enhances the process of development by channeling resources towards individuals whose marginal propensity to save is higher. In later stages of development, however, as physical capital accumulates, the demand for human capital increases (due to capital-skill complementarity) and human capital becomes the prime engine of economic growth.[14] A more equal distribution of income, in the presence of credit constraints, stimulates investment in human capital and promotes economic growth. Lastly, as economies becomes wealthier and credit constraints become less binding while the differences in the marginal propensity to save subside, the aggregate effect of income distribution on the growth process becomes less significant.

The central hypothesis of this unified approach stems from the recognition that human capital accumulation and physical capital accumulation are fundamentally asymmetric. In contrast to physical capital, human capital is inherently embodied in humans and the existence of physiological constraints subjects its accumulation at the individual level to diminishing returns. The aggregate stock of human capital would be therefore larger if its accumulation would be widely spread among individuals in society, whereas the aggregate productivity of the stock of physical capital is largely independent of the distribution of its ownership in society. This asymmetry between the accumulation of human and physical capital suggests therefore that as long as credit constraints are largely binding, a more equal distribution of income is conducive for human capital accumulation, whereas provided that the marginal propensity to save increases with income, inequality is conducive for physical capital accumulation.

The theory, therefore, provides an intertemporal reconciliation between the conflicting viewpoints about the effect of inequality on economic growth. It suggests that the classical viewpoint, regarding the positive effect of inequality on the process of development, reflects the state of the world in early stages of industrialization, when physical capital accumulation is the prime engine of economic growth. In contrast, the central hypothesis of the credit market imperfection approach regarding the negative effect of equality on economic growth reflects later stages of development when human capital accumulation becomes the prime engine of economic growth, and credit constraints are largely binding.

Although the replacement of physical capital accumulation by human capital accumulation as a prime engine of economic growth in currently developed economies is instrumental for understanding of the role of inequality in their process of development, this research is especially relevant for currently less developed economies (LDCs) that may have evolved differently. In LDCs, the presence of international capital inflows diminishes the role of inequality in stimulating physical capital accumulation. Moreover, the adoption of skilled-biased technologies has increased the return to human capital and, thus, given credit constraints, has strengthened the positive effect of a more equal distribution of income on human capital accumulation and economic growth.

The theory generates a testable implication about the effect of inequality on economic growth, which may provide greatly needed theoretical guidance for empirical research in this field. In contrast to the credit market imperfection approach, which suggests that the effect of inequality

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[14] The rise in the demand for skilled labor may be viewed as an outcome of (embodied) technological acceleration. As argued by Nelson and Phelps (1966) and Shultz (1975) and established empirically by Foster and Rosenzweig (1996), educated individuals have a comparative advantage in a changing technological environment.

depends on the country's level of income (i.e., inequality is beneficial for poor economies and harmful for rich ones), this research suggests that the effect of inequality on growth depends on the relative return to physical and human capital. In economies in which the return to human capital is relatively lower, inequality is beneficial for economic growth, whereas in economies in which the return to human capital is relatively higher and credit constraints are largely binding, equality is beneficial for economic growth.

2.2. The Emergence of Economic Conflict Between the Landed Aristocracy and the Capitalists

While the process of industrialization raised the importance of human capital in the production process, reflecting its complementarity with physical capital and technology, human capital accumulation has not benefited all sectors of the economy, resulting in a sub-optimal level of investment in human capital from a growth perspective.

As argued by Galor, Moav and Vollrath (2009), the transition from an agricultural to an industrial economy changed the nature of the main economic conflict in society. Unlike an agrarian economy, which was characterized by a conflict of interest between the landed aristocracy and the masses, the process of industrialization has brought about an additional conflict between the entrenched landed elite and the emerging capitalist elite. The capitalists, who were striving for an educated labor force, supported policies that promoted the education of the masses, whereas landowners, whose interests lay in the reduction of the mobility of the rural labor force, favored policies that deprived the masses from education.

In light of a lower degree of complementarity between human capital and land, a rise in the level of education increased the productivity of labor in industrial production more than in agriculture, decreasing the return to land due to labor migration and an associated rise in wages. Thus, while industrialists had a direct economic incentive to support education policies that would foster human capital formation, landowners had no economic incentives to support these growth enhancing educational policies as long as their stake in the productivity of the industrial sector was insufficient.[15]

The adverse effect of the implementation of public education on landowners' income from agricultural production is magnified by the concentration of land ownership, and thus, as long as landowners affect the political process and thereby the implementation of growth-enhancing education policies, inequality in the distribution of land ownership is a hurdle for human capital accumulation, slowing the process of industrialization and the transition to modern growth. Economies in which land was more equally distributed, implemented earlier public education campaigns, and benefited from the emergence of a skill-intensive industrial sector and a rapid process of development. In contrast, among economies marked by a more unequal distribution of land ownership, land abundance that was a source of richness in early stages of development, led in later stages to under-investment in human capital, an unskilled-intensive industrial sector, and a slower growth process. Thus, variations in the distribution of land ownership across countries contributed to variations in the industrial composition of the economy, and thereby to divergent development patterns across the globe.

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[15] Landowners may benefit from the economic development of other segments of the economy due to capital ownership, their households' labor supply to the industrial sector, the provision of public goods, and demand spillovers from economic development of the urban sector.

This hypothesis is consistent with historical evidence underlined by Galor, Moav and Vollrath (2009) that suggests that indeed the distribution of land ownership affected the nature of the transition from an agrarian to an industrial economy and has been significant in the emergence of sustained differences in human capital formation and growth patterns across countries. Moreover, the adverse effect of the concentration of land ownership on education expenditure is confirmed empirically by Galor, Moav and Vollrath (2009) based on data from the beginning of the 20th century in the US. Variations in the concentration of land ownership as well as in public spending on education across states in the U.S. are exploited in order to demonstrate that inequality in the distribution of land ownership was indeed a hurdle for public investment in human capital.

2.3.   Inequality and the Implementation of Oppressive Institutions

An alternative mechanism that underlines the adverse effect of inequality on human capital formation and economic development has been advanced by Engerman and Sokoloff (2000). They argued and provided evidence that geographical conditions that led to income inequality brought about oppressive institutions (e.g., restricted access to the democratic process and to education) designed to maintain the political power of the elite and to preserve the existing inequality between the elite and the masses. Similarly, Acemoglu, Johnson and Robinson (2005) maintain that reversals in economic performance across countries have a colonial origin, reflecting institutional reversals that were introduced by European colonialism across the globe. "Reversals of fortune" reflect the imposition of extractive institutions by the European colonialists in regions where favorable geographical conditions led to prosperity, and the implementation of growth-enhancing institutions in poorer regions.

Thus, Engerman and Sokolof (2000) underlined the role of the sustained conflict between the elite and the masses in the delay in the implementation of growth enhancing educational policies and thus in the adverse effect of inequality on the process of development. Their viewpoint about the nature of the conflict, as well as that of Acemoglu et al. (2005), suggest the perpetual desirability of extractive institutions for the ruling elite. In contrast, Galor, Moav and Vollrath (2009) advance the viewpoint that, in fact, economic development may ultimately alter the incentives of the elite to block growth-enhancing education policies. In light of a conflict of interest *among* the economic elites (i.e., industrialists and landowners), and a partial cooperation between the elite (i.e., the industrialists) and the masses, the timing of the implementation of growth-enhancing education policies was affected by the effect of economic development on the degree of asset diversification held by the divided elite. Unlike the conflict-based political mechanism that governs the hypothesis of Engerman and Sokoloff (2000) and Acemoglu et al. (2005), the hypothesis advanced by Galor and Moav (2006) and Galor, Moav and Vollrath (2009) emphasizes a direct economic mechanism (i.e., the adverse effect of education reforms on the land rental rate) that governs the relationship between inequality and the process of development. In particular, they demonstrate that even if the political structure in the economy remains unchanged, economic development and a gradual diversification of the assets held by the landed aristocracy may ultimately trigger the implementation of growth-promoting institutions once the stake of the landed aristocracy in the efficient operation of the industrial sector dominates their overall economic interest.[16]

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[16] Rajan (2009) reinforces this thesis, suggesting that rent preservation and its interaction with inequality in ownership over factor endowment is a recipe for paralysis and poverty.

2.4. Inequality as a trigger for Growth Promoting Social, Political, and Economic Transitions

Inequality and its association with socio-political instability have been identified as an additional adverse force in the process of development. In particular, the effect of inequality on social conflict and on political and educational reforms was examined by Alesina and Perotti (1996), Acemoglu and Robinson (2000), and Bourguignon and Verdier (2000), as well as Gradstein (2007).[17] These studies suggest that reforms and redistribution from the elite to the masses diminish the tendency for sociopolitical instability and may therefore stimulate investment and economic growth. In particular, Acemoglu and Robinson (2000) argue that the extension of the franchise during the 19th century can be viewed as a commitment device to ensure future income redistribution from the elite to the masses.

In contrast, Galor and Moav (2006) have argued that the transformation in class structure and inequality can be viewed as a byproduct of a productive cooperation between capitalists and workers, rather than an outcome of a divisive class struggle.[18] In accordance with the unified approach for the study of inequality and economic development, this line of research suggests that capital accumulation in the process of industrialization gradually intensified the relative scarcity of skilled labor and generated an incentive for human capital accumulation. Investment in human capital, however, has been sub-optimal due to credit market imperfections, and public investment in education has been therefore growth-enhancing, as per Galor and Zeira (1993). Due to the complementarity between physical and human capital in production, the capitalists were among the prime beneficiaries of the accumulation of human capital by the masses. They therefore had the incentive to support the provision of public education that improved their economic well-being and contributed significantly to the demise of the capitalists-workers class structure and to changes in the nature of inequality in society that were conducive to economic development.[19]

2.5. Gender Inequality, Fertility, and Economic Development

As suggested by the unified approach, the replacement of physical capital accumulation by human capital accumulation as the prime engine of economic growth has changed the qualitative impact of inequality on the process of development. In early stages of industrialization, as physical capital accumulation is a prime source of economic growth, inequality enhances the process of development by channeling resources towards individuals whose marginal propensity to save is higher. In later stages of development, however, as physical capital accumulates and the demand for human capital increases, due to capital-skill complementarity, human capital becomes the prime engine of economic growth and a more egalitarian distribution of income stimulates investment in human capital and promotes economic growth.

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[17] See also Bowles and Gintis (1975).

[18] Mutually beneficial reforms are also considered by Lizzeri and Persico (2004) and Doepke and Zilibotti (2005).

[19] Mejia and Posada (2007) identify the conditions under which a social conflict lead to the transition to democracy and those under which purely economic forces lead to the transition, underlying the relative role of inequality, the importance of a human capital externalities in production, and the feasibility of redistribution by the masses.

The decline in gender inequality that was brought about by the rise in the demand for human capital in the process of development reinforced the positive association between a more egalitarian distribution of income and economic growth. The decline in gender inequality contributed to the onset of the demographic transition as well as to the rise in female labor force participation, fostering the growth process as a whole. The decline in the gender wage gap has affected household fertility decisions, female labor force participation and thus the growth process. As suggested by Galor and Weil (1996, 1999), technological progress and capital accumulation complemented mentally-intensive tasks and substituted for physically-intensive tasks in industrial production. In light of the comparative physiological advantage of men in physically-intensive tasks and of women in mentally-intensive tasks, the demand for women's labor input gradually increased, inducing a decline in fertility rates, a significant increase in labor force participation, and a transition from stagnation to growth.

Moreover, the decline in the overall level of inequality that was associated the emergence of human capital has been linked theoretically, empirically, and quantitatively to the reduction in fertility and therefore lower levels of investment in human capital and income (Galor and Zhang, 1997, Dahan and Tsiddon, 1998, Kremer and Chen, 2002, De la Croix and Doepke, 2003, and Moav, 2005).

3. Empirical Evidence

Several attempts have been made to examine the theoretical predictions of the credit market imperfections approach and the political economy approach about the effect of inequality and heterogeneity on economic growth. Consistent with the hypothesis advanced by the theories, early cross-country analyses by Alesina and Rodrik (1994), Person and Tabellini (1994) and Perotti (1996) have established a negative association between the level of inequality and economic growth.

Importantly, Perotti (1996) conducted a careful examination of the various channels through which inequality may affect economic growth, as proposed by the modern theoretical perspective. His study provides support for the Galor-Zeira hypothesis, showing that inequality is indeed associated with lower level of human capital formation, and lower human capital formation is associated with lower levels of economic growth.[20] Further support for the main predictions of the education channel advanced in the context of the credit market imperfection approach has been generated by Deninger and Squire (1998). Utilizing the distribution of land as a proxy for the distribution of assets, they find that initial inequality has a significant adverse effect on education and economic growth. Moreover, consistent with the theories advanced by the credit market imperfections approach – that these imperfections ought to have a larger effect on the investment decisions of individuals with lower income – they find that initial inequality primarily hurts the poor.[21]

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[20] In line with related theoretical arguments that human capital formation and fertility are negatively related and thus inequality would be expected to have contrasting effects on these two variables (e.g., Galor and Zhang, 1997), Perotti (1996) suggest that the human capital channel is reinforced by the introduction of fertility. Inequality is associated with higher fertility rates and a lower level of investment in human capital, which are in turn associated with lower economic growth.

[21] The adverse effects of financial constraints on economic development is well established (e.g., Levine , 2005).

In contrast to the human capital channel, Perotti (1996)'s examination of the political economy channel was not favorable to the theories advanced by Alesina and Rodrik (1994) and Persson and Tabelini (1994). His findings refute this early hypothesis of the political economy approach, demonstrating that in contrast to their proposed channel, inequality is in fact associated with lower levels of taxation, while lower levels of taxation, contrary to the theories, are associated with lower level of economic growth.

Later studies have deviated from the desirable examination of the channels through which inequality may affect growth, and restricted their attention to the reduced form relationship between inequality and growth. Notably, Forbes (2000) and Barro (2000) examined the effect of inequality on economic growth in a panel of countries. They find a positive and zero effect, respectively, of an increase in inequality on economic growth. These findings, however, ought to be interpreted very cautiously. They appear to have no bearing on the validity of the theories and are not very informative about the overall effect of inequality. First, these studies examine the effect of inequality *beyond* its effects through education, fertility, and investment. Barro (2000) has found that, once controls for education, fertility, and investment are introduced, there is no relationship between inequality and economic growth in the entire sample. His findings, therefore, suggest that inequality does not have a direct effect on growth *beyond* its effects through education, fertility and investment (i.e., the dominating channels through which inequality operates), implying perhaps that the dominating channels through which inequality operates are those proposed in the literature. In particular, if the control for fertility is dropped in Barro (2000), the effect of inequality on growth is significantly negative, as predicted by the theory. Moreover, these studies examine the effect of inequality in the short run (i.e., the effect of inequality on the average growth rate in the subsequent 5-10 years), while as suggested by the theories, inequality is likely to have mostly longer-run effects (e.g., via the formation of human capital).

Moreover, even within the context of the limited scope of the studies of Forbes (2000) and Barro (2000), their econometric methodology and their findings have been challenged. Banerjee and Duflo (2003) argued that the linear regression structure imposed in previous studies is inconsistent with the predictions of the theories and the qualitative findings may be an artifact of the imposed linearity. They find that changes in inequality (in any direction) are associated with lower growth rates. Moreover, in line with the adverse long-run impact of inequality proposed by the theories, they find a negative relationship between growth rates and lagged inequality.

Recently, Easterly (2007) has reaffirmed the hypothesis advanced by the modern theories that inequality has an adverse effect on human capital formation and economic development. Using agricultural endowments as an instrument for inequality, in order to overcome concerns about measurement errors and the endogeneity of inequality, his cross-country analysis suggests that inequality has been a barrier to schooling and economic prosperity.

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@inproceedings{Galor2009InequalityAE, title={Inequality and Economic Development: An Overview}, author={Oded Galor}, year={2009}}. Oded Galor. Published 2009. Economics. This paper provides an overview of the modern perspective on the relationship between inequality and economic development. brown.edu. Save to Library. Economic inequalities are most obviously shown by people's different positions within the economic distribution - income, pay, wealth. However, people's economic positions are also related to other characteristics, such as whether or not they have a disability, their ethnic background, or whether they are a man or a woman. If all the income went to a single person (maximum inequality) and everyone else got nothing, the Gini coefficient would be equal to 1. If income was shared equally, and everyone got exactly the same, the Gini would equal 0. The lower the Gini value, the more equal a society. Most OECD countries have a coefficient lower than 0.32 with the lowest being 0.24. The Palma ratio is commonly used in international development discourse. There are wide varieties of economic inequality, most notably measured using the distribution of income (the amount of money people are paid) and the distribution of wealth (the amount of wealth people own). Besides economic inequality between countries or states, there are important types of economic inequality between different groups of people. Important types of economic measurements focus on wealth, income, and consumption. There are many methods for measuring economic inequality, with the Gini inequality and economic development, and his suggestion that they reflect causation from development to. distribution. 1.2. The Origins of the Modern Perspective. inequality and economic development has been initially largely segmented. It lacked a unified. hypothesis regarding the role of inequality in the process of development, particularly in light of. the contrasting predictions generated by the classical and the modern approaches. 2.1. From Physical to Human Capital Accumulation as the Main Engine of Growth. The development of a unified theory of the dynamic implications of inequality on the growth. process (Galor and Moav, 2004) has provided a needed intertemporal reconciliation between the. Economic inequality (also known as income inequality, wealth inequality, the wealth gap, or the gap between rich and poor) is a state of inequality in the distribution of income and assets in a population. While correlation does not equal causation, economic inequality provides a sociological gold standard[pun intended] for predicting whether a population has or will have a more unhealthy populace, more suicides, more crime, and just more of garden variety social problems.