



Barcelona School of Economics

Master Project

**“Inequality: Old Issues and New Trends,
a Review”**

Aysu Avci, Eduardo Fagundes, Gabriel de Campos and Matteo
Giugovaz

Advisor: Valeria Gargiulo

July, 2024

ABSTRACT: Inequality stands as one of the most crucial determinants of socio-economic wellbeing and political stability. Empirical evidence shows a widespread surge in inequality across numerous countries worldwide over the past three decades (World Bank, 2024). In this study, our objective is to explore the state of the art of applied research on inequality, conducting an extensive review of literature that covers various dimensions of the topic, ranging from well-established findings regarding education and gender disparities to recent studies addressing topics such as automation and race.

KEYWORDS: Income Inequality, Education, Gender and Race

RESUM: La desigualtat es presenta com un dels determinants més crucials del benestar socioeconòmic i l'estabilitat política. L'evidència empírica mostra un augment generalitzat de la desigualtat en nombrosos països arreu del món durant les darreres tres dècades (Banc Mundial, 2024). En aquest estudi, el nostre objectiu és explorar l'estat de l'art de la investigació aplicada sobre la desigualtat, realitzant una extensa revisió de la literatura que abasta diverses dimensions del tema, des de troballes ben establertes sobre l'educació i les disparitats de gènere fins a estudis recents que aborden temes com l'automatització i la raça.

PARAULES CLAU: Desigualtat de renda, Educació, Gènere i Raça



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Aysu Avci, Eduardo Fagundes, Gabriel de Campos and Matteo Giugovaz

PhD Track Program

Supervisor: Valeria Gargiulo

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Abstract

Inequality stands as one of the most crucial determinants of socio-economic well-being and political stability. Empirical evidence shows a widespread surge in inequality across numerous countries worldwide over the past three decades (World Bank, 2024). In this study, our objective is to explore the state of the art of applied microeconomic research on inequality, conducting an extensive review of literature that covers various dimensions of the topic, ranging from well-established findings regarding education and gender disparities to recent studies addressing topics such as automation and race.

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1 Introduction

The question of inequality is pivotal in economics and politics. Very few questions have garnered as much relevance and sparked as much debate in both public and academic discourse as the legitimacy of inequality's extent and measurement. As summarized by Piketty (2015), the traditional right-left wing debate can be outlined as follows: the right-wing free-market position asserts that in the long run, market forces, individual initiative, and productivity growth are the sole determinants of the distribution of income and standard of living. Conversely, the left-wing perspective asserts that alleviating the misery of the poorest requires social and political struggle, with government redistributive efforts penetrating the core of the productive process.

The ideological debate about the existence and extent of inequality intertwines with the more technical debate about its measurement and sources. In this review, we survey the most recent literature on the topic to shed light on theoretical tools and empirical findings in this field. We will survey classical and more recently developed definitions of inequality and review the most established and newly discovered trends.

For inequality measurement, we show that the ratios between the percentiles of wages' or wealth's distribution and the Gini Index are standard measurements among the vast pool of indexes. We comment on the recent literature that developed more sophisticated inequality measurements (Hufe et al., 2022; Hvidberg et al., 2023) and the growing literature that calculates the intergenerational income mobility, now expanding to estimates for developing countries (Britto et al., 2022).

We explore some sources and manifestations of inequality in-depth, starting with the labor market. The recent trend shows an increase in inequality among wage earners. Globalization may have played a modest role in this trend through labor market changes, as argued by Helpman (2016). Unionization changes could have played a

significant role, as Card et al. (2020) argues, and Acemoglu and Restrepo (2022) shows the crucial role of automation in changing the wage structure across worker groups.

Education has a central role in explaining inequality, given that human capital is considered in both economic and sociological literature as one of the primary mechanisms through which inequality is transmitted across generations. Blanden et al. (2023) argue that before the “Great Gatsby Curve”, there exists the “Educational Great Gatsby Curve”. Recent works exhibit the importance of education in helping reduce the persistence of intergenerational income (Chetty et al., 2014; Britto et al., 2022) and alleviating poverty worldwide (Gethin, 2023). Also, given the considerable weight attributed to early child development for individual skill acquisition, we show recent papers on child development from the theoretical and empirical perspective (Attanasio et al., 2022; Andrew et al., 2024).

Finally, we present recent works on inequality in two important dimensions: gender and race. Regarding gender inequality, we will present results and arguments that highlight the various factors that contribute to the gender pay gap, often interconnected and reinforcing one another. While recent educational trends have played a crucial role in narrowing the gender income gap, many barriers and challenges remain (Blau and Kahn, 2017). We will specify some of these challenges, including the prevalence of sexual violence against women, the male-to-male advantage in promotions through socialization, and the disproportionate childcare duties imposed on women (Sabia et al., 2013; Cullen and Perez-Truglia, 2023; Cubas et al., 2021, 2023).

For race, a significant average income gap exists between white and Black citizens, traditionally explained by differences in human capital accumulation, skill formation, and discrimination (Bertrand and Mullainathan, 2004; Fryer Jr, 2011). Nevertheless, the recent literature has emphasized the role of institutions and childhood location characteristics in contributing to this inequality (Althoff and Reichardt, 2022; Derenoncourt, 2022).

2 Inequality: Definition, Empirical Facts, Perception

OECD defines income inequality as “the difference in how household disposable income is distributed among the population in a particular year”. Indeed, in its most classical and standard version, inequality has been measured employing, among others, the following tools: the ratios between percentiles of the distribution of wages or wealth and Gini Index.¹ The most used wage (wealth) percentiles ratio is the P90/P10, the ratio of the lower limit of the tenth decile to the upper limit of the first decile; alternative measures are D90/D10 (the ratio of mean of income/wealth highest percentile to the lowest one), the P90/P50 and P99/P50 (respectively, the ratio of the 90th and 99th percentile to the median), the P50/P10 (the ratio of the median to the tenth percentile). On the other hand the Gini index measures the extent to which the distribution of income or consumption among individuals or households within an economy deviates from a perfectly equal distribution. A Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality. It should be noted that Gini Index and the P90/P10 correlate very strongly in the data (OECD (2019)).

Empirically, it has been measured that the average P90/P10 ratio in OECD countries for the whole population is 4.3, ranging from 2.9 (Denmark) to 6.7 (Mexico) (OECD (2019)). Piketty (2015) explores inequality beyond OECD countries, acknowledging the difficulty of establishing proper comparisons. Conditions vary widely: the South American countries stand out for having even higher levels of inequality than the most inegalitarian Western countries, whereas most Asian countries, as well as the less-developed countries of Africa, generally have levels of income in equality equal to or less than those found in the least inegalitarian Western countries (Morrison, 1996, pp. 145–172). It is also difficult to compare levels of inequality found in the Communist bloc, because income often includes compensation in kind in one form or another

¹Here we quote the most famous indexed for brevity sake, for a more extensive list see: WB featured indicators

and is difficult to quantify in monetary terms. The available indicators seem to show real income gaps quite comparable to the average in capitalist countries.

Piketty (2015) also explore the historical trends in the evolution of purchasing power and inequality in the twentieth century in Western world. Purchasing power increased by a factor of 10 from the beginning of 1900 to 1990, with a slightly higher relative increase for the low income part of the distribution. In the face of this fact, inequality followed a less linear pattern. It exhibits a reversed U-shaped trend, peaking before the Second World War and then decreasing up until the 1980s; during that decade, the inequality gap growth picked up again and kept on increasing up until today. It is important to keep in mind that, when dealing with historical data, these results should always be looked at with the right amount of skepticism: measurement error and missing data could significantly hamper the reliability of these statistics.

Besides the more descriptive evidence about cross-country and historical evolution of inequality, recent literature has focused on developing more sophisticated measures for capturing different aspects of inequality and explore how perceptions about inequality relate to actual inequality.

In their paper, Hufe et al. (2022) propose a new measure to disentangle fair from unfair inequality. Authors develop new measure of unfair inequality that reconciles two relevant fairness principles: equality of opportunity and freedom from poverty. This newly proposed measure is tested in two empirical settings. First, the development of inequality in the US from 1969 to 2014 is analyzed. Second, using international data, the authors conduct a corresponding cross-country comparison between the US and 31 European countries in 2010. The results of the paper document increasing unfairness in the US over time. This trend is driven by a strong decrease in social mobility that puts the US among the most unfair countries as of 2010.

In another very relevant paper, Hvidberg et al. (2023) explore the view about perception of inequality and fairness views about it. In this paper, authors link survey data containing Danish people's perceptions of where they rank in various reference

groups and fairness views with administrative records on their income history, life events, and reference groups. The key finding is that people know their income positions well, but believe others are closer to themselves than they really are. Furthermore, the perceived fairness of inequalities is strongly related to current social position, moves with shocks to social position (for example, unemployment or promotions), and changes when people are experimentally shown their actual positions. Finally, people view inequalities within education group and co-workers as most unfair, but underestimate inequality the most exactly within these reference groups. This paper sheds light on the biases embedded in people's way of relate to inequality and social desirability aspects of it.

Another stream of research that flourished in the last years is the one about intergenerational mobility. Indeed, with the availability of detailed micro datasets from tax declarations, economists can now identify parents and siblings in the dataset and their respective total income. Once with the observed joint distribution of parents' and children's income, estimation of intergenerational income mobility is possible. The influential work of Chetty et al. (2014) makes the estimate from the USA using a rank-rank specification (both parents and child income are in rank\percentile) and finds that a 10 percentile increase in parent income is associated with a 3.4 percentile increase in a child's income.

Other authors made the same estimation procedure for different developed countries. The recent literature has evolved to calculate the intergenerational income mobility for developing countries. Britto et al. (2022) make that effort in Brazil, which, besides facing the challenge of having access to the tax declaration microdata, also needs to consider the relevance of the informal sector in the economy that is not covered in that source. After imputation procedures for the informal sector individuals, the authors find that a 10-percentile increase in parental income rank is associated with a 5.5 percentile increase in child income rank, the highest coefficient found so far among those that calculate the intergenerational income mobility in the rank-rank

specification. Other estimations from Brazil are striking: roughly half of the children born to parents in the bottom quintile fail to escape poverty, and only 2.5% of children born to parents in the bottom quintile reach the top quintile. All in all, the results of Britto et al. (2022) face some challenges. Although there is a considerable effort to collect the required data on a developing country for this kind of analysis, the main sample covers only 15% of the whole population analyzed (1988-1990 cohort) with some noticeable disbalances in some observable variables.

3 A review by sources and manifestations of inequality

Inequality arises from a plethora of sources, each contributing uniquely to its complexity. This section delves into a subset of these sources and manifestations of inequality and explores their impact on societal disparities.

3.1 Labour and Inequality

The labour market has received a deep attention from researchers as the fundamental cause behind inequality. Various streams of research have focused on the divergence between capital rent and wages as a source of income². Recent literature has focused more on the inequality within the wage earners, looking at the reason behind the observed increase in inequality in this respect. Various authors have provided different explanations.

Helpman (2016) reviewed the literature of the last twenty years exploring the relationship between globalization and wage inequality. He concludes that trade played an appreciable role in increasing wage inequality, but that its cumulative effect has been modest, and that globalization does not explain the preponderance of the rise

²For a deeper analysis of capital-wage inequality,

in wage inequality within countries through labor market changes. It is then obvious to look for another reason.

Card et al. (2020) propose instead unions as a key factor behind differential wage inequality across sectors. The paper postulates that inequality is less severe and wages distribution less disperse when in highly unionized sectors, with a stronger effect in the public sector. Hence, decrease in unionization rate across the Western world could be an important contribution to increase in inequality.

Acemoglu and Restrepo (2022) present an interesting view on the rising wage inequality, attributing the main reason behind its spike to automation. Authors document that between 50% and 70% of changes in the US wage structure over the last four decades are accounted for by relative wage declines of worker groups specialized in routine tasks in industries experiencing rapid automation. To show this, they first develop a conceptual framework where tasks across industries are allocated to different types of labor and capital, showing that automation technologies expand the set of tasks performed by capital, displacing certain worker groups from jobs for which they have comparative advantage. This theoretical model yields an equation linking wage changes of a demographic group to the task displacement it experiences. The authors report robust evidence in favor of this relationship and show that regression models incorporating task displacement explain much of the changes in education wage differentials between 1980 and 2016. The negative relationship between wage changes and task displacement is unaffected when controls are added for changes in market power, deunionization, and other forms of capital deepening and technology unrelated to automation. In the last part of the paper, authors develop a methodology for evaluating the full general equilibrium effects of automation, incorporating induced changes in industry composition and rippling effects due to task reallocation across different groups. The quantitative evaluation of this paper explains how major changes in wage inequality can go hand-in-hand with modest productivity gains.

3.2 Education and Inequality

It is well established that education positively impacts individual labor market and health outcomes and reduces criminal records. The fact that family educational background influences children's educational outcomes makes unequal education distribution generate unequal economic outcomes for the next generation. Clearly that is the case, given that as of 2015, only 15.2% of the world population had either completed or partially completed tertiary education, with that proportion hardly passing 50% even in the most developed countries.³ Given that, human capital is considered in both economic and sociological literature as one of the primary mechanisms through which inequality is transmitted across generations (Shilpi, 2021; Blanden et al., 2023).

Blanden et al. (2023) shows how education can mediate the intergenerational persistence of socioeconomic status. The authors indicate that education can help explain the aggregate observation of the so-called "Great Gatsby Curve", where more unequal countries also experience lower social mobility. Educational inequality contributes to this relationship because, across countries, income inequality is positively associated with the intergenerational correlation between parents and children's years of schooling. In essence, before the "Great Gatsby Curve", there exists the "Educational Great Gatsby Curve".

Education quality frequently shows up as a source to break the link between parents and child's income. For Brazil, Britto et al. (2022) finds out that educational quality is the best predictor to explain upward mobility across different regions in the country. Also, for the USA, Chetty et al. (2014) also found that areas with better primary schools are associated with higher mobility.

Despite the role of education as a source of inequality persistence and its improve-

³Estimates from Our World in Data base on Barro-Lee Dataset

ment, it also has a vital role in reducing poverty worldwide. In Amory Gethin's Job Market Paper (Gethin, 2023), he combines microeconomic evidence to conclude the aggregate effects of education on global poverty reduction. To do so, the author assembles a huge micro-level dataset of educational, income and socioeconomic variables from a population representative of 95% of the world's population from household surveys fielded in 150 countries around 1980 and 2019.

Starting from this dataset, Gethin calculates what the world distribution of income would look like in 2019 if there had been no improvement in schooling since 1980. The construction of this counterfactual is made by four steps: i) reduce educational attainment randomly from the micro-dataset to match its distribution in 1980; ii) reduce wages of those individuals who change attainment status, using a combination of Mincerian wage regression and structural model on the relative supply of skilled and unskilled workers; iii) adjust relative wages of all individuals in the micro-data to account the labor supply change from the previous steps; iv) add capital income in the analysis to derive total income.

Once this counterfactual is calculated, growth accounting can be employed to estimate the share of the observed growth of some variable for a group that can be attributed to human capital. The results show that education can explain 70% of the income growth of the 20% global poorest in 1980 and can account for 42% of global extreme poverty reduction, defined as individuals whose income falls below \$2.15 per day. Despite the impressive results for poverty reduction, one approach that the paper could have addressed is how the evolution in education can explain inequality indicators evolution.

Knowing which educational stage to focus on is crucial for policy purposes, given the many stages that education encompasses and the important roles that it can have for economic outcomes. Results show that differences in precollege investments are critical in generating socioeconomic differences in college completion. Moreover,

some studies show evidence that policy interventions that aim at skill development in the early stage of life are more effective than those that focus on more advanced stages, like free tuition in college (Lee and Seshadri, 2019). The importance of parental investment in the early stages of life is accompanied by an extensive literature on child development in the economic literature.

The child development literature has a combination of empirical and theoretical works. The recent framework of parental investments and early childhood development is evolving from Becker and Tomes (1986) tradition of parents' investment decisions subject to financial constraints and market conditions to dynamic models on several forms of human capital investment over multiple stages of life. Attanasio et al. (2022) synthesize this new framework. The parental problem is choosing consumption and child investment subjective on their budget constraint in order to maximize their utility that depends on their own consumption and child development at age α . The child development at age α has the form of parents' perceived production function, which has as input previous periods of human capital, child investment and other factors, all conditional on parents' information set.

All of that apparatus helps to illuminate that parental investment depends on parents' preferences and three forms of constraint: technological, from the mapping of inputs into outputs in child development; financial, from the budget constraint; and informational, from the parents' perceived production function of child development and their information set. So, all of these factors can explain the persistence of poverty: poor families have limited financial resources to invest in their children, and children in those families can be already born with a lower endowment in their child development indicators that can have long-lasting effects on its evolution. Also, information misperceptions on education return child's ability can be more salient for poorer families, making underinvesting in children's education more likely.

This type of model is tested with interventions that aim to change parents' behavior

or their resource constraints to improve child development and, in that way, break the intergenerational transmission of poverty. Andrew et al. (2024) show the example of an effective intervention that only changed parents' behavior toward their children during the children's first three years that has a medium-term effect. The intervention was randomly assigned to poor families that lived in a slum in Cuttack, India. Those families received visits during 18 months aimed at improving caregiver-child interactions. Parents received practical demonstrations of age-specific activities that potentially would improve their child's development, including play activities and conversations. The impact of the intervention is still significant even after four and a half years, with the overall index of achievement (combination of literacy and numeracy scores) increasing by 0.33 sd. among the treatment subjects.

3.3 Gender and Inequality

The persistent issue of gender inequality continues to have a profound impact on women and society as a whole. This is evident in education, where despite significant improvements, gender inequality in compulsory educational attainment still exists in rural areas, and women face limited educational pathways, particularly in STEM fields, worldwide (Zeng et al., 2013; UNESCO, 2017). According to estimates from the World Health Organization, 30% of women worldwide have experienced intimate partner or non-partner sexual violence (World Health Organization, 2021). However, despite the prevalence of domestic violence and sexual assault, women face significant challenges as crime victims, as they are often inadequately addressed by legal systems.

In addition, women face numerous barriers and inequalities in the labour market, including but not limited to fewer opportunities for promotion, under-representation in managerial positions, and the gender pay gap. The challenges that undermine women's job satisfaction and career progression, as well as their causes, are inter-

connected and reinforce one another. In this chapter, we will present results and arguments from recent research to highlight the various factors that contribute to the gender pay gap, both positively and negatively.

According to Blau and Kahn (2017), recent educational trends have played a crucial role in narrowing the gender income gap. In the USA, there has been a shift in educational attainment, with women now, on average, achieving higher levels of education than men. Blau and Kahn (2017) showed that this change, along with the increase in women's work experience, improved job opportunities, and union membership, has helped to decrease the gender pay gap. These findings highlight how closing the gender inequality in education might bridge the gap in labor outcomes. A similar conclusion can be drawn for reducing the prevalence of domestic violence and sexual assault, as Sabia et al. (2013) found that besides the direct costs bared by the victims, these types of crime are also associated with indirect economic costs such as lower labor force participation and lower wages.

Another factor considered to contribute to the gender pay gap is the promotion opportunities that men often obtain through interacting, networking, and socializing with their male managers in ways that are less accessible to women, creating what is commonly referred to as the "old boys' club" (Cullen and Perez-Truglia, 2023). To investigate whether such "male-to-male advantage" exists, Cullen and Perez-Truglia (2023) used data from a large commercial bank in Southeast Asia where they had access to a large and comprehensive administrative and survey data set (2015-2018) that consisted of 14,638 employees, and 1,269 managers.

For causal inference, Cullen and Perez-Truglia (2023) relied on event-study analyses to examine how the assignment of a new manager with a different gender, influences employee pay levels⁴. Using a 60-month event study window, they compared the

⁴Hence they identify individuals who experienced one of four types of managerial transitions: from female to male manager, female to another female manager, male to female manager, and male to another male manager.

effect of these transitions on pay grades separately for male and female employees.

⁵ To isolate the impact of a manager's gender, authors only compared employees undergoing manager transitions. For example, among employees who originally had female managers, the study compares the change in event-time coefficients for those switching to a male manager versus those switching to another female manager, capturing the relative impact of receiving a male manager. Cullen and Perez-Truglia (2023) refer to this difference measure as "single-difference" and calculate it separately for the male and female employees. Then, Cullen and Perez-Truglia (2023) calculated the "double-difference" to assess if the effects vary between male and female employees, where a positive outcome suggests an advantage for male employees when assigned to a male manager.

Cullen and Perez-Truglia (2023) reported that following transitioning to male manager, male employees experienced a 15% significant gain in salary (0.60 pay grades), while female employees exhibited a negligible change. Furthermore, through double-differences estimation, it was demonstrated that the male-to-male advantage amounted to 0.65 pay grades, which is both statistically significant and economically substantial. They found eliminating this advantage would result in a 40% reduction in the gender pay gap. Additionally, Cullen and Perez-Truglia (2023) recorded that after the transition, male employees interacted more with their managers, with the share of breaks spent with managers increasing from 46.7% to 61.2%. Again, no such effect for female employees is observed.

One puzzling result of this study is that women do not necessarily seem to be better off under female management rather than male. This result is even more puzzling as Kunze and Miller (2017) previously found that having a higher share of female superiors in the next highest rank narrows the promotion gap for female employees. According to Cullen and Perez-Truglia (2023), this result may be attributed to men

⁵The analysis incorporated employee fixed effects, manager fixed effects, and month effects, with two-way clustering of standard errors at the team and manager levels.

spending more time interacting and socializing with their managers compared to women. This difference in time use could potentially be due to societal expectations and norms around parental duties, which limits women's time for interaction during or after work hours (Cullen and Perez-Truglia, 2023). This theory can be supported by insights from Cubas et al. (2023, 2021), who highlighted the challenges women face in balancing work and family responsibilities.

In their study Cubas et al. (2023) employed data from the 2003-2018 American Time Use Survey (ATUS), in which participants recorded their daily activities in a time diary⁶. Based on the information from the time diaries Cubas et al. (2023) uncovered that women, in comparison to married men with children, experienced more "missing hours" from work throughout the day. These interruptions included tasks beyond fixed childcare (e.g. driving children, attending medical appointments, and managing children's activities). These childcare duties, although being brief, are not easily delegated and offer minimal flexibility in timing, often occurring during critical work hours and entailing costly work interruptions (Cubas et al., 2021, 2023).

Moreover, Cubas et al. (2023) found that women earn 22% less than men on average. The researchers suggested that this pay gap may be due to women's preference for flexible jobs with lower pay rather than inflexible jobs with high pay. To measure the (in) flexibility of a job, Cubas et al. (2023) defined the "*8to5ratio*" metric, based on data from ATUS, to evaluate the concentration of the working schedule of a job type during the peak working hours. After identifying the jobs with a higher *8to5ratio*, the authors documented that these jobs indeed pay more, but also penalize productivity losses caused by missing hours more severely. They also found that women suffer about a 5% higher penalty in such occupations compared to more flexible jobs, supporting their argument.

⁶The dataset also included demographic and labor participation information for adults aged 18-65 who work full-time, amounting to nearly 100,000 observations.

To further investigate the wage gap, the Cubas et al. (2023) built a general equilibrium model. In this model, women place a higher value on housecare and allocate more time to such activities, even though this comes at a wage cost that increases in the jobs' *8to5ratio*. They calibrated the model using aggregates from the US labor market and found that it generates a gender wage gap of 8.9%, $\approx 40\%$ of the observed gender earnings gap among married men and women with children.

Cubas et al. (2023) also conducted counterfactual experiments to investigate further the effect of parameters on the pay gap. In one of the experiments, they equalized the value that men and women place on household care, which can be seen as a change in social norms. They found that following this change, the gender wage gap within occupations decreased by 50% to 3.1%. These findings contribute to the idea that the disproportionate childcare duties imposed by social and cultural norms limit women's career advancement and significantly penalize their labor outcomes.

Along these lines, while many social norms traditionally hinder gender convergence, Farre et al. (2021) demonstrated that policy changes have the potential to cultivate more gender egalitarian attitudes in future generations. Specifically, their study highlighted how the introduction of paternity leave in Spain significantly increased fathers' involvement and fostered more gender egalitarian norms and behaviors among children aged 11-13. To conclude, while social norms are quite persistent, policies affecting children's early life can induce norm changes across generations, offering a hopeful prospect for societal evolution.

3.4 Race and Inequality

Most economic outcomes vary greatly by race within countries. In the US, the median income of White citizens is 65% higher than the median income of Blacks (Chetty et al., 2020). Similarly, in Brazil, the average income gap between Whites and Non-

Whites is around 35% (França and Portella, 2023). In line with the previous sections, this gap in earnings can also be partly explained by differential levels of human capital accumulation, skill formation and discrimination in the labor market (Bertrand and Mullainathan, 2004; Fryer Jr, 2011). In addition to these factors, there is a growing literature showing how public institutions and location characteristics during childhood are relevant to racial inequality. In this section, we review recent findings for the US on how differential upward mobility across races can be explained by neighborhood conditions and state institutions, from the persistence of slavery policies to current police violence.

The history of racial disparities in economic outcomes in the US territory date back to the slave trade in 17th century, prior the country's independence in 1776. Slavery remained legal in some states until the end of the Civil War (1861-1865), but extremely restrictive policies on blacks' rights were kept in place for another hundred years. In a manuscript forthcoming in the Quarterly Journal of Economics, Althoff and Reichardt (2022) study the extent to which current economic outcomes of black citizens are shaped by this history of racist institutions.

Combining individual-level information from census data between 1850 and 1940 with current data from one of the US credit bureaus, the authors exploit the differential enslavement periods to show that, still in 2023, descendants from black families enslaved until the end of Civil War have lower income and wealth than the ones descending from families who were freed before the start of the war. Moreover, they find that the persistence operated through continued state oppression after slavery was abolished under policies known as *Jim Crow* institutions, which disenfranchised and segregated blacks from public services including education. In a spatial regression discontinuity design, the authors show that education attainment and literacy rates among the black population were lower along the border of states with stricter *Jim Crow* rules over 70 years after the end of slavery. Even though their main results compare outcomes within black families, they also show that the gap for whites with

very little physical or human capital closes much faster in this period. Their findings point to the central role of state institutions in undermining the achievement of black families and thus increasing racial inequality.

Using more recent Census data from 1989 to 2015, Chetty et al. (2020) estimate comprehensive racial intergenerational gaps in the US and show that upward mobility still currently varies significantly across races. Whilst Hispanics and Whites have similar intergenerational mobility rates, Asian children have greater chance of ascending in the income distribution and both Blacks and American Indians have their mobility curves shifted down in comparison to Whites across the entire parental income distribution.

Focusing on white and black men, the authors show that controlling for the census tract they grew up in reduces, but does not close, the intergenerational gap. On the contrary, it remains large: on average Whites are able to move 7 percentiles further in the income distribution than Blacks. They highlight that better outcomes for Blacks and thus a smaller racial gap in poor neighborhoods are associated with two key factors: i) the degree of racial bias among whites and ii) the fraction of fathers present in low-income black families. These results add to the literature on the relevance of neighborhood quality on short and long term outcomes, which have mostly focused on partial equilibrium effects of moving to better neighborhoods.

Complementing these findings, Derenoncourt (2022) uses the Great Migration between 1940 and 1970 in the US as a natural experiment to study general equilibrium effects of shocks in the racial composition of counties on the relative mobility of black families. In this period, around four million black families left southern American cities, where they faced several limitations to exert their basic rights due to their race, to cities in the North and West of the country, where these restrictions were less extreme.

The paper documents that even though they moved to better areas, black children fared worse relative to the ones in the south, while income mobility for whites did not change. The author challenges the view that this lower upward mobility in destination areas is simply related to selection of the families who migrated. Rather, she shows that the one of the channels for this increase in the racial gap is related to the response of white families and local governments. While the former responded with racial segregation attitudes such as higher enrollment in private schools for their children, governments increased public spending in policing and strengthened incarceration policies which are disproportionately detrimental to young black men.

Albeit less explicitly, some of these state actions still resonate to this day. One of the current sources of racial tensions in the US is the differential exposure to police violence. The chance of a Black man being killed by the police over his life course is estimated to be 2.5 higher than of a White man (Edwards et al., 2019). Besides its direct costs, police brutality may also have indirect and heterogeneous effects depending on race. Indeed, Ang (2021) uses granular data on police incidents in Los Angeles County to quantify the indirect effect on educational outcomes.

Using a different-in-differences design, he shows that students that lived within 0.5 mile from a police killing increase their school absenteeism, drop their GPA up to five semesters ahead and decrease in graduation rate of 1.3 percentage points relative to students that live from 0.5 to 3 miles from such an incident. These results seem to work through a mental health mechanism with treated students experiencing a 15% increase in emotional disturbance. Importantly, he finds that the results are entirely driven by black/Hispanic students and black/Hispanic deaths, with muted effects for whites. Moreover, the results are stronger when the murdered individual was not carried a gun and posed fewer risks to the police officers. Overall, these results point to yet another mechanism through which state institutions may increase inequality: police violence harms students disproportionately with disadvantaged groups bearing the cost in terms of educational outcomes and psychological trauma.

4 Conclusion

Inequality has been one of the most pressing social issues of the modern day. We summarized the traditional and recent advances in estimating income inequality with emphasis on measures of intergenerational mobility across the income distribution. We show that upward mobility is lower in developing countries and overall inequality varies greatly by skill formation, educational attainment, gender, and race. We also argue that labor market conditions are central to income inequality with recent work having highlighted the importance of automation and deunionization to the recent trends in wage structure in the US.

Additionally, the roots of unequal outcomes for specific groups go back to historical institutions and social norms that prevented women and ethnic groups from exercising basic rights such as voting and acquiring quality education. Even though such episodes and norms are persistent, we argue that there is room for policy to further shrink income gaps both in terms of institutional reforms and public investment. One key channel is through human capital formation: recent evidence covering 150 countries shows that education explains around 70% of income growth in poor countries in the past decades.

Early-life policy interventions are particularly effective in breaking the intergenerational transmission of poverty, with parental investment playing a crucial role in long-term outcomes. Similarly, early-life policy interventions addressing entrenched social biases based on gender could yield profound impacts, including reshaping these norms across generations. Thus, in conclusion, policies aimed at dismantling biases are not only crucial for promoting social justice but also offer hope for reducing disparities in the labor market sustainably. By tackling these complex issues head-on, we can make significant progress in minimizing inequality across multiple domains.

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