Inequality and Socioeconomic Outcomes

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November 7, 2022

Abstract

We investigate whether inequality (in income and wealth distribution) is broadly associated with adverse socioeconomic outcomes across countries. There are few studies that investigate the association between wealth inequality and socioeconomic outcomes, likely due to data limitations. On the other hand, a substantial body of work suggests that income inequality tends to foster undesirable outcomes. This paper evaluates the relationship between measures of wealth and income inequality and a number of socioeconomic outcomes across countries in a unified estimation framework that circumvents publication bias. While we find that countries with high levels of wealth inequality tend to exhibit lower measures of institutional quality, our results cast doubt on the view that high levels of inequality broadly correlate with negative socioeconomic outcomes. These findings are limited to aggregate measures of inequality that preclude the study of inequality between politically salient groups.

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1 Introduction

Since the early 1980s, economic inequality within countries has steadily risen. In the United States, the wealth share of the richest 1% of the population increased from 7% in 1978 to 18% in 2018 (Saez and Zucman, 2020). Researchers have sought to understand the extent, causes, and effects of rising inequality.[1] An emerging consensus considers high levels of inequality inimical to the attainment of desirable socioeconomic outcomes. Descriptive accounts of the growth of inequality are often accompanied by proposed remedies for its reduction (see, for example, Piketty (2014)).

In a recent report entitled *In It Together: Why Less Inequality Benefits All*, the OECD concludes that "[...] beyond its serious impact on social cohesion, high and often growing inequality raises major *economic* concerns [...] for the wider health and sustainability of our economies" (emphasis in original) (OECD, 2015). In a widely-read book, Wilkinson and Pickett (2010) argue that higher income inequality is associated with a range of indicators of socioeconomic strife.[2] Further research underlines the potential adverse impacts of inequality on public health and the well-being of individuals (Wilkinson and Pickett, 2019).

Are high levels of inequality broadly associated with negative socioeconomic outcomes? This question was explored in Ali et al. (2021) with respect to measures of wealth inequality. The findings in that study complicate the view that economic inequality is broadly associated with negative socioeconomic outcomes. This paper evaluates the relationship between measures of both income as well as wealth inequality and socioeconomic outcomes. We present the earlier results on wealth inequality alongside a new set of results on income inequality, allowing for an assessment of whether these two measures exhibit different patterns of association with the same set of socioeconomic outcomes.

At issue is whether inequality ought to be addressed per se, or whether public policies should, instead, focus on other targets. A broad negative relationship between inequality and socioeconomic outcomes would suggest that inequality itself might be an underlying source of adverse outcomes. On the other hand, significant inequality may coexist alongside robust socioeconomic outcomes.[3] The question of whether there is a broadly negative relationship

[1] See, for example, Alvaredo et al. (2013), Corak (2013), and Piketty (2015).

[2] The authors argue that countries with higher levels of income inequality exhibit lower trust, gender parity, educational outcomes, aspirations, social mobility, and life expectancy. They also exhibit higher incidence of mental illness, drug use, homicides, infant mortality, teenage pregnancy, incarceration, and obesity.

[3] According to the latest OECD data, the top 1% held 27% of the wealth in the Netherlands, the second highest rate among OECD countries after the United States (37%). Nevertheless, socioeconomic indicators in that country tend to be relatively high: the Netherlands is among the 20 countries in the world with the

between inequality and socioeconomic outcomes across countries is particularly important because of the scarcity of resources that can be deployed through the policy process. There is a trade-off between pursuing policies that seek to address inequality directly (through a child trust fund account program, for example (Hamilton and Darity, 2017)) and more traditional policies that target outcomes such as education, housing, employment, and health.

Cross-country analyses yield meaningful results when the variables under study are sufficiently standardized, and when differences across countries that may confound the results are appropriately accounted for.[4] Since countries experience different histories and policy regimes, credibly attributing variation in outcome variables to a candidate explanatory variable is difficult. To account for country-specific factors that may affect the relationships between the variables of interest, we include country fixed-effects (as well as year fixed-effects) in all the models we report. The relationships explored here, and the claims we make, are not causal. We simply seek to provide an overview of how (if at all) measures of socioeconomic outcomes vary with measures of inequality, using a unified framework.

While there are a number of studies that investigate the relationship between income inequality and socioeconomic outcomes, research that considers the association between socioeconomic outcomes and wealth inequality is relatively limited. Some of that work was reviewed in Ali et al. (2021). Existing cross-national studies of income inequality tend to study its relationship with a single outcome.[5] In contrast to the existing work, this paper presents results on the association between measures of inequality and a variety of outcomes.

Figure 6 depicts the relationship between the Gini index of wealth inequality (vertical axis) and the Gini index of inequality in disposable income. It is clear that although there is some concordance ($\beta = 0.272$), these two measures differ significantly from one another ($R^2 = 0.074$). Countries with high levels of income inequality may not exhibit high levels of wealth inequality and vice versa.

Presenting the results of a large number of regression models that estimate the relationship between measures of inequality, on the one hand, and measures of socioeconomic outcomes, on the other, provides context that is missing when only individual results are

lowest homicide rate (0.8 per 100,000 people), has the 24th highest life expectancy at birth in the world (81.5 years), and is among the 30 countries with the lowest neonatal mortality rate (2.3 per 1,000 live births). Wealth inequality per se may not be an appropriate target for public policy.

[4]Many of the socioeconomic indicators we study are obtained from the World Bank's World Development Indicators (WDI) database. One advantage of using WDI data is that measures are standardized in a manner that makes them comparable across countries.

[5]For example, education (Thorson and Gearhart, 2018; Siddiqi et al., 2012) and health (Pickett and Wilkinson, 2015; Rözer and Volker, 2016).

reported. Considering the existing work on this topic, it is difficult to assess the extent to which results were reported only when they were deemed publishable or interesting (Andrews and Kasy, 2019). In contrast to existing work, we also report those hypotheses that did not achieve significance at conventional levels. Taken together, this approach allows for a comprehensive look at the relationships between inequality and socioeconomic outcomes, and an evaluation of whether there is a tendency for countries with high levels of inequality to exhibit worse socioeconomic outcomes. The findings of this study contribute towards our understanding of the conditions that coexist with high levels of income and wealth inequality, and expands the information set available to policy-makers as they consider the optimal use of finite public resources.

We find that while some socioeconomic outcomes do correlate negatively with income and wealth inequality, others - such as some measures of educational attainment - exhibit a positive relationship with both. In a sizeable number of cases, we find no significant relationships at all. We also find that patterns of association differ across the two measures of inequality (wealth and income): indicators of generosity and coverage of social assistance programs correlate negatively with income inequality, while wealth inequality is negatively associated with institutional quality. Overall, our findings suggest that measures of aggregate inequality exhibit a variety of relationships with indicators of socioeconomic outcomes. Data and measurement limitations constrain the analyses that may be conducted. For example, while it is hypothesized that inequality along salient political cleavages (such as race, ethnicity, religion, or language, among others) may have a distinct (and negative) effect on socioeconomic outcomes, the absence of systematic data on dis-aggregated wealth and income inequality precludes this investigation.

2 Related Literature

The relationships between inequality and socioeconomic outcomes have attracted significant scholarly interest. Several theoretical frameworks seek to explain how inequality may impact health and employment, among other outcomes. For example, one influential set of frameworks in political science locates cross-national differences in income inequality as intimately related to institutions and their characteristics (Esping-Andersen, 1990; Pontusson, 2005). These frameworks provide a basis for understanding inequality as a determinant of socioeconomic outcomes by connecting inequality to institutional outcomes, such as spending on social programs, that may in turn affect poverty rates, educational outcomes, and

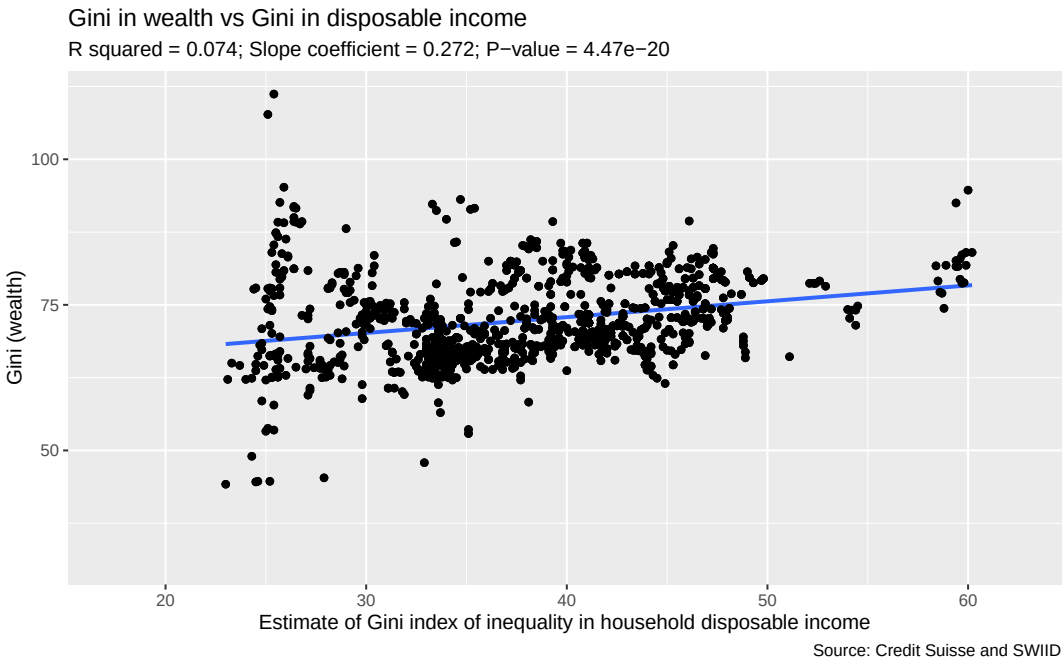

Figure 1

other social outcomes. Other contributions suggest that politics may mediate relationships between inequality and socioeconomic outcomes. For instance, Acemoglu (2006) proposes that economic inequality may lead to political capture, which undermines the pursuit of Pareto-improving public policies as special interests succeed in averting changes that may threaten their prosperity. From a psychological standpoint, further contributions suggest that income inequality may adversely impact the collective well-being of societies by increasing status competition and status insecurity (Wilkinson and Pickett, 2019). These theories indicate that income inequality may affect society for reasons that extend beyond its distributional implications, such as by shrinking social spending, undermining democratic politics, or harming public health.

With rare exceptions, existing theoretical frameworks have focused on clarifying the determinants and implications of cross-national differences in income inequality, rather than wealth inequality (Pfeffer and Waitkus, 2021).[6] Yet there remain important reasons to believe that wealth inequality may also impact socioeconomic outcomes, including in ways distinct from income inequality. First, wealth itself has properties that may uniquely position it to impact social outcomes. While income measures the flow of financial resources available

[6]For a review of why much social science research has focused on income rather than wealth, see Skopek, Buchholz, and Blossfeld (2014).

to a person or household at a particular instance, wealth is often measured as an individual's or household's cumulative assets minus their debts (Killewald, Pfeffer, and Schachner, 2017). Given its cumulative properties, wealth often plays a critical role in people's lives. Among other key functions, wealth may stabilize or smooth consumption during periods of unexpected income losses, and it may provide a source of intergenerational transfers within families (J. B. Davies et al., 2008; Skopek, Buchholz, and Blossfeld, 2014). Further, a large body of social science research has linked wealth to political influence, observing that wealthy elites disproportionately sway political outcomes (Gilens and Page, 2014; Bertrand et al., 2018). Wealth distributions may impact social outcomes in ways that differ from the impacts of income inequality alone.

Second, if it is high levels of inequality that generate adverse social outcomes, wealth is frequently distributed more unevenly than income. Household wealth is typically distributed less evenly than income in OECD countries, and net worth inequality exceeds net income inequality in many European countries (OECD, 2015; Skopek, Buchholz, and Blossfeld, 2014). In the United States, the lower half of the wealth distribution has next to zero net wealth (Kennickell, 2012). In this context, inequality and poverty statistics calculated solely based on income may mask the extent of asset poverty, as many households that have positive income hold little or negative wealth (Caner and Wolff, 2004). Indeed, even in countries widely considered highly egalitarian, such as Sweden, low income inequality may coincide with high wealth inequality (Skopek, Buchholz, and Blossfeld, 2014). To fully understand the relationship between inequality and socioeconomic outcomes, it is crucial to examine the impacts of wealth inequality.

To provide a comprehensive overview of *why* income and wealth inequality may impact socioeconomic outcomes is beyond the scope of this paper. Instead, we focus on analyzing the extent and magnitude of the relationships between inequality and socioeconomic outcomes. Our work builds on an ample body of prior research that examines these relationships by employing a standardized framework to examine associations between both income and wealth inequality and a number of outcomes. Below, we provide a brief review of previous empirical research on the relationships between (1) income inequality and (2) wealth inequality and health, educational, civic, and related socioeconomic outcomes.

2.1 Income Inequality

The literature on the relationships between income inequality and socioeconomic outcomes is extensive, and we cannot summarize all of it here. However, a brief review of recent

research indicates that income inequality adversely affects socioeconomic outcomes including education, crime, civil liberties, health, and social trust, with some notable exceptions.

The impacts of income inequality on health have been particularly well-investigated, with near-unanimous consent among researchers that income inequality adversely impacts a wide array of health outcomes. In a recent review of the literature, Pickett and Wilkinson (2015) conclude that the present body of evidence on the impacts of income inequality on adverse health outcomes satisfies epidemiological criteria for causality. Among health outcomes, only suicide appeared to be more common in more equal societies than in unequal ones. The authors argue that income inequality impacts health via psychosocial factors, such by promoting status comparisons between individuals. In contrast, other research suggests that the effects of inequality on material resources, such as health infrastructure, are most important in explaining its health impacts.[7] For example, Curran and Mahutga (2018) observe that there exists a "global gradient" in the relationship between income inequality and health, where income inequality negatively impacts health in countries with less economic development but typically has little impact on health in richer countries. The authors argue that this result suggests that material, rather than psychosocial, factors are most important explaining the inequality-health relationship.

Two recent studies provide potential alternative explanations for understanding the respective presence or absence of associations between income inequality and health. Ramraj et al. (2016) observe that socioeconomic factors, such as income and employment, cannot explain the persistent health disadvantages faced by members of particular racial groups in the United States and Canada. Instead, they hypothesize that highly contextual factors, such as the systematic economic disenfranchisement faced by Black U.S. residents, may inform relationships between socioeconomic variables and differences in health outcomes across countries. If other intra-national, contextual variables explain the presence or absence of associations between inequality and health within countries, cross-national variation in income inequality may not explain cross-national disparities in health. Rözer and Volker (2016) propose that the experience of inequality during one's formative years, particularly one's adolescence, may have particularly potent impacts on later health. They observe that inequality is most harmful to individuals between the ages of 16 and 25 and that experiencing high levels of income inequality during adolescence indeed lowers one's later social trust and later self-rated health, though these effects fade after age 36. These results suggest that the

[7] These competing paradigms for explaining the impacts of inequality on health may be described as "social integrationist" versus "neo-materialist" theories, respectively (Curran and Mahutga, 2018).

impacts of inequality on health may be highly contextual, varying by generation.

Further research has located relationships between income inequality and undesirable educational outcomes, such as poor student performance. In a cross-national analysis of education outcomes in 24 countries, Siddiqi et al. (2012) observe a strong, inverse relationship between income inequality and adolescent reading literacy. The authors observe no relationship between either education spending or GDP and literacy, suggesting that income inequality itself may have a comparatively potent impact on reading achievement. Likewise, Thorson and Gearhart (2018) observe a large, negative effect of income inequality on student academic achievement, particularly in math, reading and science. One study suggests that schools are unable to systematically bridge achievement gaps between high and low socioeconomic status students regardless of the level of inequality in a country (Chudgar and Luschei, 2009). However, the authors find that schools take on more importance in informing student performance outcomes relative to family context in more unequal countries.

The health and educational impacts of income inequality may rest in part on relationships between inequality and economic development and social spending. For example, using agricultural endowments as an instrument for income inequality, Easterly (2007) finds that inequality predicts development (measured as per capita income). Inequality reduces development both by decreasing institutional quality and reducing secondary school enrollment. Income inequality is also associated with declines in social spending, which may adversely impact education and health. In a recent book on the impact of income inequality on social programs, Pontusson (2005) distinguishes between Nordic and continental European "social market economies," which tend to feature lower levels of income inequality, and Anglo-American "liberal market economies" (LMEs), which typically have greater inequality. The more-equal SMEs typically spend a significantly greater proportion of their GDPs on social programs; this greater spending coincides with substantially reduced poverty, a classic social determinant of health (Pontusson, 2005, p. 145, 171, Council on Community Pediatrics, 2016).

The relationships between income inequality and crime are less straightforward. In a meta-analysis of the factors associated with homicide, Nivette (2011) concludes that both income inequality ratios and income inequality indices are strong predictors of homicide, while economic development does not mitigate homicide. In contrast, Pare and Felson (2014) argue that when controlling for poverty, income inequality does not predict cross-national variation in criminal acts, including both homicide and assault. Other research locates associations between income inequality and *fear* of crime in European countries (Vauclair

and Bratanova, 2017). This relationship may be the product of racist fears: ethnic majority members report greater fear of crime in unequal societies, while ethnic minority members do not, a result consistent with other research that suggests that unequal societies are more prejudiced (Vauclair and Bratanova, 2017; Andersen and Fetner, 2008; Vauclair, Marques, et al., 2015).

Research on the impacts of income inequality and social trust and other civic outcomes is likewise mixed. For example, Barone and Mocetti (2016) examine the impacts of income inequality on trust across countries, observing that income inequality has a negative effect on trust in wealthier countries, but no relation to trust in poorer countries. Leveraging country-level exposure to technological change as an instrument for inequality, the authors observe that a 1 percentage point increase in the Gini index corresponds to a 2 percentage point decline in the share of individuals who believe that most people can be trusted. In contrast, other research suggests that although social trust may promote welfare state policies that reduce inequality, income inequality itself does not appear to have a causal impact on trust (Bergh and Bjørnskov, 2014). Some additional research has examined the impact of income inequality on civil liberties and civic participation. Cole (2018) observes that countries with greater income inequality typically have greater class-based inequality in civil liberties and political power. Holm (2019) observes that income inequality has a significant, but mixed, effect on civic participation at the local level in United States cities.

2.2 Wealth Inequality

The body of literature on wealth inequality is thinner than that on income inequality. However, existing work typically locates mixed or negative associations between wealth inequality and measures of health, environmental quality, education, and gender equality.

First, three studies present conflicting results regarding the relationship between wealth inequality and health. Nowatzki (2012) analyzes the relationship between a Gini index of wealth inequality and health in 14 high-income countries in the year 2000. The author observes that wealth inequality is significantly associated with both higher infant mortality and lower life expectancy, relationships that persist when controlling for wealth per capita and state social, pension, and health spending, among other variables. However, associations between wealth inequality and health are attenuated when controlling for pension generosity and votes for left political parties. Pension generosity and left votes may impact both wealth inequality and public health, confounding the relationship between health and wealth.

Omer et al. (2014) observe that Sudanese states with more unequal asset distributions

have poorer population health outcomes. The authors examine correlations between Gini indices of wealth inequality for states in 2010 and infant mortality, children's growth stunting, food consumption, life expectancy, teenage birth rates, and children's vaccination coverage. For each of these health measures, states with higher wealth inequality have worse health outcomes. States with a history of armed conflict also typically have both worse health outcomes than other states and high Gini coefficients. The authors suggest that inequality may reinforce conflicts, harming the health of individuals who live in conflict zones, and erode social capital, leading to increases in teenage birth rates and declines in vaccine coverage.

Inequality may not always negatively impact health. Dierckens et al. (2020) assess the relationship between wealth inequality and adolescent mental well-being in 17 European countries between 2009 and 2018. The authors develop a new indicator of wealth inequality based on simulated household balance sheets for households at each quintile of the wealth distribution, calculating wealth inequality as the percentage of wealth held by the top two quintiles. Using this indicator, they find that higher wealth inequality is associated with *improved* well-being: adolescents living in countries with higher wealth inequality had fewer average psychological and somatic symptoms. In contrast, higher income inequality was associated with more severe symptoms. Among other potential explanations for their results, the authors suggest that income inequalities may be more visible than wealth inequalities to adolescents.

Research on the relationship between wealth inequality and environmental outcomes has likewise been mixed. In an analysis of inequality in 10 Latin American countries, Ceddia (2019) locates a negative relationship between wealth inequality and environmental outcomes. Examining relationships between wealth inequality and agricultural expansion, a prominent cause of deforestation, the author observes that countries with a higher Gini index of wealth inequality had larger agricultural land areas in 2010. However, income inequality had a slightly larger effect on agricultural expansion than wealth inequality. The author suggests that income and wealth inequality may harm the quality of political institutions, enabling elites to obtain greater access to agricultural land.

Three additional cross-national studies have examined the impact of wealth inequality on carbon dioxide emissions. In a panel of five emerging economies—Brazil, Russia, India, China, and South Africa—Aye (2020) locates a positive relationship between top decile wealth shares and carbon emissions during the 2000-2014 period. GDP per capita and population were also positively associated with carbon emissions, while financial development (measured as domestic credit to the private sector) was negatively associated with emissions.

Knight, Schor, and Jorgenson (2017) also analyze the relationship between top decile wealth shares and and carbon dioxide emissions, though they examine trends within 26 high-income countries between 2000 and 2010. The authors observe a consistent, positive relationship between wealth inequality and trade-adjusted carbon emissions, which include emissions generated from foreign production processes to produce imports. However, Mader (2018) contests Knight, Schor, and Jorgenson (2017)'s findings, observing that the relationship between wealth inequality and emissions dissolves or declines substantially when one relaxes the restrictions on the countries and years included in analysis or modifies the measure of wealth inequality employed. Future research on associations between wealth inequality and carbon emissions must attend to national context and consider the merits of competing methodologies for measuring wealth inequality.

Additional cross-national research has examined relationships between wealth inequality and gender inequality. In a study of gender inequality in Egypt, Jordan and Tunisia, AlAzzawi and Hlasny (2019) demonstrate that regional asset inequality has mixed effects on female labor force participation. The authors estimate a probit model of the impact of relative asset inequality on women's labor force participation for six case years between 1998 and 2016, with results that vary depending on the definition of labor force participation. If a woman's labor force participation status refers to whether she recently produced goods or services for market exchange, it is found to be generally negatively associated with wealth inequality. However, if labor force participation also includes activities related to producing goods for a woman's personal use (i.e. subsistence), it is found to be significantly positively associated with inequality. The authors suggest that higher wealth inequality may discourage some poorer women from participating in formal labor markets if they believe that their labor, education and experience will be less likely to be rewarded fairly given their position along the distribution. In this situation, some women might instead engage more frequently in home production.

Two studies suggest that living in areas with relatively high wealth inequality negatively impacts children's educational outcomes. In an analysis of data from the 2010 Mexican Census, Esposito and Villaseñor (2018) observe that children who live in Mexican municipalities with greater wealth inequality are less likely to enroll in school. Controlling for the number of schools per child in each municipality, the authors find that an index of inequality in asset wealth across municipalities negatively predicts school enrollment for children ages 6 to 18. The authors suggest that wealth inequality might inhibit the ability of some parents to afford education for their children, or it might reduce trust in society, a variable associated with

educational attainment (Dincer, 2011).

McKenzie (2005) likewise leverages 1998 Mexican survey data to assess the relationship between wealth inequality within Mexican states and the probability that teenagers ages 14-18 have not dropped out of school. Controlling for household income and demographics, the author observes that a relative asset inequality index is negatively related to school attendance for boys, but not for girls. These results may suggest that inequality impacts incentives to undertake schooling, thus affecting the educational attainment of men, who have high labor force participation rates, but not of women, who participate less frequently in the labor market. These results conflict with our own findings on the relationship between wealth inequality and school enrollment, which instead suggest that inequality does not negatively impact enrollment (see section 5.2). Further research can clarify in greater detail the relationship between wealth inequality and schooling.

Finally, some research has identified a relationship between inequality in particular asset holdings and social outcomes. Inequality in housing wealth, in particular, may have potent social and psychological implications. For example, Marshall et al. (2014) find that residents of neighborhoods in England with more housing wealth inequality have lower levels of depression. Likewise, Cheng et al. (2020) observe that provincial housing wealth inequality in China negatively impacts happiness. Understanding the implications of housing wealth inequality may be important to understanding the relationship between net or overall wealth inequality and socioeconomic outcomes. Indeed, one recent analysis finds that the distribution of housing equity has been the main contributor to cross-national variation in total wealth inequality in recent years (Pfeffer and Waitkus, 2021). Further research can elucidate the extent to which portfolio composition—including, but not limited to, the distribution of housing equity—impacts the relationship between wealth inequality and social outcomes.

3 Data

3.1 Income inequality

Data on income inequality at the country-year level is obtained from the Standardized World Income Inequality Database (SWIID, Solt (2019)) and the World Development Indicators database (WDI, Development Data Group (2019)). SWIID includes measures of the Gini index of market incomes and disposable incomes across at least 110 countries between 2000 and 2015. The sample drops significantly beyond 2015, with 84 countries in 2016, 43 in 2017 and 3 in 2018. The WDI data includes the shares of the highest earning 10% and 20%.

3.2 Wealth inequality

Data on wealth inequality at the country-year level is obtained from the Credit Suisse Global Wealth Report and Databook (Shorrocks, J. Davies, and Lluberas, 2018). Wealth inequality measures reported in these data include the Gini index and the share of the top 1%, 5%, and 10%. While the Databook is the most comprehensive source of standardized wealth inequality data we found, there are important limitations to note. The availability of granular wealth distribution data varies significantly across countries. Consequently, the raw materials available to the authors of the Databook necessitate an approach that is far from uniform across the countries included in the database. In some countries with detailed survey data on the wealth holdings of residents, there is little need for approximation. In others, with limited data on the distribution of wealth, a significant amount of out-of-sample extrapolation is necessary to construct the measures of interest. Furthermore, countries differ in the units with respect to which wealth distribution is measured. These units include the individual, the household and the family. We use these data without further adjustment, while cognizant of their limitations.

Data on top wealth shares are available after 2010, for between 21 (in 2010) and 42 (in 2019) countries. Gini index of wealth data are also available after 2010 for between 164 and 176 countries in each year.

Ali et al. (2021) introduce a new measure of wealth inequality, R, to extend the sample beyond the years for which the Gini and wealth shares are available. This measure leverages the distance between the median and the mean wealth to construct an index between 0.5 and 1, that is increasing in the extent of inequality. Mean and median wealth are available for more years (2000-2019) and for a significant number of countries (173+).

$$R = \frac{Mean}{Mean + Median}$$

Figures 4 and 5 show that a quadratic model of R is highly correlated with the Gini index of wealth for the sample period and units for which both measures are available.

3.3 Socioeconomic outcomes

Data on socioeconomic outcomes are obtained from the World Bank's World Development Indicators (WDI) database (Development Data Group, 2019). Outcome variables are coded such that higher values indicate positive outcomes. For example, a measure of mortality is inverted so that higher values of the new measure indicate lower mortality. Outcomes

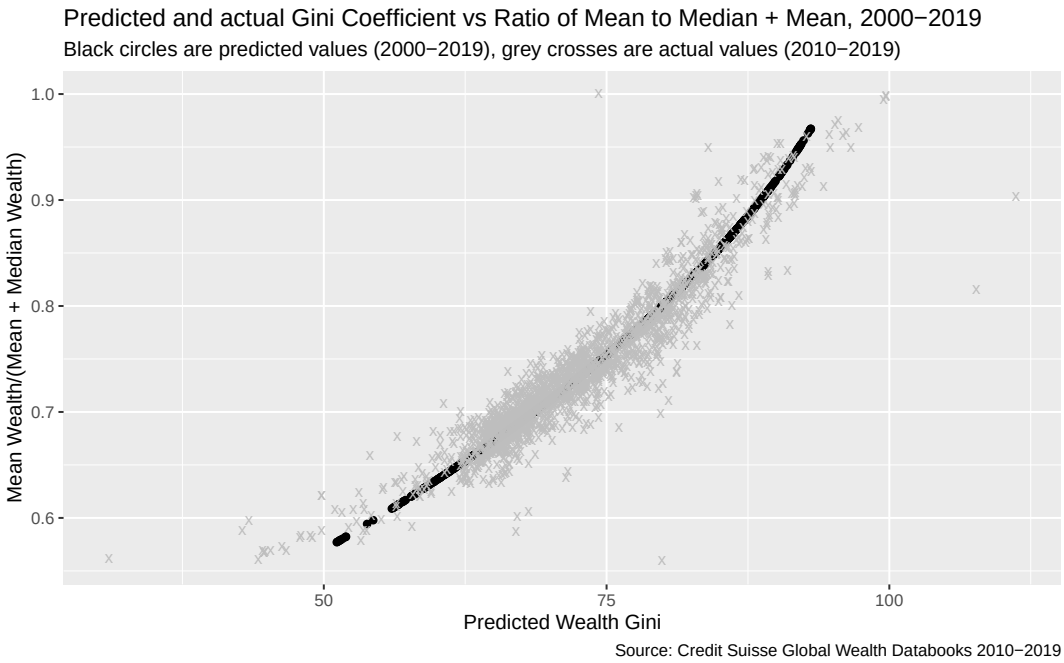

Figure 2

are categorized into the following groups to facilitate an assessment of whether clusters of variables that measure similar phenomena exhibit a consistent relationship with measures of inequality: labor market, social assistance programs, institutional quality, educational outcomes, health outcomes, and gender parity.

4 Methods

The analysis involves estimating a large number of models to investigate whether measures of income and wealth inequality are associated with socioeconomic outcomes in a systematic manner. In each model, the dependent variable is a candidate socioeconomic outcome, while the main independent variable is a measure of inequality. Observations are at the country-year level. We include control variables to account for factors that may be correlated with both outcomes of interest and inequality, thereby mitigating omitted variable bias.[8] Every model includes country and year fixed effects, population size and GDP per capita. The

[8]See Section 8.2.1, Bias Caused by Omission of Relevant Variables in Greene (2003).

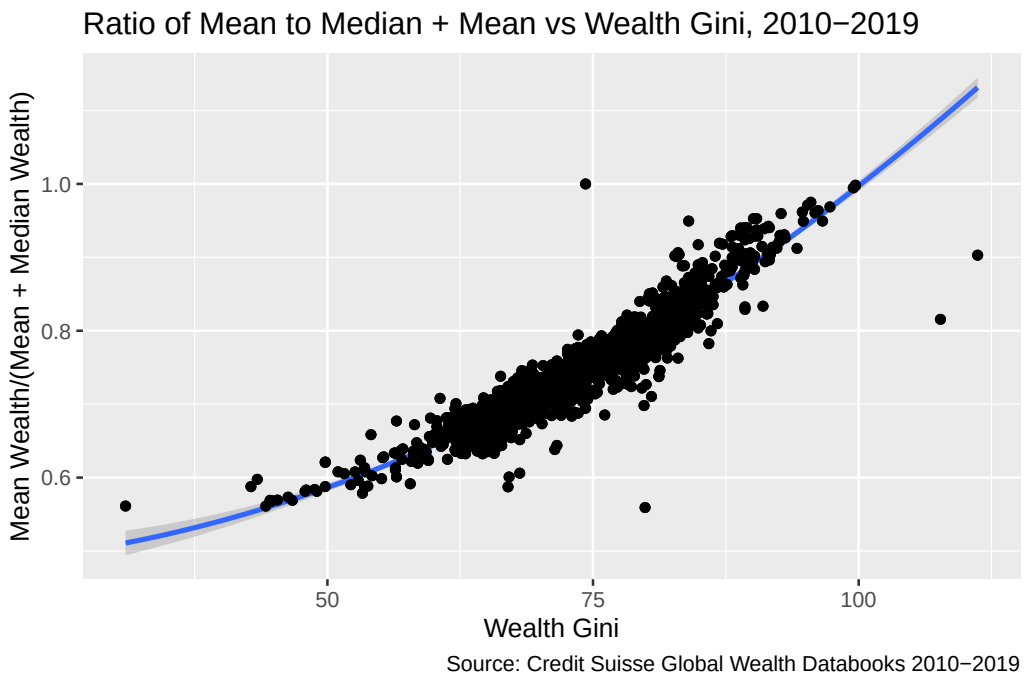

Figure 3

main regression specification is defined in Equation 1:

$$Y_{tc} = \alpha + \beta Ineq_{tc} + \sum_{t} \theta_t 1(t) + \sum_{c} \theta_c 1(c) + \gamma_1 GDP_{tc} + \gamma_2 Pop_{tc} + \epsilon_{tc} \tag{1}$$

Dependent variable Y_{tc} is a socioeconomic outcome for country c in year t. Independent variable $Ineq_{ct}$ is the measure of inequality under study for country c in year t. β is the coefficient of interest, which measures the (linear) relationship between inequality and the outcome under study. Country and year fixed effects are included with associated coefficients, θ_c and θ_t, respectively. Population and GDP per capita control for a country's size and income. Finally, ϵ_{tc} is a country-year specific error term.

5 Results

Results are summarized in appendix tables 1 and 2. Table 1 presents the relationships between socioeconomic outcomes (rows) and measures of income inequality (columns). Table 2 presents the relationships for wealth inequality. In both tables, an empty cell indicates that there was insufficient data to estimate the model. When a model is estimated, the

tables summarize the sign and significance of the regression coefficient on the measure of inequality. A plus sign + (minus sign −) indicates a positive (negative) relationship that is significant at conventional levels, with one, two and three stars corresponding to 10%, 5% and 1%, respectively.

5.1 Income inequality

The analysis includes four measures of income inequality: income share of the top 20%, income share of the top 10%, Gini index of disposable income, and Gini index of market income. Across these measures, we do not find a uniform association with labor market outcomes. Indeed, the modal result cannot reject the null hypothesis of no (linear) relationship between the four measures of inequality and the six indicators of labor market outcomes. The only results that are significant pertain to the relationship between income inequality and unemployment, labor force % with basic education, and labor force % with advanced education. Indicators were recorded such that a positive association with inequality implies that inequality is a normative good. With this in mind, inequality is positively associated with the labor force % with advanced education, and negatively associated with the labor force % with basic education. Inequality is also negatively associated with unemployment such that high levels of income inequality coexist with high levels of unemployment.

The overall relationship is different across the set of outcomes we group under the social assistance programs category. This category includes four types of indicators: extent of poverty reduction through social assistance, social safety net coverage, size of per capita transfers, and the coverage of social protection and labor market programs. The majority exhibit negative relationships with income inequality, a few have no significant relationship, and only one has a positive relationship. While it is arguable that countries with less robust social assistance programs fail to stem income inequality (instead of the other way around), the fact that the associations in this category exist with measures of both pre- and post-tax income suggests otherwise. Nevertheless, establishing a causal link between inequality and socioeconomic indicators is beyond the scope of this paper.

Across indicators of institutional quality, the modal result cannot reject the null hypothesis that no relationship exists with income inequality. Top shares have no relationship with all but three indicators: property rights and rule-based governance (positive), regulatory environment (positive), and constitutional gender non-discrimination (negative). Turning to the Gini indices of income inequality, we find few significant relationships with indicators of institutional quality. Among those, slightly more exhibit positive associations than

negative. The results for the quality of the regulatory environment and property rights and rule-based governance agree with those for the top income shares. Paradoxically, an institutional indicator of social protection is positively associated with both Gini indices.

The association between income inequality and educational enrollment and completion depends on the stage of schooling. Inequality is positively correlated with primary school enrollment, but negatively correlated with tertiary enrollment. Moreover, we find that it is negatively associated with completion of early stages of schooling (primary school and lower secondary), yet positively associated with completion of post-secondary schooling. One take-away from these results is that future work on the association between inequality and educational outcomes must contend with how this relationship differs by stage of schooling as well as by the measure used (enrollment vs. completion).

With respect to the health outcomes we study, neonatal mortality has a negative association (at 1%) with all measures, while life expectancy, maternal health and homicide are uncorrelated with any measure of income inequality. We also find a negative association between income inequality and government expenditure on health, as well as indicators of out of pocket health expenditures (where this indicates that higher income inequality is associated with more out of pocket health expenditures, an outcome that is worse from a normative perspective).

Finally, we find weak evidence that income inequality is positively associated with indicators of gender parity in schooling and the labor market.

Table 1: Summary of income inequality results

Indicators	Income Share - Top 20%	Income Share - Top 10%	Equivalized HH Disposable Income Gini	Equivalized HH Market Income Gini
LABOR				
Labor Participation Rate (%)	.	.	.	.
Unemployment Rate (%)	-***	-***	.	.
Labor Force % w/ Basic Education	.	.	-**	-***
Labor Force % w/ Advanced Education	+**	+**	.	.
Sustainable Economic Opportunity	.	.	.	.
Unemployment Benefit Coverage (% of Beneficiary HH Welfare)	.	.	.	.
SOCIAL ASSISTANCE PROGRAMS				
Poverty Gap Red'n from Other Social Asst - Poorest Quintile (%)	-*	-**	.	.
Poverty Headcount Red'n from Other Social Asst - Poorest Quintile (%)	-*	-**	.	.
Population Not Receiving Social Security - Poorest Quintile (%)	-**	-**	-*	.
Population Not Receiving Social Protection (%)	-***	-***	-**	-*
Social Safety Net Coverage (% of Beneficiary HH Welfare)	.	.	.	.
PC Transfer to Poorest Quintile Pre-Tax - Social Protection and Labor	.	.	.	.
PC Transfer Pre-Tax - Social Protection and Labor	.	.	.	.
Social Protection and Labor Benefit Coverage - Poorest Quintile (% of Beneficiary HH Welfare)	.	.	.	.
Social Protection and Labor Benefit Coverage (% of Beneficiary HH Welfare)	.	.	.	.
Social Safety Net Coverage - Poorest Quintile (%)	-***	-***	-**	-*
Social Safety Net Coverage (%)	-***	-***	-***	-***
Poverty Gap Red'n from Social Protection and Labor - Poorest Quintile (%)	-***	-**	-**	-**
Poverty Headcount Red'n from Social Protection and Labor - Poorest Quintile (%)	-**	-**	-*	-*
GINI Red'n from Social Protection and Labor - Poorest Quintile (%)	-*	.	.	.
Coverage of Social Protection and Labor - Poorest Quintile (%)	-**	-**	.	.
Beneficiary Incidence of Social Protection and Labor - Poorest Quintile (%)	.	.	+*	+**
Benefit Incidence of Social Protection and Labor - Poorest Quintile (%)	-**	-**	.	.
PC Transfer to Poorest Quintile - Social Protection and Labor	.	.	.	.
INSTITUTIONAL				
Polity Score (-10-10) (WDI)	.	.	.	.
Institutionalized Democracy Score (0-10) (WDI)	.	.	.	.

Safety and Rule of Law	.	.	.	.
Transparency-Accountability-Corruption (1-6)	.	.	.	.
Policies for Social Inclusion and Equity (1-6)	.	.	.	.
Property Rights and Rule-Based Governance (1-6)	.	+*	+**	.
Public Resource Equity of Use (1-6)	.	.	.	-*
Public Administration Quality (1-6)	.	.	.	.
Building Human Resources (1-6)	.	.	+***	+**
Fiscal Policy (1-6)	.	.	.	-*
Environmental Policy and Institutions (1-6)	.	.	-**	.
Economic Management (1-6)	.	.	.	.
Regulatory Environment (1-6)	+***	+***	+***	+*
Political Stability/Absence of Violence	.	.	+***	+***
Strength of Legal Rights (0-12)	.	.	-***	-*
Constitutional Gender Non-Discrimination (Y/N)	-***	-***	.	.
Legal Gender Non-Discrimation (Y/N)	.	.	.	.
Social Protection (1-6)	.	.	+**	+**
Gender Equality (1-6)	.	.	.	.
EDUCATIONAL				
Tertiary School Enrollment (%)	-*	-*	-***	-*
Secondary School Enrollment (%)	.	.	.	.
Primary School Enrollment (%)	+***	+***	+***	+***
Population 25+ w/Master's or Equiv (%)	.	.	.	.
Population 25+ w/Doctorate or Equiv (%)	.	.	.	.
Population 25+ w/Bachelor's or Equiv (%)	.	.	.	+*
Population 25+ Completed Post-Secondary (%)	+***	+***	+***	+***
Population 25+ Completed Upper-Secondary (%)	.	.	.	-**
Population 25+ Completed Lower-Secondary (%)	-*	-*	-***	-**
Population 25+ Completed Primary (%)	-***	-***	-***	-***
HEALTH				
Maternal Health	.	.	.	.
Gov't Health Exp PC (USD)	.	.	.	.
Out-of-Pocket Health Exp (%)	-***	-***	-***	-***
Neonatal Mortality Rate (per 1K)	-***	-***	-***	-***
Life Expectancy at Birth (Years)	.	.	.	.
Intentional Homicides (per 100K)	.	.	.	.
% Gov't Health Expenditure from Social Security	.	.	+*	+**
GENDER PARITY				
Tertiary School Enrollment (GPI)	.	.	.	-***
Secondary School Enrollment (GPI)	.	.	+**	.
Primary School Enrollment (GPI)	+***	+**	+***	.
Female to Male Labor Force Participation (Ratio)	+**	.	.	+***

5.2 Wealth inequality

Turning to wealth inequality, we assess the relationships between the same set of socioeconomic outcomes and five measures of wealth inequality: the Gini index, the share of the top 1%, 5% and 10%, and the ratio, R, defined above. We find no consistent relationships between these measures and labor market indicators, although labor participation is negatively associated with four of the five measures, while the unemployment rate is positively associated with two. and the labor force % with basic education is negatively associated with two.

In contrast with the results described above for income inequality, outcomes in the social assistance programs category are, for the most part, uncorrelated with wealth inequality. This underscores the finding that measures of wealth and income inequality exhibit distinct patterns of correlation with socioeconomic outcomes.

Indicators of institutional quality, by and large, exhibit negative associations with measures of wealth inequality when there is sufficient data to estimate a model. The few exceptions to this pattern are the indicators for strength of legal rights and constitutional gender non-discrimination. This finding suggests that measures of wealth inequality may capture disparities that accrete over time as a result of longstanding institutional features.

While secondary school enrollment is positively correlated with wealth inequality, we find no relationships across other educational outcomes that are significant for more than two measures of wealth inequality. The modal result is null.

The modal result is also null for health outcomes. The Gini index does exhibit a negative relationship with maternal health (significant at 1%) and weak negative relationships with each of the following outcomes: out of pocket health expenditure (5%), neonatal mortality (10%), and homicides (10%). However, neonatal mortality is also positively correlated with top wealth shares and negatively correlated with R.

We obtain a mixed set of results when we assess the relationship between wealth inequality and indicators of gender parity. There are few significant results, and the most robust among these is a negative association between inequality and gender parity in secondary school enrollment.

Table 2: Summary of wealth inequality results

Indicators	Gini Index of Wealth	Wealth Share - Top 1%	Wealth Share - Top 10%	Wealth Share - Top 5%	R
LABOR					
Labor Participation Rate (%)	.	-**	-*	-*	-***
Unemployment Rate (%)	.	.	+**	+**	.
Labor Force % w/ Basic Education	-*	.	.	.	-***
Labor Force % w/ Advanced Education	.	.	.	.	-**
Sustainable Economic Opportunity	.				+*
Unemployment Benefit Coverage (% of Beneficiary HH Welfare)	+**				.
SOCIAL ASSISTANCE PROGRAMS					
Poverty Gap Red'n from Other Social Asst - Poorest Quintile (%)	.				.
Poverty Headcount Red'n from Other Social Asst - Poorest Quintile (%)	.				.
Population Not Receiving Social Security - Poorest Quintile (%)	.	.	.	.	.
Population Not Receiving Social Protection (%)	.	.	.	.	.
Social Safety Net Coverage (% of Beneficiary HH Welfare)	.				-**
PC Transfer to Poorest Quintile Pre-Tax - Social Protection and Labor	.				.
PC Transfer Pre-Tax - Social Protection and Labor	.				.
Social Protection and Labor Benefit Coverage - Poorest Quintile (% of Beneficiary HH Welfare)	.				.
Social Protection and Labor Benefit Coverage (% of Beneficiary HH Welfare)	.				-**
Social Safety Net Coverage - Poorest Quintile (%)	.	.	.	.	.
Social Safety Net Coverage (%)	.	.	.	.	.
Poverty Gap Red'n from Social Protection and Labor - Poorest Quintile (%)	+***				-**
Poverty Headcount Red'n from Social Protection and Labor - Poorest Quintile (%)	+***				-**
GINI Red'n from Social Protection and Labor - Poorest Quintile (%)	+**				-***
Coverage of Social Protection and Labor - Poorest Quintile (%)	.	.	.	.	.
Beneficiary Incidence of Social Protection and Labor - Poorest Quintile (%)	.	.	.	.	.
Benefit Incidence of Social Protection and Labor - Poorest Quintile (%)	+*				.
PC Transfer to Poorest Quintile - Social Protection and Labor	.				.
INSTITUTIONAL					
Polity Score (-10-10) (WDI)	.				.
Institutionalized Democracy Score (0-10) (WDI)	.				.

Safety and Rule of Law	-*				+*
Transparency-Accountability-Corruption (1-6)	.				-*
Policies for Social Inclusion and Equity (1-6)	-***				.
Property Rights and Rule-Based Governance (1-6)	-**				.
Public Resource Equity of Use (1-6)	-***				.
Public Administration Quality (1-6)	.				.
Building Human Resources (1-6)	-*				.
Fiscal Policy (1-6)	-***				.
Environmental Policy and Institutions (1-6)	-**				+*
Economic Management (1-6)	-***				+***
Regulatory Environment (1-6)	-***				+*
Political Stability/Absence of Violence	.				.
Strength of Legal Rights (0-12)	+**	.	.	.	.
Constitutional Gender Non-Discrimination (Y/N)	+**	.	.	.	.
Legal Gender Non-Discrimation (Y/N)	.	.	.	.	.
Social Protection (1-6)	.				+***
Gender Equality (1-6)	-**				-***
EDUCATIONAL					
Tertiary School Enrollment (%)	+**	.	.	.	+***
Secondary School Enrollment (%)	.	+***	+***	+***	+***
Primary School Enrollment (%)	.	.	.	.	-***
Population 25+ w/Master's or Equiv (%)	.	.	.	.	+*
Population 25+ w/Doctorate or Equiv (%)	.	.	.	.	.
Population 25+ w/Bachelor's or Equiv (%)	+***	.	.	.	+**
Population 25+ Completed Post-Secondary (%)	.	.	.	.	.
Population 25+ Completed Upper-Secondary (%)	.	.	.	.	.
Population 25+ Completed Lower-Secondary (%)	.	.	.	.	.
Population 25+ Completed Primary (%)	.	.	.	.	-***
HEALTH					
Maternal Health	-***	.	.	.	.
Gov't Health Exp PC (USD)					.
Out-of-Pocket Health Exp (%)	-**	.	.	.	.
Neonatal Mortality Rate (per 1K)	-*	+***	+*	+*	-***
Life Expectancy at Birth (Years)	.	.	.	.	.
Intentional Homicides (per 100K)	-*	.	.	.	.
% Gov't Health Expenditure from Social Security	.				.
GENDER PARITY					
Tertiary School Enrollment (Gender Parity Index)	.	+**	.	.	.
Secondary School Enrollment (GPI)	-***	-***	-**	-**	-***
Primary School Enrollment (GPI)	.	.	.	.	.
Female to Male Labor Force Participation (Ratio)	.	-***	-*	-**	+*

6 Discussion

Overall, we find that measures of wealth inequality and measures of income inequality exhibit distinct patterns of association with the same set of outcome indicators. To the best of our knowledge, this is the first paper that considers the two types of economic inequality side-by-side. While indicators of social assistance are negatively associated with income inequality, they are uncorrelated with wealth inequality. On the other hand, institutional quality is negatively correlated with wealth inequality, but does not exhibit a clear pattern of association with income inequality.

Another take-away from our analysis is that patterns of association depend on the outcome measure (for example, enrollment vs. completion for schooling) as well as the particular measure of inequality used (Gini vs. top share). This serves to highlight the importance of investigating whether different measures of inequality capture different phenomena. It also calls for caution when interpreting results that use a single measure of the outcome under study.

There are limitations to our work, and we proceed to list some of them here. Current results only consider linear relationships between inequality and socioeconomic outcomes. However, non-linear relationships are also plausible, and future work should consider models that allow for quadratic and cubic relationships between variables.[9]

Inter-group disparities in economic resources may be particularly important for understanding why some countries succeed in achieving high levels of socioeconomic outcomes, while others fail. When inequality in income and wealth falls along relevant political cleavages, group identities may become more salient. Two countries with the same level of economic inequality may differ significantly

With the current model specification, results may suffer from simultaneity bias (or endogeneity).[10] It would be difficult to argue, for example, that outcome measures and control variables taken in the same year are not causally linked such that each one affects the other. To address this concern, future work should consider models in which right-hand-side variables are lagged, thereby ensuring that any causal link between variables under study should run from inequality to the socioeconomic outcome under consideration.

We report significance levels using conventional p-value thresholds. However, it is well-

[9] Kuznets (1955) established the classic inverse-U quadratic relationship between inequality and economic development. More recent work, however, suggests that the relationship may, in fact, be cubic as inequality tends to rise again when countries achieve the highest levels of development (List and Gallet, 1999).

[10] See Section 15.2.2, Endogeneity and Causality, in Greene (2003)

known that testing multiple hypotheses simultaneously renders these values overly lenient, since their validity rests on the assumption that the analyst is conducting a single hypothesis test. Adjusting critical values

Our research considers the relationship between socioeconomic outcomes and inequality in Gini coefficients, mean/median income and wealth ratios, and top income and wealth shares. However, these summary measures of inequality may mask variation in the strength of associations between inequality and socioeconomic outcomes within the distribution. Among countries with the same Gini coefficient, some may have greater inequality within the top of the distribution, while others have greater inequality toward the bottom of the distribution. These differences in the distribution of inequality may affect the extent to which summary figures correlate with socioeconomic outcomes.[11] Further research can investigate the association between socioeconomic outcomes and the shape of wealth and income distributions.

Research on this question is constrained by the availability of data. Existing records allow for the construction of measures of inequality using aggregate income and wealth. However, it may be the case that only certain types of income and wealth (such as housing equity) drive the relationship between inequality and socioeconomic outcomes. In particular, wealth and income inequality that falls along salient political cleavages (race, ethnicity, religion, or language, among others) may have distinct and pernicious effects on outcomes. However, the absence of data on the composition of wealth and its distribution among salient groups keep these questions in the domain of future research.

[11] For example, see discussion of the value of considering the whole distribution in Bover (2010).

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A Appendix tables

Table 3: Summary of income inequality results

Indicators	Income Share - Top 20%	Income Share - Top 10%	Equivalized HH Disposable Income Gini	Equivalized HH Market Income Gini
LABOR				
Labor Participation Rate (%)	.	.	.	.
Unemployment Rate (%)	-***	-***	.	.
Labor Force % w/ Basic Education	.	.	-**	-***
Labor Force % w/ Advanced Education	+**	+**	.	.
Sustainable Economic Opportunity	.	.	.	.
Unemployment Benefit Coverage (% of Beneficiary HH Welfare)	.	.	.	.
SOCIAL ASSISTANCE PROGRAMS				
Poverty Gap Red'n from Other Social Asst - Poorest Quintile (%)	-*	-**	.	.
Poverty Headcount Red'n from Other Social Asst - Poorest Quintile (%)	-*	-**	.	.
Population Not Receiving Social Security - Poorest Quintile (%)	-**	-**	-*	.
Population Not Receiving Social Protection (%)	-***	-***	-**	-*
Social Safety Net Coverage (% of Beneficiary HH Welfare)	.	.	.	.
PC Transfer to Poorest Quintile Pre-Tax - Social Protection and Labor	.	.	.	.
PC Transfer Pre-Tax - Social Protection and Labor	.	.	.	.
Social Protection and Labor Benefit Coverage - Poorest Quintile (% of Beneficiary HH Welfare)	.	.	.	.
Social Protection and Labor Benefit Coverage (% of Beneficiary HH Welfare)	.	.	.	.
Social Safety Net Coverage - Poorest Quintile (%)	-***	-***	-**	-*
Social Safety Net Coverage (%)	-***	-***	-***	-***
Poverty Gap Red'n from Social Protection and Labor - Poorest Quintile (%)	-***	-**	-**	-**
Poverty Headcount Red'n from Social Protection and Labor - Poorest Quintile (%)	-**	-**	-*	-*
GINI Red'n from Social Protection and Labor - Poorest Quintile (%)	-*	.	.	.
Coverage of Social Protection and Labor - Poorest Quintile (%)	-**	-**	.	.
Beneficiary Incidence of Social Protection and Labor - Poorest Quintile (%)	.	.	+*	+**
Benefit Incidence of Social Protection and Labor - Poorest Quintile (%)	-**	-**	.	.
PC Transfer to Poorest Quintile - Social Protection and Labor	.	.	.	.
INSTITUTIONAL				
Polity Score (-10-10) (WDI)	.	.	.	.
Institutionalized Democracy Score (0-10) (WDI)	.	.	.	.

Safety and Rule of Law	.	.	.	.
Transparency-Accountability-Corruption (1-6)	.	.	.	.
Policies for Social Inclusion and Equity (1-6)	.	.	.	.
Property Rights and Rule-Based Governance (1-6)	.	+*	+**	.
Public Resource Equity of Use (1-6)	.	.	.	-*
Public Administration Quality (1-6)	.	.	.	.
Building Human Resources (1-6)	.	.	+***	+**
Fiscal Policy (1-6)	.	.	.	-*
Environmental Policy and Institutions (1-6)	.	.	-**	.
Economic Management (1-6)	.	.	.	.
Regulatory Environment (1-6)	+***	+***	+***	+*
Political Stability/Absence of Violence	.	.	+***	+***
Strength of Legal Rights (0-12)	.	.	-***	-*
Constitutional Gender Non-Discrimination (Y/N)	-***	-***	.	.
Legal Gender Non-Discrimation (Y/N)	.	.	.	.
Social Protection (1-6)	.	.	+**	+**
Gender Equality (1-6)	.	.	.	.
EDUCATIONAL				
Tertiary School Enrollment (%)	-*	-*	-***	-*
Secondary School Enrollment (%)	.	.	.	.
Primary School Enrollment (%)	+***	+***	+***	+***
Population 25+ w/Master's or Equiv (%)	.	.	.	.
Population 25+ w/Doctorate or Equiv (%)	.	.	.	.
Population 25+ w/Bachelor's or Equiv (%)	.	.	.	+*
Population 25+ Completed Post-Secondary (%)	+***	+***	+***	+***
Population 25+ Completed Upper-Secondary (%)	.	.	.	-**
Population 25+ Completed Lower-Secondary (%)	-*	-*	-***	-**
Population 25+ Completed Primary (%)	-***	-***	-***	-***
HEALTH				
Maternal Health	.	.	.	.
Gov't Health Exp PC (USD)	.	.	.	.
Out-of-Pocket Health Exp (%)	-***	-***	-***	-***
Neonatal Mortality Rate (per 1K)	-***	-***	-***	-***
Life Expectancy at Birth (Years)	.	.	.	.
Intentional Homicides (per 100K)	.	.	.	.
% Gov't Health Expenditure from Social Security	.	.	+*	+**
GENDER PARITY				
Tertiary School Enrollment (GPI)	.	.	.	-***
Secondary School Enrollment (GPI)	.	.	+**	.
Primary School Enrollment (GPI)	+***	+**	+***	.
Female to Male Labor Force Participation (Ratio)	+**	.	.	+***

Table 4: Summary of wealth inequality results

Indicators	Gini Index of Wealth	Wealth Share - Top 1%	Wealth Share - Top 10%	Wealth Share - Top 5%	R
LABOR					
Labor Participation Rate (%)	.	-**	-*	-*	-***
Unemployment Rate (%)	.	.	+**	+**	.
Labor Force % w/ Basic Education	-*	.	.	.	-***
Labor Force % w/ Advanced Education	.	.	.	.	-**
Sustainable Economic Opportunity	.				+*
Unemployment Benefit Coverage (% of Beneficiary HH Welfare)	+**				.
SOCIAL ASSISTANCE PROGRAMS					
Poverty Gap Red'n from Other Social Asst - Poorest Quintile (%)	.				.
Poverty Headcount Red'n from Other Social Asst - Poorest Quintile (%)	.				.
Population Not Receiving Social Security - Poorest Quintile (%)	.	.	.	.	.
Population Not Receiving Social Protection (%)	.	.	.	.	.
Social Safety Net Coverage (% of Beneficiary HH Welfare)	.				-**
PC Transfer to Poorest Quintile Pre-Tax - Social Protection and Labor	.				.
PC Transfer Pre-Tax - Social Protection and Labor	.				.
Social Protection and Labor Benefit Coverage - Poorest Quintile (% of Beneficiary HH Welfare)	.				.
Social Protection and Labor Benefit Coverage (% of Beneficiary HH Welfare)	.				-**
Social Safety Net Coverage - Poorest Quintile (%)	.	.	.	.	.
Social Safety Net Coverage (%)	.	.	.	.	.
Poverty Gap Red'n from Social Protection and Labor - Poorest Quintile (%)	+***				-**
Poverty Headcount Red'n from Social Protection and Labor - Poorest Quintile (%)	+***				-**
GINI Red'n from Social Protection and Labor - Poorest Quintile (%)	+**				-***
Coverage of Social Protection and Labor - Poorest Quintile (%)	.	.	.	.	.
Beneficiary Incidence of Social Protection and Labor - Poorest Quintile (%)	.	.	.	.	.
Benefit Incidence of Social Protection and Labor - Poorest Quintile (%)	+*				.
PC Transfer to Poorest Quintile - Social Protection and Labor	.				.
INSTITUTIONAL					
Polity Score (-10-10) (WDI)	.				.
Institutionalized Democracy Score (0-10) (WDI)	.				.

Safety and Rule of Law	-*				+*
Transparency-Accountability-Corruption (1-6)	.				-*
Policies for Social Inclusion and Equity (1-6)	-***				.
Property Rights and Rule-Based Governance (1-6)	-**				.
Public Resource Equity of Use (1-6)	-***				.
Public Administration Quality (1-6)	.				.
Building Human Resources (1-6)	-*				.
Fiscal Policy (1-6)	-***				.
Environmental Policy and Institutions (1-6)	-**				+*
Economic Management (1-6)	-***				+***
Regulatory Environment (1-6)	-***				+*
Political Stability/Absence of Violence	.				.
Strength of Legal Rights (0-12)	+**	.	.	.	.
Constitutional Gender Non-Discrimination (Y/N)	+**	.	.	.	.
Legal Gender Non-Discrimation (Y/N)	.	.	.	.	.
Social Protection (1-6)	.				+***
Gender Equality (1-6)	-**				-***
EDUCATIONAL					
Tertiary School Enrollment (%)	+**	.	.	.	+***
Secondary School Enrollment (%)	.	+***	+***	+***	+***
Primary School Enrollment (%)	.	.	.	.	-***
Population 25+ w/Master's or Equiv (%)	.	.	.	.	+*
Population 25+ w/Doctorate or Equiv (%)	.	.	.	.	.
Population 25+ w/Bachelor's or Equiv (%)	+***	.	.	.	+**
Population 25+ Completed Post-Secondary (%)	.	.	.	.	.
Population 25+ Completed Upper-Secondary (%)	.	.	.	.	.
Population 25+ Completed Lower-Secondary (%)	.	.	.	.	.
Population 25+ Completed Primary (%)	.	.	.	.	-***
HEALTH					
Maternal Health	-***	.	.	.	.
Gov't Health Exp PC (USD)					.
Out-of-Pocket Health Exp (%)	-**	.	.	.	.
Neonatal Mortality Rate (per 1K)	-*	+***	+*	+*	-***
Life Expectancy at Birth (Years)	.	.	.	.	.
Intentional Homicides (per 100K)	-*	.	.	.	.
% Gov't Health Expenditure from Social Security	.				.
GENDER PARITY					
Tertiary School Enrollment (Gender Parity Index)	.	+**	.	.	.
Secondary School Enrollment (GPI)	-***	-***	-**	-**	-***
Primary School Enrollment (GPI)	.	.	.	.	.
Female to Male Labor Force Participation (Ratio)	.	-***	-*	-**	+*

B Appendix figures

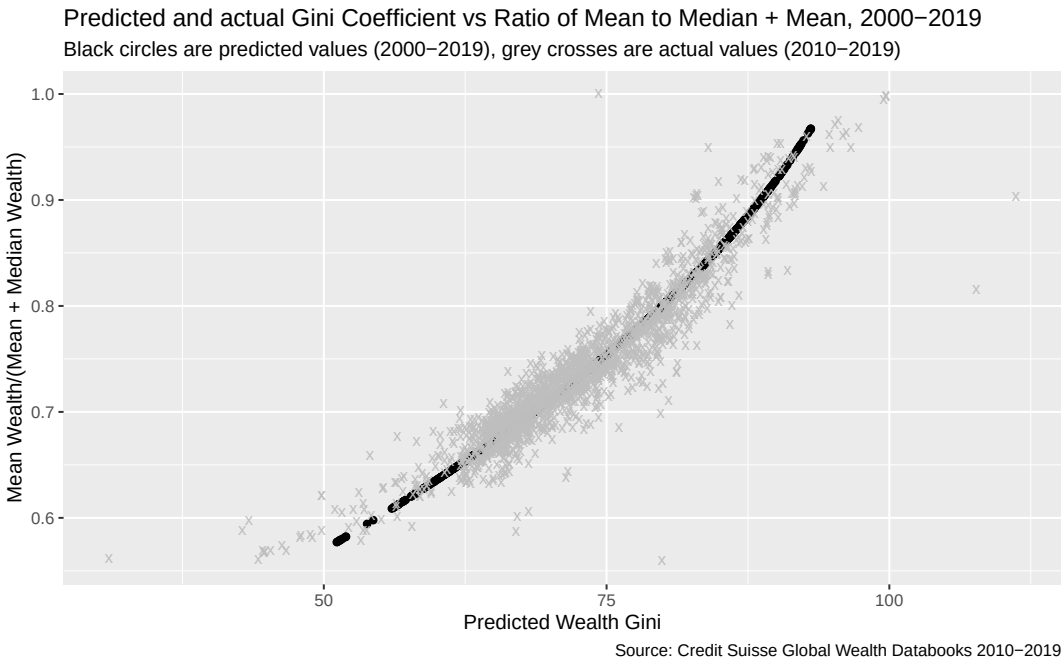

Figure 4

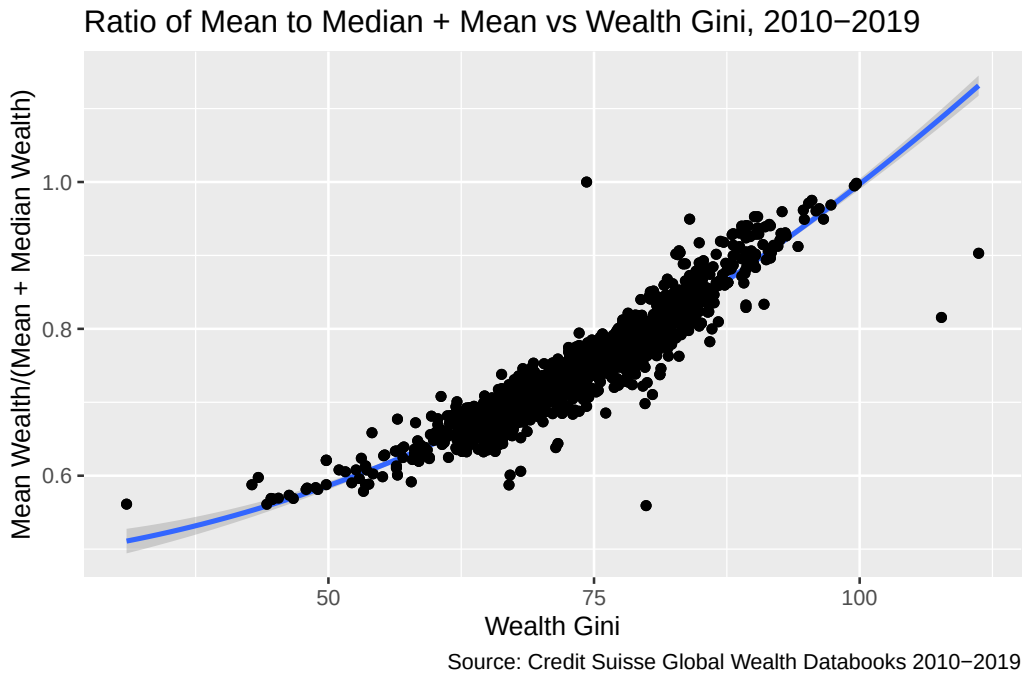

Figure 5

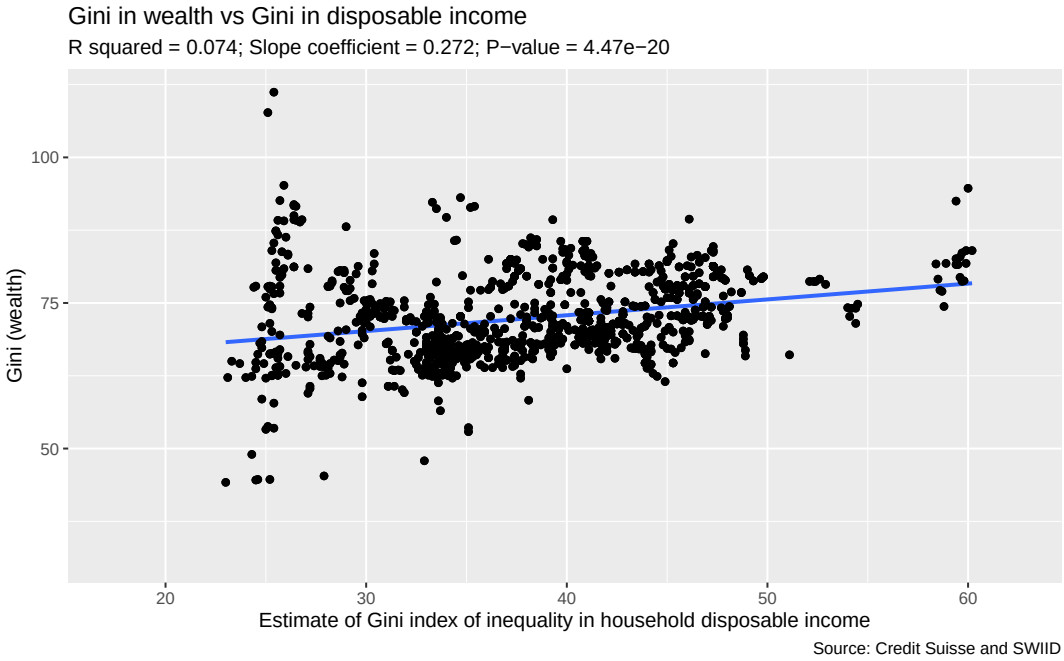

Figure 6