WP/16/176

IMF Working Paper

Growing Apart, Losing Trust?
The Impact of Inequality on Social Capital

by Eric D. Gould and Alexander Hijzen

 WP/16/176

IMF Working Paper

Research Department

Growing Apart, Losing Trust? The Impact of Inequality on Social Capital[1]

Prepared by Eric D. Gould and Alexander Hijzen

Authorized for distribution by Romain Duval

August 2016

Abstract

There is a widespread perception that trust and social capital have declined in United States as well as other advanced economies, while income inequality has tended to increase. While previous research has noted that measured trust declines as individuals become less similar to one another, this paper examines whether the downward trend in social capital is responding to the increasing gaps in income. The analysis uses data from the American National Election Survey (ANES) for the United States, and the European Social Survey (ESS) for Europe. Our analysis for the United States exploits variation across states and over time (1980-2010), while our analysis of the ESS utilizes variation across European countries and over time (2002-2012). The results provide robust evidence that overall inequality lowers an individual's sense of trust in others in the United States as well as in other advanced economies. These effects mainly stem from residual inequality, which may be more closely associated with the notion of fairness, as well as inequality in the bottom of the distribution. Since trust has been linked to economic growth and development in the existing literature, these findings suggest an important, indirect way through which inequality affects macro-economic performance.

JEL Classification Numbers: H00, J31, Z1

Keywords: social capital, earnings, redistribution

Author's E-Mail Address: eric.gould@mail.huji.ac.il; alexander.hijzen@oecd.org

[1] Much of the work for this paper was conducted when the authors were visiting the International Monetary Fund. The authors are grateful to the International Monetary Fund for its hospitality and would like to thank Romain Duval, Jonathan Ostry, and seminar participants at the IMF for useful discussions, comments, and suggestions. The views expressed in this paper are those of the authors and cannot be attributed to the IMF, the OECD, or their member countries. Also, the authors are responsible for any remaining errors.

Contents Page

I. INTRODUCTION

There has been a sharp decline in the extent to which individuals trust one another, and other social capital indicators, over the past forty years in the United States. At the same time, income inequality has increased in the United States and many advanced countries. This paper investigates whether the two trends are related to one another. Looking at the link between these two phenomena is motivated by the literature showing that individuals have less trust in people that are dissimilar to them. If this finding extends to differences between people in their income, the increasing inequality trend witnessed in many advanced countries may have had an important influence on aggregate trust levels. Given that a country's overall level of trust has been found to be an important determinant of growth and development, sorting out the relationship between inequality and trust is necessary to see if income inequality has an indirect influence on macro-performance through its effect on trust between individuals.[2]

The standard "generalized trust" variable contained in many surveys refers to how much a person trusts unspecified persons. That is, trust does not refer to how much someone trusts their personal friends or family members. Generalized trust is typically considered a key component of social capital, which refers to the features of social life "that enable participants to act together more effectively to pursue shared objectives" (Putnam, 1995).

Trust is typically measured in surveys by the question: "Generally speaking, would you say that most people can be trusted; or that you can't be too careful when dealing with others?" Possible answers are: "Most people can be trusted" or "Can't be too careful".

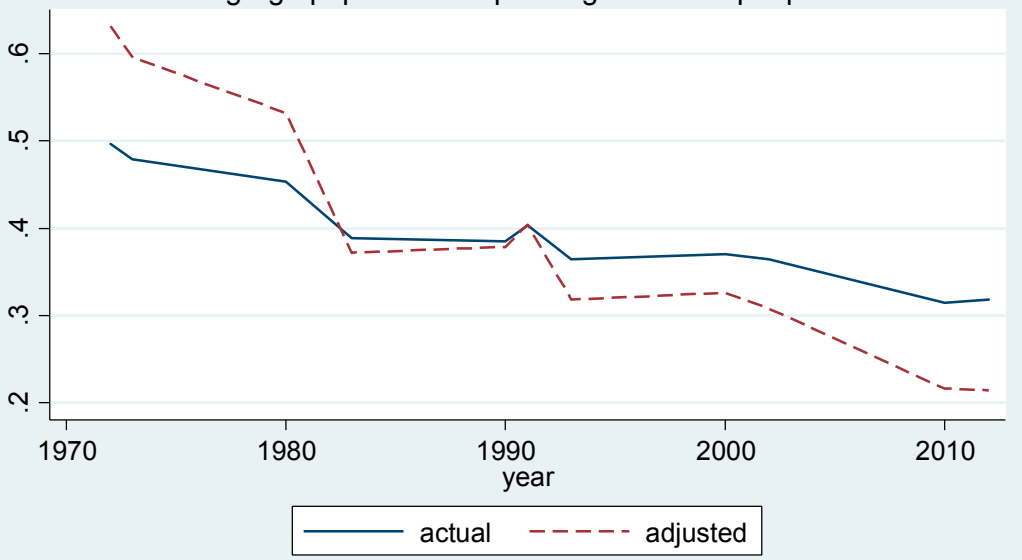
Since the early 1970s, the share of persons in the United States responding that most people can be trusted has declined from about fifty percent to thirty-three percent by 2010 (Figure 1). When controlling for changes in the demographic composition of the US population over this period in terms of education and age, the decline in generalised trust is even more pronounced.

The decline in trust may have important implications for economic performance (see Guiso et al., 2006; Algan and Cahuc, 2013; Alesina and Giuliano, 2016, for reviews). First of all, trust facilitates economic interactions in the private sphere by reducing transaction costs and by mitigating principal-agent problems. Trust has been shown to promote economic growth generally (Knack and Keefer, 1997; Tabellini, 2010, Algan and Cahuc, 2010) as well as specific drivers of economic growth such as international trade (Cingano and Pinotti, 2016),

[2] The model in Galor and Zeira (1993) shows how inequality adversely affects growth in the presence of credit constraints. A number of recent papers have suggested that inequality reduces growth (Cingano, 2014; Ostry et al., 2014; Deblas-Norris et al., 2015).

financial development (Guiso et al., 2004, 2008, 2009), innovation, entrepreneurship, and firm productivity (Bloom et al., 2012). Trust can also promote cooperation in the public sphere by reducing collective action problems related to the provision of public goods and by enhancing the overall quality of public institutions (La Porta et al., 1999; Tabellini, 2008; Nannicini et al., 2012).

Figure 1: Trust has declined sharply in the United States



Actual: actual share of working-age population responding that most people can be trusted
Adjusted: composition-adjusted share of working-age population responding that most people can be trusted
Source: General Social Survey, 1972-2012

Economic inequality is often seen as an important determinant of trust.[3] Both inequality of opportunities and inequality in outcomes may be important. To the extent that economic disparities derive from personal connections or mere luck rather than individual merit, they may lower a person's sense of fairness, and therefore, trust in others and government. This argument relates to the role of *inequality of opportunities* and the scope for social mobility (Putnam, 2015).[4] In addition, if economic outcomes determine values, and trust depends on having common values, larger income gaps will reduce a person's general sense of trust by increasing disparities in values. This is a specific interpretation of the more general statement

[3] See also Jordahl (2007) for a discussion.

[4] Alesina, Cozzi and Mantovan (2012) provide a dynamic model that builds on a similar reasoning to explain persistent differences in attitudes to inequality and redistribution in Europe and the United States. They argue that the greater importance of inheritance in Europe and merit in the United States for the distribution of wealth at the start of the industrial revolution explain the relatively weak tolerance for inequality and strong support for redistribution in Europe.

that "familiarity breeds trust" (Coleman, 1990).[5] According to this argument, *inequality in outcomes* provides an indication of the degree of social stratification in society.
Several studies have shown that there is a strong relationship between trust and inequality using cross-sectional variation across regions in the United States (Alesina and La Ferrera, 2002; Rothstein and Uslaner, 2005; Twenge et al., 2014; Tesei, 2015)[6] as well as across countries around the world (Zak and Knack, 2001). However, systematic evidence on the causal relationship between inequality and trust remains rather limited. Also, little attention has been devoted to the underlying mechanisms or the relevance of specific aspects of inequality.

Using individual panel data for Sweden during the period 1994-1998, Gustavsson and Jordahl (2007) exploit variation over those years in inequality across regions and find that household inequality reduces trust, especially when it is concentrated in the bottom of the distribution. Moreover, they find that the effect is stronger in terms of inequality of disposable income rather than market income, and also for people who favor more redistribution. These findings suggest that in Sweden redistribution can help to alleviate the adverse effect of inequality on trust.

Using variation over time and across countries with the World Values Survey, Barrone and Mocetti (2016) find that inequality reduces trust, even after controlling for country fixed effects, but only among advanced economies. Moreover, in contrast to Gustavsson and Jordahl (2007), they find that the negative relationship between inequality and trust is driven by inequality at the top end of the distribution. They also provide suggestive evidence that the impact of trust on inequality is smaller when there is more inter-generational mobility.

This paper contributes to the small, existing literature on the relationship between inequality and social capital in several ways. Although our main focus is on the relationship between inequality and trust, we also examine other social capital variables such as an individual's views about: the helpfulness of others, whether others are fair, trust in government, views about redistribution, and life satisfaction. These additional outcomes serve as a useful robustness check for the relationship between inequality and trust, but also allow us to glean insights into the possible mechanisms.

In addition, we examine the relationship between trust and inequality by using several different dimensions and components of inequality. For example, we analyse inequality in individual wages using the ratio of the 90^{th} to the 10^{th} percentile of personal wage income.

---

[5] A number of studies have analysed the role of ethnic diversity (Alesina and La Ferrera, 2002; Putnam, 2007; Dinesen and Sonderkov, 2015).

[6] Alesina and La Ferrera (2002) and Tesei (2015) use variation across MSAs for multiple years while controlling for state fixed effects. Their findings appear to be mainly driven by the cross-sectional variation in the data. Tesei (2015) find that this relationship is sensitive to the specification.

We further decompose this measure into the component that is due to the large returns to investments in education (the return to education) and the part that is unexplained by differences in age, education, industry, and occupation ("residual inequality"). This residual inequality measure is further decomposed into inequality at the top (the ratio of the 90th percentile to the median of the residual wage distribution), and to inequality at the bottom (the ratio of the median to the 10th percentile). In addition, we use alternative measures of household income inequality such as the gini, the poverty rate, the poverty gap, and the income shares of the top 1 percent, the top 5 percent, and the top 10 percent.

Furthermore, similar to recent papers, we exploit geographic variation over time to control for fixed-factors which may be determining inequality and trust, but this study is the first to do so for the United States, as well as European countries with the European Social Survey (ESS). To shed light on possible mechanisms behind a relationship between inequality and trust, we explore whether the results differ across groups defined by education, age, income, and gender.

The results provide robust evidence that overall inequality substantially lowers an individual's sense of trust in others in the United States as well as in other advanced economies. The results for the United States indicate that the increase in inequality between 1980 and 2000 explains forty-four percent of the observed decline in trust. Although inequality at the top of the distribution is found to be significant in many specifications, the negative relationship between inequality and trust in the United States appears to be more robust for inequality at the bottom of the distribution. In addition, the effect is stronger for "residual inequality" (i.e. inequality within age, education, industry, and occupation groups) versus overall inequality, younger (ages 20-45) versus older people (46-65), and for individuals that are the most adversely affected by inequality at the bottom of the distribution – individuals that are less educated or in the bottom third of the income distribution.

Similar findings are obtained for "trust in government" and other social capital variables, including concerns about "unequal chances." But, there is no evidence that inequality increases the demand for greater redistribution in the United States. In addition, the return to education has no effect on trust, which may indicate that inequality between groups of people stemming from personal decisions and human capital investments does not undermine trust, but increasing inequality among similar people may be regarded as unfair, and thus, reduce trust in others.

Similar findings are found using variation across European countries with the ESS, suggesting that the adverse impact of inequality on trust extends beyond the United States to advanced economies with different institutional settings. The one notable difference is that the effect of inequality on trust seems to be more general in the sense of coming from the top and bottom parts of the distribution, and affecting people similarly across age and education categories. In both the United States and Europe, there is no evidence that inequality at the very top of the distribution (the top 1 percent or top 10 percent) is affecting trust levels,

however, this type of high end inequality in Europe does seem to increase the desire for government to reduce income gaps in society.

A causal interpretation of our findings is supported by the many robustness checks, and by investigating whether the estimates are robust to the inclusion and exclusion of a wide variety of personal and geographic area (state or country) characteristics. For example, our main finding that inequality from the bottom of the distribution affects trust is found when only basic controls are included in the specification (age, education, gender) and when additional controls are included like race, religion, income, employment status, and geographic area measures for the mean wage, demographic composition, crime rates, and immigrant concentration. The robustness of this effect to the inclusion and exclusion of all these additional control variables supports the identifying assumption that the results would not be sensitive to the inclusion of additional, omitted determinants of a person's views about trust in others.

In addition, when several inequality measures from different parts of the distribution are included in one specification for the United States, inequality at the bottom end remains statistically significant, in contrast with the others. This result is notable because the inclusion of inequality at the top of the distribution implicitly controls for many factors that are affecting both inequality and trust. In the analysis of Europe, inequalities at both ends are significant when included in the same specification.

Although there are some differences in the results for the United States and Europe, the overall pattern suggests that the role of inequality on trust in others is not limited to the United States, but holds across advanced economies. Given the rise in inequality in many advanced economies, and the importance of trust for macro-performance documented in the literature, the results suggest an important, albeit indirect, way through which rising inequality could be affecting a country's growth and development.

The remainder of the paper is structured as follows. The next section describes the data and the trends from the American National Election Survey (ANES) and the European Social Survey (ESS). Section 3 presents the empirical framework. The results for the United States are in Section 4, while the European analysis is presented in Section 5. Section 6 summarizes our findings and concludes.

II. DATA

In order to explore whether inequality affects measures of trust, attitudes towards redistribution, and other social capital indicators, two main sources of data are used in distinct analyses – one for the United States and one for Europe. For the United States, we use the American National Election Surveys (ANES) for election years 1980-2012, and the analysis of Europe is based on the European Social Survey (ESS) from 2002-2014.

A. The ANES Data for the analysis of the United States

The ANES contains variables on trust and other social capital indicators, as well as information on state of residence, which allows us to exploit geographic variation across states and over time (1980-2010). Information from the ANES is matched to state-level measures of inequality, computed from the Census for every ten years from 1980 to 2010.

Since the ANES is conducted during election years, respondents in the ANES were matched to the state-level inequality measure in the closest census year. Throughout the analysis, we use the term "year" to refer to the census year, which are matched to the ANES survey years as follows: the 1980 Census is matched to the ANES surveys from 1976, 1978, 1980, and 1982; the 1990 Census is matched to the ANES surveys from 1988, 1990, and 1992; the 2000 Census is matched to the ANES surveys from 1998, 2000, and 2002; and the 2010 Census is matched to the ANES surveys from 2008 and 2012. The sample sizes for each variable vary across Census years, mainly because of differences in the number of rounds of the ANES survey used, and the ANES surveys did not always ask the same questions in each round.

Table 1 presents summary statistics of the main demographic variables in the American National Election Survey (ANES). In addition to age, gender, and education, the surveys contain information on ethnicity, religion, marital status, employment status, and which third of the family income distribution the respondent belongs to.

Table 2 displays summary statistics for the social capital outcomes and other views of respondents in the ANES. Similar to other studies, the trust outcome is measured as a dummy variable for whether the respondent indicates that "most people can be trusted" versus "you can't be too careful." The ANES also has an indicator for "fairness" – defined as responding that "people would try to be fair" as opposed to "people will take advantage of others." In addition, "people are helpful" is an indicator for responding that "people try to be helpful" relative to "people just look out for themselves." Since all three relate to the goodwill of others, we created a summary index using factor analysis which turns out to give nearly equal weights to all three variables. The means for all of these social trust measures are given in Table 2.

Table 2 also shows the means for indicators of whether the respondent trusts government to benefit all, and whether the person trusts government to do right. The ANES uses these and other variables to create an index for how much the respondent generally trusts government, which ranges from 0 to 100 with higher values indicating higher levels of trust.

Finally, Table 2 shows the means for measures which capture how much the person is bothered by inequality (a scale from 1 to 5 which increases in how much the respondent thinks unequal chances are a problem), a measure for how much the person wants to increase spending on the poor (0 = decrease; 1 = stay the same; 2 = increase spending), and an indicator for whether the person believes that "government should do more" relative to "less

government is better."

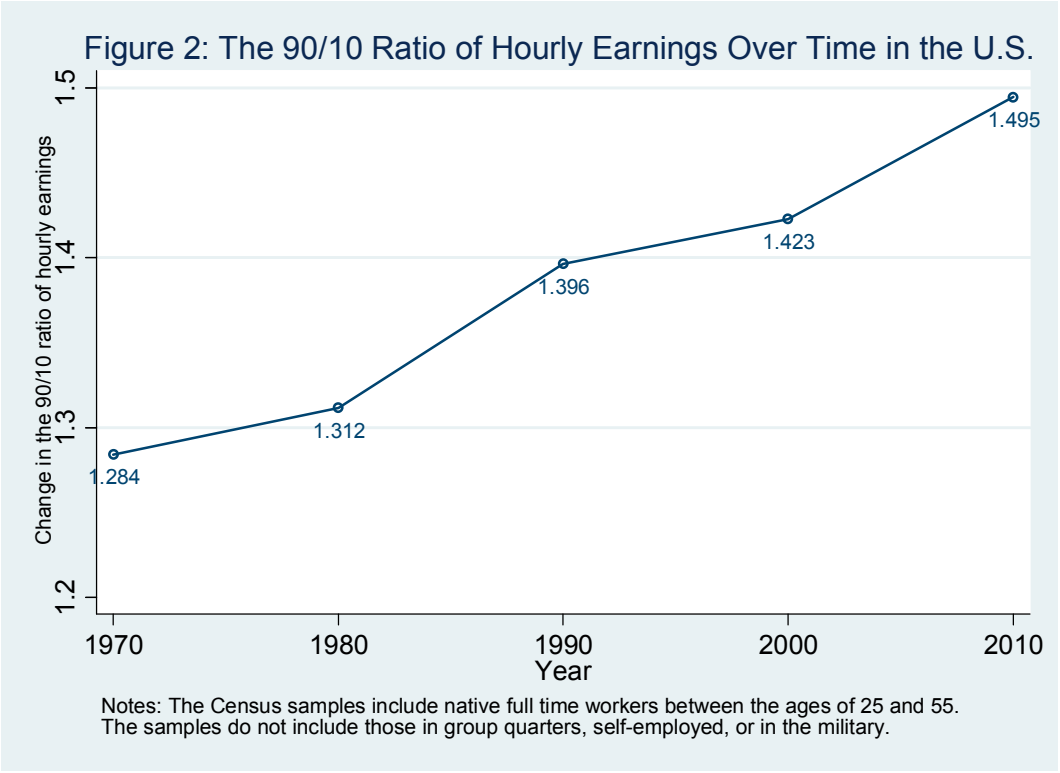
Although the means over time in Table 2 do not show a strong downward trend in trust, Table 3 reports regressions of the trust measure on a linear time trend variable. The first column contains no other controls and uses a sample of 20-45 year olds, and the trend is significantly downward. Adding controls for age and gender yield a similar time trend, but adding controls for education, marital status, religion, family income, employment status, and state fixed-effects yields a steeper, negative trend – almost twice the aggregate trend displayed in the first column. These results are therefore qualitatively similar to the decline in trust shown in Figure 1 for the longer time series available in the GSS as well as previous evidence by Twenge et. al (2014) and others.

The panel on the right side of Table 3 repeats the analysis with a sample of 46-65 year olds. Notably, there is no aggregate trend, but adding controls produces a significant and negative adjusted trend. However, the adjusted trend is much less than the younger sample in the left panel, which indicates that younger individuals may formulate their views about trust differently than older ones.

Table 4 presents the "unexplained" trend for the other outcome measures of interest from the ANES using the younger sample. The results display a clear downward trend not only in "trust in people", but also trust in government, religious attendance, preferences to increase spending on the poor, believing that unequal chances are problem, and favoring a larger role of government. In other words, individuals appear to be less trusting and less generous with others, while at the same time preferring a smaller role for government.

Inequality for each state in the United States is computed from US Census data from 1970-2010.[7] (The American Community Surveys (ACS) for 2009, 2010, and 2011 are combined and referred to as the "2010" year.) To compute our measures for inequality, the sample is restricted to individuals between the ages of 25 to 55 who worked 30 hours per week, and are not self-employed, living in group quarters, or in the armed forces. Wages are defined as total labor earnings divided by annual hours worked, and our main measure of wage inequality is the ratio between the 90^{th} and 10^{th} percentiles of the log wage distribution. Figure 2 displays the familiar rise in the P90/P10 ratio over time, while Figure 3 illustrates the well-documented increase in the return to education.

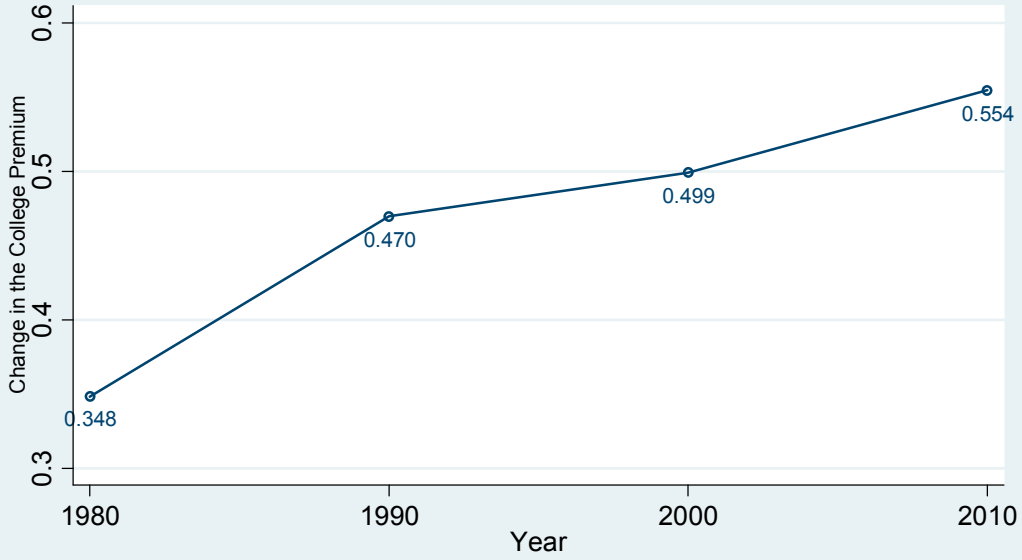
[7] The data was downloaded from IPUMS (Ruggles et. al., 2010).



Although our goal is to see whether inequality affects social capital, we also examine whether the effect differs depending on the sources of inequality. To that end, we compute "residual inequality" for each state and year after adjusting for changes over time in the observable characteristics (gender, race, age, education, industry, and occupation), and the returns to these observable characteristics. Figure 4 graphs the aggregate residual inequality levels and trends after adding more control variables with each step. The lowest level of inequality in Figure 4 (the "UCM" line) controls for all the variables mentioned above, while allowing their coefficients to vary over time. The figure reveals that most of the overall inequality trend is unexplained by changes over time in the levels and returns to education, age, industry, and occupation.

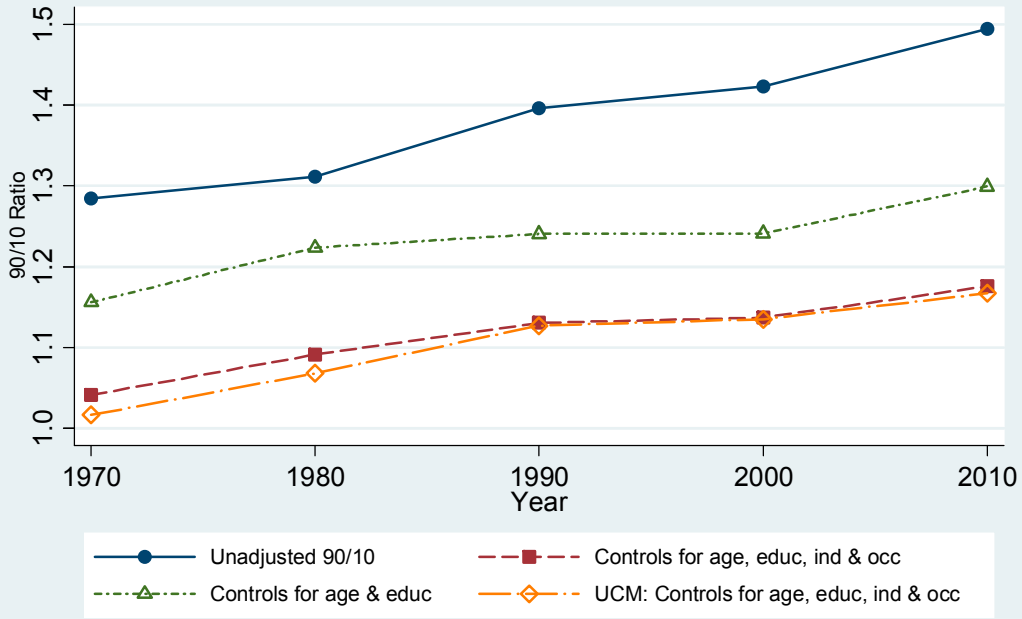
The data reveal that trust is declining as various measures of inequality are increasing in the United States over time. Our analysis will examine whether these aggregate trends are related by exploiting geographic variation by state in inequality and trust. As shown in Figure 5, there is considerable variation across states in the extent of the inequality trend over this time period.

Figure 3: Change in the College Premium in the United States



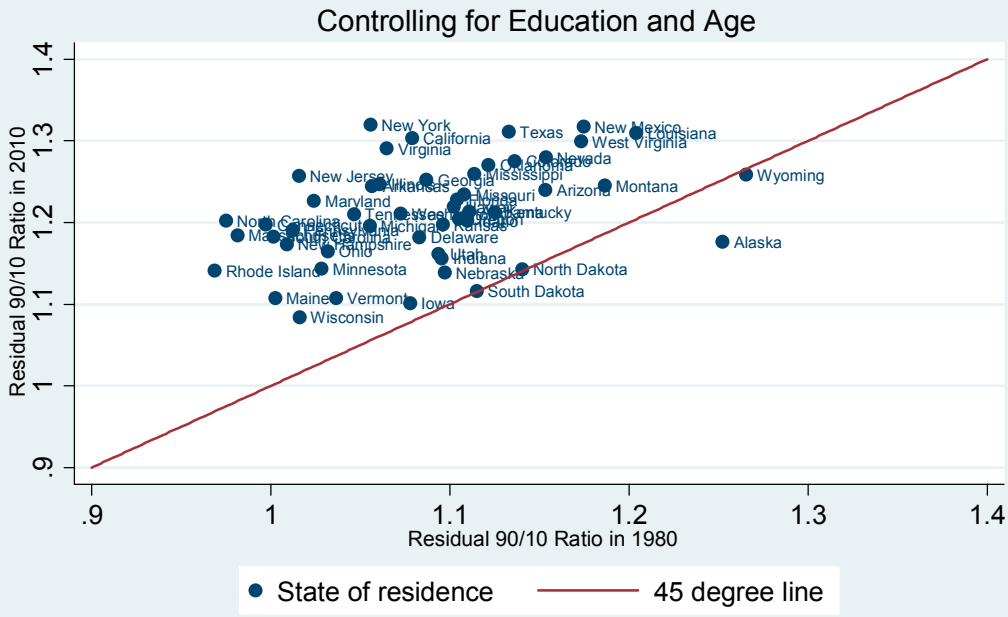
Notes: The U.S. Census samples include native full time workers between the ages of 25 and 55 The sample does not include those in group quarters, self-employed, or in the military.
The college premium is defined as the coefficient on the dummy variable for being a college graduate after controlling for state, year and age. The omitted education category is high school graduates.

Figure 4: Residual Inequality Measures in the United States



Notes: The Census samples include native full time workers between the ages of 25 and 55.
The samples do not include those in group quarters, self-employed, or in the military.

Figure 5: Residual Inequality by State in the U.S.: 1980-2010



Notes: The Census samples include native full time workers between the ages of 25 and 55. The samples do not include those in group quarters, self-employed, or in the military.

B. The EES Data for the Analysis of Europe

Our analysis for European countries is based on the European Social Survey (ESS), which started in 2002 and runs through 2014. Summary statistics for the demographic and social capital variables appear in Table 5 for each survey year. The sample consists of 22 to 31 European countries depending on the outcome used in the specification. The "trust people" variable is scaled from 0 to 10 with zero indicating that "you can't be too careful" and ten defined as "Most people can be trusted." The "people are fair" and "people are helpful" variables also range from zero to ten, with larger numbers again indicating a more positive view of other people. Similar to the ANES data from the United States, about half of the respondents find other people to be trustworthy. The similarity of the means across samples (and continents) supports the comparability of the empirical results in our two distinct analyses.

A dummy variable for whether the person strongly agrees that governments should reduce income gaps is used. Satisfaction in government, and with life, are also measured from 0 to 10 with larger numbers indicative of greater satisfaction. Happiness and the degree of religiosity increase from 0 to 10 as well.

Table 6 presents summary statistics for the income inequality measures for each country and year from the OECD Income Distribution Database. The OECD Income Distribution database provides standardized indicators on inequality and poverty across countries and time. They are based on the concept of "equivalent household disposable income," which

refers to the total income received by a household minus current taxes and transfers, adjusted for household size using an equivalence scale.[8] Table 6 also includes the employment rates of younger people (ages 25-39) which were computed with the ESS. Although employment rates are not a direct measure of inequality, increasing inequality in the presence of regulated labor markets can manifest itself as a decline in the employment rate.

Table 7 presents the trends in trust over time in the ESS. Overall, the trend is upwards from 2002-2014, but the trend disappears once the full set of controls are included in the specification. The lack of any trend is different from the trend in the United States, but the time period in this analysis is much shorter and the current literature has found mixed trends in social capital in Europe (Sarracino and Mikucka, 2016).

III. EMPIRICAL STRATEGY

Our empirical strategy exploits geographic (cross-country or cross-state) variation over time. Formally, we model the trust level (or another social capital variable) of individual *i* in area (country or state) *j* in year *t* as a function of the level of inequality in the same area and year:

$$Trust_{ijt} = \beta_1 Inequality_{jt} + \beta_2 X_{ijt} + \mu_j + \delta_t + \varepsilon_{ijt}$$

where X_{ijt} is a vector of individual and time-varying area-level characteristics, μ_j represents area fixed-effects (state or country), and δ_t represents year fixed-effects (fixed effects are included for each survey year of the ANES, not just the Census year, in the analysis of the United States). For the US analysis with the ANES, the control variables in X_{ijt} include personal characteristics such as the individual's employment status, family income (indicators for each third of the distribution), age, education, marital status, gender, race, and religion. Also included are state-level variables for each year *t* regarding the mean wage, the crime rate (property and violent crime rates), the education distribution, the age distribution, and the immigrant concentration (percent foreign born among those ages 25-55). For the analysis across European countries with the ESS, the control variables in X_{ijt} include personal characteristics such as employment status, age, education, marital status, and gender. GDP per capita for year *t* is also included to control for the overall economic performance of country *j* in year *t*. The immigrant concentration by country and year is also included in the main specification.

[8] For further details, see http://www.oecd.org/social/income-distribution-database.htm.

IV. Analysis of ANES for the United States

Table 8 presents estimates for the model above using a sample of 20-45 year olds in the ANES, which accounts for the bulk of the decline in trust in the United States. The estimate of inequality on trust is presented after adding more controls in stepwise fashion. The first column's specification includes only basic controls for age, education, marital status, gender, and fixed-effects for each state and survey year. The estimated effect of the residual P90/P10 ratio on trust with this specification is negative, but not significant. Adding further controls for religion and race to the specification increases the size of the coefficient and renders it significant at the 10 percent level. Adding individual characteristics, such as family income and employment status, yields more significant results, as does the addition of state-level controls for the average wage, crime rate, percent immigrants, and the age and education composition. The full specification in column (7) yields a negative and significant relationship between the residual P90/P10 ratio and a person's level of "trust in people." However, given that the coefficient increases in size and significance with the addition of more controls, this result is somewhat sensitive to the choice of specification.

The panel on the right side of Table 8 breaks down the residual P90/P10 ratio into two components: inequality at the top of the distribution (residual P90/P50 ratio) versus inequality at the bottom (residual P50/P10 ratio). The results show that the two components have very different effects on trust. In particular, inequality at the top has no effect on trust, while increasing inequality at the bottom of the income distribution lowers trust significantly. Both findings are robust to the inclusion or exclusion to a broad range of control variables. Although this robustness does not prove that the results would be insensitive to the inclusion of factors omitted even in the full specification, the lack of sensitivity to the various individual and state-level controls supports the identifying assumption that the findings on the right-side of Table 8 are not due to omitted variable bias.

Table 9 repeats the analysis in Table 8 using an older sample composed of 46-65 year olds. The results differ from Table 8 in that the residual P90/P10 ratio is insignificant for all specifications. The residual P50/P10 ratio is also insignificant in most of the specifications, but is consistently negative with t-statistics above 1.3. Similar to Table 8, inequality at the top of the distribution (residual P90/P50 ratio) has a very different effect relative to inequality at the bottom. The residual P90/P50 ratio is always positive and even significant in the last three specifications.

Looking at Table 8 and Table 9 together, it appears that "trust in people" in the United States reacts differently to alternative sources of inequality: inequality at the bottom reduces trust, while inequality at the top does not – and may even increase trust for older individuals. The results are stronger for individuals in their prime working years relative to those above the age of 45, which may be due to the idea that older workers formulated their views about trust in response to the level of inequality when they were younger, rather than reacting to current levels during the latter part of their working career. Given that the response to inequality

appears to be stronger for the younger sample, the rest of the analysis will focus on understanding this phenomenon further for that sample.

Table 10 examines the relationship between various measures of inequality with several viewpoints and social capital variables in the ANES. Each coefficient represents a separate regression using the full set of controls (column (7) in Tables 8 and 9). The residual P90/P10 ratio is significant and negative for trust in people, people are fair, people are helpful, the trust in government index, and a willingness to spend more on the poor. Using the P90/P10 ratio of actual wages, as opposed to residual wages, yields similar results, although somewhat weaker. Using the Gini coefficient, taken from the Bureau of the Census, yields similar patterns for the social capital variables related to trust in people and government. Furthermore, inequality at the top (residual P90/P50 ratio) and at the bottom (residual P50/P10 ratio) are found to reduce trust in people and government, with some evidence that they reduce a person's willingness to spend more money on the poor. In contrast, none of the various measures of inequality have an effect on a person's view about whether they think it is a problem that chances are unequal, or cause individuals to favor a larger role for government.

The one measure of inequality in Table 10 that has no effect on any measure of social capital is the return to education. Despite the increase in the return to education over recent decades, this variable has no effect on trust in people, trust in government, or views about spending on the poor. This finding helps to understand why the results for residual inequality are stronger than overall inequality, since the overall inequality measure includes the insignificant effect of the return to education. Furthermore, the stark contrast in the findings using this measure versus residual inequality once again suggests that inequality from different sources has potentially different effects on the social capital outcomes of individuals. Inequality between education groups does not affect trust, but inequality within groups (residual inequality represents inequality within education, age, industry, and occupation) reduces trust in people and government. That is, when people see larger income gaps among people who are similar to them in terms of age, education, and type of work, this seems to reduce trust. But, when they see gaps increasing between people who have made different educational and career choices, this has no effect on trust.

One interpretation of this pattern is that people have a better understanding, and sense of fairness, of inequality that stems from differences in human capital decisions and investments. However, when they see larger gaps due to luck or unexplained factors, this reduces their trust in others and government. Of course, residual inequality is composed of many factors that are not associated with random luck, such as effort and unobserved ability, but random factors are more likely to be affecting residual inequality relative to the return people get on their education investments and career decisions regarding their occupation and industry.

Tables 11 and 12 examine additional sources of inequality at the bottom and the top of the distribution, respectively. Table 11 shows that the results for the overall P50/P10 ratio are similar to those using the residual P50/P10, but there is no evidence that the employment rate of non-college individuals, which can be considered an outcome of wage inequality, has an effect on trust. The poverty rate, taken directly from the U.S. Census Bureau for each state, does not have a robust impact on trust in people or government either.[9]

In Table 12, the residual P90/P50 ratio has a more significant effect than the total P90/P50 ratio, most likely because the latter includes the return to education which was seen to have no effect in Table 10. Table 12 also examines the share of income going to the top 1%, top 5%, and top 10% of the income distribution. These variables are taken from the World Top Incomes Database put together by Mark Frank, Estelle Sommeiller, Mark Price, and Emmanuel Saez. The results for these "top shares" indicate a weak negative effect, although largely insignificant, on trust in people and government. Increases in the top shares do seem to reduce a person's willingness to spend more on the poor. But, overall, the top shares do not have a robust impact on the various measures of social capital.

Tables 11 and 12 showed significant negative effects of the main measures of inequality at the top and bottom of the distribution. In order to see which effect is more dominant, Table 13 presents an analysis using the four main, but distinct, measures of inequality in one specification. These measures are distinct because residual inequality is by construction orthogonal to the return to education, and the top 5% share represents inequality at the top that lies even above the residual P90/P50 ratio. In addition, the inclusion of multiple measures of inequality implies that we are controlling for the myriad of unobserved drivers of income inequality, while isolating the individual effect of each one.

The results in Table 13 clearly indicate that the residual P50/P10 is the dominant factor on trust in people and government, with the other measures insignificant. This finding emphasizes that inequality at the bottom of the distribution is the main type of inequality that affects trust in the United States.

Tables 14 examines whether the effect of inequality at the bottom differs by gender and between education and income groups. The results are similar for men and women, but much stronger for non-college graduates relative to college graduates. In addition, the findings for the lowest income group appear to be larger than the middle and top groups – although the finding that inequality reduces a person's willingness to spend more money on

[9] The measurement of poverty in the United States differs from measures of wage inequality in the bottom of the distribution in a number of important respects. First, poverty is a household concept and includes all sources of income whereas wage inequality measures are based on individual labour earnings. Second, in contrast to the measurement of poverty in European countries, poverty in the United States is based on an absolute poverty line and hence is not purely a relative concept. Differences in poverty across US states reflect both differences in the average level of income and differences in its distribution.

the poor is confined to the middle and upper income categories. Overall, Table 14 suggests that income inequality at the bottom of the distribution reduces trust mainly for those adversely affected by the increase in that type of inequality.

Table 15 examines whether the effect of inequality at the top differs by the same groups. The results are rather similar across gender and education groups, but the upper income group is clearly more negatively affected by increasing inequality at the top of the distribution. Interestingly, it is the group that benefits from inequality at the top that seems to be responding by lowering their trust – perhaps an indication that their increasing separation according to their income translates into greater isolation, in their values and perhaps in terms of their places of work and residential neighborhoods, from lower income groups.

It is worth noting that the estimated effect of inequality on trust using the ANES data is significant not only in the statistical sense, but also in magnitude. The coefficient on the residual P90/P10 ratio in Table 8 with the full specification is -0.909, and multiplying that with the actual increase in the residual P90/P10 ratio from 1980 to 2000 (Figure 2) of 0.067 yields a predicted decline in trust of 0.06. Table 3 indicates that the unexplained decline in trust is approximately 0.14 (the trend coefficient of -0.007 multiplied by 20 years). Thus, the increase inequality explains just about 44 percent of the unexplained decline in trust levels in the United States during this time period.

V. Analysis for European Countries

We now turn to the European Social Survey (ESS) to perform a similar analysis which exploits variation across 25 countries and over time (2002-2014). Table 16 presents estimates of the effect of various sources of household income inequality on trust in other people, and shows how the results are affected by the addition of more control variables to the specification. In addition, the results are presented for the younger (ages 25-45) and the older samples (ages 46-65).

The estimated effect of the P90/P10 income ratio is negative and significant for the specification with all of the available controls (age, gender, education, marital status, employment status, percent immigrants, and GDP per capita), but is not significant for specifications that do not include the latter two. The gini coefficient is significant and robust to the choice of specification, as are the P50/P10 ratio and the poverty rate (defined as the share of households with incomes of less than half the median). Inequality at the top of the distribution, represented by the P90/P50 ratio or the top 5% share, is not significant across specifications.

The overall findings in Table 16 point to a significant and negative effect of inequality on trust, but mostly confined to inequality stemming from the lower part of the income distribution – as represented by the P50/P10 ratio and the poverty rate. These findings are similar to those presented for the United States using the ANES data. Although the poverty

rate was not significant for the United States, the poverty rate in Europe is defined in relative terms, relative to half the median, rather than in absolute terms with respect to the national poverty line as is done in the United States. Since the results in Table 16 are very similar for the two age groups,
unlike the analysis of the United States, the remaining tables merge the two samples together.

Table 17 presents the estimates for various measures of inequality on several social capital views. The gini coefficient is significant for all the outcomes of interest – lowering trust and how much they believe others are fair and helpful. In addition, a larger gini coefficient increases one's belief that the government should reduce income gaps, while lowering satisfaction in government, satisfaction in life, and personal happiness. Similar effects on trust, fairness, and helpfulness are found with other measures of inequality, such as the P90/P10 ratio, the P50/P10 ratio, the poverty rate, and the poverty gap. The latter two also have similar impacts on one's view that government should reduce income gaps, and satisfaction in life and in government.

These findings stand in stark contrast to those found for the top income shares – the top 1%, top 5%, and the top 10%. Increases in these shares seem to increase the view that the government should reduce income gaps, and there is some evidence of a reduction in life satisfaction, but no evidence that they lower trust in other people. In fact, the estimated coefficients on trust, fairness, and helpfulness are all positive, and some of them are significant.

Table 17 reveals that employment rates in Europe have little effect on the various trust measures, but lower employment rates do seem to lower satisfaction in government and life.

Table 18 presents the results after including various components of inequality in one specification. In contrast to the analysis for the United States where the P50/P10 ratio dominated the other types of inequality, the results for the ESS are rather mixed. The P90/P50 and the P50/P10 ratios have similar effects when included in the same specification, and the employment rate is significant for several outcomes as well. Overall, it appears that inequality from all over the spectrum has a more significant, negative impact on trust and satisfaction in government than in the United States.

Table 19 examines whether the effect of the P90/P10 ratio on various social capital outcomes are different across gender and education groups. Both in terms of size and significance, the results are very similar for college graduates and non-college graduates, and for men and women as well. Table 20 reveals a similar pattern for the effect of inequality at the bottom of the distribution using the P50/P10 ratio, and Table 21 displays similar findings for inequality at the top using the P90/P50 ratio. The one exception is the significant and positive effect of the P90/P50 ratio on satisfaction in government for college graduates, while coming out insignificant for non-college graduates.

Overall, inequality seems to reduce an individual's sense of trust, fairness, and helpfulness in others, and this finding is rather consistent across gender and education groups. This stands in contrast to the finding for the United States where inequality, mostly at the bottom of the distribution, reduces trust but mainly for those that are adversely affected by that type of inequality. In Europe, the effect is a more general reaction, rather than a seemingly more personal one in the United States. Consistent with this idea, there is some evidence that inequality in Europe (the gini, the top shares, the poverty rate, and the poverty gap) is leading individuals to believe that the government should reduce income gaps, but this finding is not confined to those that are directly benefiting or being hurt by increases in inequality.

VI. CONCLUSION

This paper analyzed the effect of inequality on an individual's level of trust in others, as well as various other measures of social capital. The analysis was conducted for the United States using the ANES and exploiting variation in inequality across states and years, and for Europe using the ESS and variation across countries and time.

The results suggest that inequality at the bottom of the distribution lowers an individual's sense of trust in others – in the United States and in Europe. A causal interpretation of this finding is bolstered by the robustness of the effect to the inclusion and exclusion of several control variables – which supports the identifying assumption that the results would not be sensitive to omitted factors from the full-specification. In addition, these findings are robust to the inclusion of various other measures of inequality in the same specification – which controls for a myriad of other unobserved factors which may be driving the increasing inequality trends in many developed countries over recent decades.

For the United States, it appears that inequality at the bottom of the distribution is the main component of inequality that reduces trust, and this phenomenon is mainly confined to those that are negatively impacted by that component of inequality – individuals who are less educated and those at the lower third of the income distribution.

The trust levels of Europeans are also negatively affected by increasing inequality levels. However, in contrast to the United States, the impact of inequality on trust in Europe is more general. Inequality at the top and bottom of the distribution seem to have a negative impact, and the negative effect is shared across education groups. There is also some evidence that inequality from all over the spectrum is causing Europeans to desire more government action to reduce income gaps. In the United States, there is little evidence that this is case.

For both the United States and Europe, the results do not provide any support for the idea that increases in inequality at the very top of the distribution, such as the top 1 percent or top 5 percent shares, have led to a decline in overall trust levels. The significant negative effect of inequality on trust is apparently not driven by inequalities at these extreme ends of the

distribution. This finding may be due to the idea that very few people are directly affected by those forms of inequality.

Overall, our results suggest that the increasing income inequality trends in recent decades for many advanced countries may have negatively affected overall trust levels, and thereby, increased social gaps in society in the wake of widening income gaps. Given that trust has been found to be an important determinant of the macro-economic performance of the many countries, these findings suggest an important, albeit indirect, way that increasing inequality may be adversely affecting a country's growth and development over time.

References

Alesina A. and E. La Ferrara (2002), "Who Trusts Others?", *Journal of Public Economics*, 85, 207–234.

Alesina, A., and P. Giuliano (2016), "Culture and Institutions", *Journal of Economic Literature*, forthcoming.

Alesina, A., G. Cozzi, and N. Mantovan (2012), "The Evolution of Ideology, Fairness and Redistribution", *Economic Journal*, 122: 1244–1261.

Algan, Y. and P. Cahuc (2010), "Inherited Trust and Growth", *American Economic Review*, Vol. 100, December 2010: 2060–2092.

Algan, Y. and P. Cahuc (2013), "Trust, Growth, and Well-Being: New Evidence and Policy Implications," in *Handbook of Economic Growth*, P. Aghion and S. Durlauf (eds.), North-Holland, Elsevier.

Barone, G., and S. Mocetti (2016), "Inequality and Trust: New Evidence from Panel Data", *Economic Inquiry*, 54 (2), April 2016.

Bloom, N., R. Sadun, and J. Van Reenen (2012), "The Organization of Firms across Countries", *Quarterly Journal of Economics*, 127 (4): 1663-1705.

Cingano, F. (2014), "Trends in Income Inequality and its Impact on Economic Growth", OECD Social, Employment and Migration Working Paper, No. 163.

Cingano, F. and P. Pinotti (2016), "Trust, Firm Organization and the Structure of Production", *Journal of International Economics*, Vol 100, pp. 1-13.

Coleman, J.S. (1990), *Foundations of Social Theory*, Harvard University Press, Cambridge, Mass.

Dabla-Norris, E., K. Kochhar, N. Suphaphiphat, F. Ricka, E. Tsounta (2015), "Causes and Consequences of Income Inequality : A Global Perspective", Staff Discussion Notes, No. 15/13.

Galor, O. and J. Zeira (1993). "Income Distribution and Macroeconomics," *Review of Economic Studies*, 60(1), 35-52.

Guiso, L., Sapienza, P., and L. Zingales (2004), "The Role of Social Capital in Financial Development", *American Economic Review*, 94(3), 526–556.

Guiso, L., Sapienza, P., and L. Zingales (2006), "Does Culture Affect Economic Outcomes?", *Journal of Economic Perspectives*, 20(2): 23–48.

Guiso, L., Sapienza, P., and L. Zingales (2008), "Trusting the Stock Market," *Journal of Finance*, 63(6), 2557–2600.

Guiso, L., Sapienza, P. and L. Zingales (2009), "Cultural Biases in Economic Exchange?", *Quarterly Journal of Economics*, 124(3), 1095–1131.

Gustavsson, M. and H. Jordahl (2008), "Inequality and trust in Sweden: Some inequalities are more harmful than others", *Journal of Public Economics*, vol. 92(1-2), pages 348-365, February.

Jordahl, H. (2007), "Inequality and Trust", Working Paper Series 715, Research Institute of Industrial Economics.

Knack, S. and P. Keefer (1997), "Does Social Capital Have an Economic Payoff? A Cross-Country Investigation", *Quarterly Journal of Economics*, 112(4), 1252–1288.

La Porta R., Lopez-de-Silanes, F., Shleifer, A., and R. Vishny (1999), "The Quality of Government", *Journal of Law Economics and Organization*, 15(1), 222–279.

Nannicini, T., Stella, A., Tabellini, G., and U. Troiano (2012), "Social Capital and Political Accountability", *American Economic Journal: Economic Policy*, 5, 222–250.

Ostry, J. D., A. Berg, and C. Tsangarides (2014), "Redistribution, Inequality, and Growth." IMF Staff Discussion Note 14/02.

Putnam, R. D. (1995), "Tuning In, Tuning Out: The Strange Disappearance of Social Capital in America", *Political Science and Politics*, v. 28 (4), 664-665.

Putnam, R.D. (2001), *Our Kids: The American Dream in Crisis*, Simon & Schuster.

Rothstein, B. and E.M. Uslaner (2005), "All for All: Equality, Corruption, and Social Trust", *World Politics*, Vol.58, pp. 41-72.

Ruggles, Steven, Matthew Sobek, Trent Alexander, Catherine A. Fitch, Ronald Goeken, Patricia Kelly Hall, Miriam King, and Chad Ronnander. 2010. Integrated Public Use Microdata Series: Version 3.0 [Machine-readable database]. Minneapolis, MN: Minnesota Population Center [producer and distributor].

Sarracino, Francesco and Mikucka, Malgorzata (2016). "Social Capital in Europe from 1990 to 2012: Trends and Convergence," *Social Indicators Research*, February, 1-26.

Tabellini, G. (2008), "Institutions and Culture", *Journal of the European Economic Association*, 6(2–3), 255–294.

Tabellini, G. (2010), "Culture and Institutions: Economic Development in the Regions of Europe", *Journal of the European Economic Association*, 8(4), 677–716.

Tesei, A. (2015), "Trust and Racial Income Inequality: Evidence from the U.S", Working Papers 737, Queen Mary University of London, School of Economics and Finance.

Twenge, J. M., W.K. Campbell and N. T. Carter (2014), "Declines in Trust in Others and Confidence in Institutions Among American Adults and Late Adolescents, 1972–2012", *Psychological Science*, September 9, 2014, 1-12.

Zak, P.J. and S. Knack, (2001), "Trust and growth", *Economic Journal*, 111 (470), 291–321.

Table 1: ANES Summary Statistics - Means of Demographic Variables

Census Year	1980				1990			2000			2010	
Year of ANES Study	1976	1978	1980	1982	1988	1990	1992	1998	2000	2002	2008	2012
Age	39.85	39.29	39.872	40.32	39.72	39.77	39.57	40.70	40.83	40.07	41.92	42.76
Male	0.430	0.459	0.440	0.458	0.436	0.481	0.492	0.470	0.455	0.455	0.450	0.480
HS Dropout	0.255	0.224	0.214	0.175	0.167	0.180	0.142	0.115	0.109	0.108	0.091	0.090
HS Graduate	0.373	0.396	0.385	0.346	0.367	0.372	0.348	0.334	0.326	0.336	0.302	0.346
Some College	0.201	0.204	0.219	0.270	0.247	0.225	0.251	0.297	0.302	0.299	0.306	0.254
College Grad	0.127	0.122	0.118	0.127	0.156	0.151	0.178	0.154	0.178	0.178	0.204	0.206
Advanced Degree	0.044	0.053	0.063	0.081	0.064	0.072	0.080	0.100	0.085	0.079	0.097	0.105
Married	0.683	0.699	0.676	0.635	0.602	0.621	0.617	0.642	0.631	0.632	0.529	0.648
Protestant	0.636	0.617	0.614	0.635	0.641	0.573	0.586	0.487	0.537	0.554	0.568	0.308
Catholic	0.252	0.247	0.241	0.224	0.235	0.251	0.235	0.334	0.261	0.265	0.178	0.206
Jewish	0.026	0.026	0.026	0.017	0.015	0.018	0.015	0.019	0.017	0.013	0.015	0.017
White	0.864	0.845	0.825	0.846	0.745	0.746	0.749	0.727	0.725	0.735	0.719	0.699
Black	0.102	0.108	0.117	0.113	0.134	0.128	0.129	0.115	0.118	0.110	0.123	0.125
Income - Bottom Third	0.253	0.292	0.262	0.287	0.274	0.277	0.286	0.270	0.337	.	0.276	0.303
Income - Middle Third	0.335	0.331	0.396	0.303	0.371	0.323	0.314	0.346	0.312	.	0.403	0.364
Income - Top Third	0.412	0.377	0.342	0.410	0.355	0.400	0.399	0.384	0.351	.	0.322	0.334
Not Employed	0.097	0.075	0.097	0.104	0.088	0.100	0.115	0.090	0.100	0.077	0.131	0.149
Minimum Observations	1681	1684	1165	1031	1542	1444	1872	980	1275	1206	1747	4516

Table 2: ANES Summary Statistics - Means of Trust and Other Social Capital Variables

Census Year	1980				1990			2000			2010	
Year of ANES Study	1976	1978	1980	1982	1988	1990	1992	1998	2000	2002	2008	2012
Trust People	0.541						0.451	0.405	0.498	0.504		
People are Fair	0.629						.	0.552	0.670	0.687		
People are Helpful	0.553						0.589		0.620	0.676		
Trust Index	-0.016						-0.005	-0.047	-0.064	-0.132		
Trust Govt to Benefit All	0.232	0.247	0.207	0.286	0.315	0.247	0.222	0.317	0.356	0.512	0.301	0.194
Trust Govt to Do Right	0.342	0.299	0.236	0.327	0.416	0.279	0.289	0.400	0.423	0.544	0.302	0.230
Trust Govt Index	29.708	29.425	26.053	30.894	34.416	28.948	28.936	33.896	36.481	43.208	25.882	22.120
Never Attend Religious Service	0.209	0.236	0.243	0.220	0.209	0.334	0.342	0.333	0.336	0.346	0.399	0.449
Increase Spending on Poor							1.479		1.436	1.497	1.543	1.163
It is a problem if chances are unequal					3.279	3.355	3.446		3.459		3.463	3.390
Favor Larger Government						0.702	0.656		0.601		0.608	0.475
Minimum Observations	1402	1879	1135	1127	1415	1540	1754	1007	715	534	827	2396
Maximum Observations	1775	1913	1294	1144	1640	1562	2002	1028	1479	1214	1845	4666

Table 3: ANES Trends in "Trust People" in the United States from 1980-2000

	Ages 20 - 45									Ages 46-65								
	-1	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Year	-0.004***	-0.005***	-0.005***	-0.005***	-0.006***	-0.006***	-0.005***	-0.007***	-0.007***	-0.000	-0.000	-0.000	-0.000	-0.004***	-0.005***	-0.003***	-0.004***	-0.004***
	-0.001	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Age		0.138*	0.138*	0.136*	0.067	0.050	0.057	0.037	0.023		0.238	0.238	0.162	-0.235	-0.268	-0.543	-0.389	-0.149
		(0.080)	(0.080)	(0.080)	(0.078)	(0.077)	(0.075)	-0.081	(0.081)		(0.454)	(0.454)	(0.429)	(0.372)	(0.377)	(0.390)	(0.465)	(0.457)
Age Squared		-0.004	-0.004	-0.004	-0.002	-0.001	-0.002	-0.001	-0.000		-0.004	-0.004	-0.003	0.005	0.005	0.010	0.007	0.003
		(0.003)	(0.003)	(0.003)	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)		(0.008)	(0.008)	(0.008)	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)
Age Cubed		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000	-0.000	-0.000	-0.000	-0.000	-0.000
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Male Dummy				0.058***	0.041**	0.065***	0.045*	0.040	0.038				0.064***	0.036*	0.059	0.044	0.066	0.067
				(0.018)	(0.016)	(0.023)	(0.025)	(0.030)	(0.029)				(0.019)	(0.021)	(0.043)	(0.041)	(0.042)	(0.041)
HS Graduate					0.181***	0.177***	0.162***	0.162***	0.157***					0.185***	0.177***	0.130***	0.095**	0.085**
					(0.031)	(0.031)	(0.030)	(0.029)	(0.027)					(0.039)	(0.039)	(0.035)	(0.040)	(0.041)
Some College					0.259***	0.257***	0.237***	0.234***	0.231***					0.303***	0.301***	0.260***	0.228***	0.207***
					(0.028)	(0.028)	(0.027)	(0.031)	(0.032)					(0.032)	(0.032)	(0.028)	(0.039)	(0.041)
College Grad					0.429***	0.425***	0.392***	0.370***	0.366***					0.448***	0.438***	0.384***	0.308***	0.288***
					(0.034)	(0.033)	(0.033)	(0.041)	(0.041)					(0.040)	(0.041)	(0.034)	(0.045)	(0.048)
Advanced Degree					0.447***	0.442***	0.405***	0.388***	0.381***					0.458***	0.453***	0.410***	0.347***	0.338***
					(0.039)	(0.039)	(0.039)	(0.055)	(0.056)					(0.035)	(0.035)	(0.031)	(0.048)	(0.051)
Married						0.072***	0.036	0.015	0.013						0.092***	0.046	-0.010	0.005
						(0.021)	(0.022)	(0.025)	(0.025)						(0.030)	(0.031)	(0.034)	(0.036)
Married*Male						-0.035	-0.014	-0.027	-0.023						-0.044	-0.019	-0.036	-0.040
						(0.034)	(0.035)	(0.040)	(0.038)						(0.047)	(0.044)	(0.050)	(0.050)
Religion Dummies							Yes	Yes	Yes							Yes	Yes	Yes
Race Dummies							Yes	Yes	Yes							Yes	Yes	Yes
Family Income Dummies								Yes	Yes								Yes	Yes
Employment Status								Yes	Yes								Yes	Yes
State Fixed-Effects									Yes									Yes
Observations	4,165	4,165	4,165	4,165	4,135	4,135	4,113	3,337	3,337	2,600	2,600	2,600	2,600	2,576	2,576	2,561	1,883	1,883

Table 4: ANES Trends in Trust and Other Social Capital Variables

	Trust People	People are Fair	People are Helpful	Trust Index	Trust Government Index	Never Attend Religious Service	Increase Spending on Poor	It is a problem if chances are unequal	Favor Larger Government
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Year	-0.007***	-0.001	0.000	-0.007***	-0.124***	0.001**	-0.016***	-0.006***	-0.010***
	(0.001)	(0.001)	(0.001)	(0.002)	(0.025)	(0.000)	(0.002)	(0.002)	(0.001)
Observations	3,337	2,125	2,658	3,220	10,986	11,465	5,096	6,088	5,080

Notes: The reported coefficients are from separate OLS regressions. Standard errors, which are clustered by state, appear in parentheses. Significance levels are indicated by one, two, or three stars which represent 10 percent, 5 percent, and 1 percent levels, respectively. Each regression includes personal controls (age, education, gender, marital status, race category, religion group, income category, and employment status) and fixed-effects for each state.

Table 5: Summary Statistics of Demographics and Social Capital Variables in the ESS Sample

	2002		2004		2006		2008		2010		2012		2014	
	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count
Age	41.946	27907	42.063	31616	42.526	28307	42.284	37559	42.931	33652	43.020	35491	43.356	24805
Male	0.480	27897	0.467	31588	0.466	28286	0.463	37550	0.461	33642	0.464	35478	0.473	24799
College Graduate	0.248	27758	0.258	31385	0.314	28215	0.310	37493	0.324	33536	0.343	35313	0.349	24708
Married	0.681	27667	0.666	31451	0.663	28025	0.657	37306	0.635	33580	0.641	35361	0.647	24715
Working Last 7 Days	0.648	27540	0.632	31481	0.676	28172	0.646	37404	0.626	33563	0.640	35261	0.693	24724
GDP Per Capita	10.408	27907	10.360	30405	10.462	23816	10.394	28457	10.402	26266	10.422	26752	10.475	23369
Trust People	5.064	27839	4.937	31521	5.027	28180	4.681	37454	4.865	33563	4.914	35378	5.242	24773
People are Fair	5.592	27750	5.479	31395	5.590	27990	5.229	37237	5.366	33402	5.438	35177	5.770	24694
People are Helpful	4.730	27809	4.674	31469	4.761	28159	4.484	37390	4.646	33489	4.783	35335		
Strongly Agree Govt Should Reduce Gaps	0.250	27882	0.283	31585	0.300	28268	0.303	37528	0.352	33627	0.354	35434	0.319	24786
Satisfied with Govt	4.230	25817	4.243	30614	4.290	27472	3.785	36766	3.666	32984	3.816	34794	4.028	24338
Satisfied with Life	7.029	27783	6.844	31499	6.775	28180	6.544	37282	6.609	33523	6.694	35309		
Happiness	7.406	27800	7.238	31471	7.188	28118	6.986	37260	7.019	33394	7.104	35246	7.397	24723
More Religious	4.706	27734	4.592	31402	4.469	28073	4.645	37134	4.415	33289	4.494	35111	3.997	24632

Table 6: Summary Statistics of Inequality Measures in the ESS Sample

	2002		2004		2006		2008		2010		2012		2014	
	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count
Disposable Income 90/10	3.071	19188	3.249	23746	3.318	21821	3.309	23552	3.396	27258	3.171	21431	3.354	4882
Gini - Disposable Income	0.258	1405	0.306	14679	0.305	10747	0.298	13894	0.301	17978	0.294	26752	0.288	1174
Disposable Income 90/50	1.851	19188	1.927	23746	1.950	21821	1.979	23552	1.981	27258	1.919	21431	1.920	4882
Top 1% Income Share	8.830	16957	9.348	15868	9.637	14211	9.084	12814	8.509	8776	8.770	6002		
Top 5% Income Share	21.374	15504	21.985	14275	22.082	13141	21.507	11782	21.009	8776	21.648	6002		
Top 10% Income Share	32.155	16957	33.017	15868	33.100	14211	32.355	12814	31.625	8776	32.588	6002		
Disposable Income 50/10	1.638	19188	1.676	23746	1.689	21821	1.661	23552	1.706	27258	1.648	21431	1.750	4882
Poverty Rate	0.062	1405	0.103	14679	0.101	10747	0.097	13894	0.100	17978	0.097	26752	0.101	1174
Poverty Gap	0.248	1405	0.302	17373	0.298	16018	0.303	19587	0.320	24320	0.315	17056		
Employment Rate	77.999	22967	79.016	25825	80.734	23816	79.489	28457	78.634	26266	78.928	27734	80.237	23369
Employment Rate - Ages 25-39	0.780	27907	0.757	31616	0.800	28307	0.766	37559	0.755	33652	0.741	35491	0.797	24805
Unemployment Rate - Ages 25-39	0.076	27907	0.098	31616	0.072	28307	0.103	37559	0.132	33652	0.140	35491	0.097	24805

Table 7: ESS Trends in "Trust People" in Europe from 2002-2014

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Year	0.028***	0.028***	0.028***	0.009***	0.010***	-0.009***	0.002
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)
Age		-0.043*	-0.043*	-0.172***	-0.174***	-0.188***	-0.198***
		(0.026)	(0.026)	(0.025)	(0.026)	(0.025)	(0.024)
Age Squared		0.001**	0.001**	0.004***	0.004***	0.005***	0.005***
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Age Cubed		-0.000***	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Male		0.087***	0.087***	0.058***	0.159***	0.122***	0.111***
		(0.017)	(0.017)	(0.016)	(0.029)	(0.029)	(0.028)
Educ ISCED 2				0.641***	0.638***	0.313***	0.110***
				(0.037)	(0.037)	(0.036)	(0.037)
Educ ISCED 3				0.816***	0.813***	0.509***	0.443***
				(0.033)	(0.033)	(0.031)	(0.035)
Educ ISCED 4				1.306***	1.302***	0.894***	0.739***
				(0.046)	(0.046)	(0.045)	(0.047)
Educ ISCED 5				1.753***	1.754***	1.294***	1.179***
				(0.033)	(0.034)	(0.033)	(0.035)
Married					-0.055**	0.014	0.027
					(0.027)	(0.026)	(0.026)
Married*Female					0.148***	0.098***	0.095***
					(0.035)	(0.035)	(0.034)
GDP Per Capita						1.899***	0.374**
						(0.028)	(0.149)
Country Fixed-Effects							Yes
Observations	186,552	186,467	186,467	185,615	184,613	184,613	184,613

Table 8: ANES Analysis of Inequality and Trust with Robustness Checks to Control Variables - 20-45 Year Olds

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Residual 90/10	-0.529	-0.630*	-0.765*	-0.793*	-0.764*	-0.685*	-0.909**							
	(0.369)	(0.368)	(0.431)	(0.422)	(0.420)	(0.401)	(0.415)							
Residual 90/50								0.196	-0.115	0.491	0.485	0.303	0.138	-0.249
								(1.032)	(1.134)	(1.055)	(1.104)	(1.074)	(0.948)	(1.000)
Residual 50/10								-1.083*	-1.024	-1.735**	-1.735**	-1.513**	-1.281*	-1.308*
								(0.616)	(0.673)	(0.720)	(0.722)	(0.705)	(0.677)	(0.696)
Age, Gender, Education, Marital Status	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Religion Dummies		Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Race Dummies		Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Family Income Dummies			Yes	Yes	Yes	Yes	Yes			Yes	Yes	Yes	Yes	Yes
Employment Status			Yes	Yes	Yes	Yes	Yes			Yes	Yes	Yes	Yes	Yes
State Mean Log Wage				Yes	Yes	Yes	Yes				Yes	Yes	Yes	Yes
State Education and Age Controls					Yes	Yes	Yes					Yes	Yes	Yes
State Violent and Property Crime						Yes	Yes						Yes	Yes
State Percent Immigrants							Yes							Yes
Year of Study Fixed-Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed-Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4,076	4,054	3,283	3,283	3,283	3,283	3,283	4,076	4,054	3,283	3,283	3,283	3,283	3,283

Notes: The reported coefficients in each column are from separate OLS regressions. Standard errors, which are clustered by state, appear in parentheses. Significance levels are indicated by one, two, or three stars which represent 10 percent, 5 percent, and 1 percent levels, respectively.

Table 9: ANES Analysis of Inequality and Trust with Robustness Checks to Control Variables - 46-65 Year Olds

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Residual 90/10	-0.083	-0.251	0.182	0.186	0.167	0.215	0.744							
	(0.524)	(0.510)	(0.516)	(0.524)	(0.527)	(0.521)	(0.672)							
Residual 90/50								1.594	1.111	2.169	2.258	2.567**	2.459**	4.018**
								(1.266)	(1.288)	(1.335)	(1.369)	(1.169)	(1.170)	(1.507)
Residual 50/10								-1.508	-1.411	-1.500	-1.481	-1.648*	-1.514	-1.374
								(1.080)	(1.075)	(0.945)	(0.937)	(0.924)	(0.950)	(1.070)
Age, Gender, Education, Marital Status	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Religion Dummies		Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Race Dummies		Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Family Income Dummies			Yes	Yes	Yes	Yes	Yes			Yes	Yes	Yes	Yes	Yes
Employment Status			Yes	Yes	Yes	Yes	Yes			Yes	Yes	Yes	Yes	Yes
State Mean Log Wage				Yes	Yes	Yes	Yes				Yes	Yes	Yes	Yes
State Education and Age Controls					Yes	Yes	Yes					Yes	Yes	Yes
State Violent and Property Crime						Yes	Yes						Yes	Yes
State Percent Immigrants							Yes							Yes
Year of Study Fixed-Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed-Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,538	2,523	1,850	1,850	1,850	1,850	1,850	2,538	2,523	1,850	1,850	1,850	1,850	1,850

Notes: The reported coefficients in each column are from separate OLS regressions. Standard errors, which are clustered by state, appear in parentheses. Significance levels are indicated by one, two, or three stars which represent 10 percent, 5 percent, and 1 percent levels, respectively.

Table 10: ANES Analysis of Overall Inequality Measures and Social Capital Outcomes (Ages 20-45)

	Trust People	People are Fair	People are Helpful	Trust Index	Trust Government Index	Never Attend Religious Service	Increase Spending on Poor	It is a problem if chances are unequal	Favor Larger Government
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Residual 90/10	-0.909**	-2.042***	-2.118***	-3.620***	-38.931**	0.516	-2.539***	1.067	-0.442
	(0.415)	(0.458)	(0.510)	(0.803)	(17.102)	(0.335)	(0.582)	(0.904)	(0.391)
	3,283	2,071	2,607	3,167	10,910	11,407	5,087	6,081	5,073
Total 90/10	-0.337	-1.464***	-1.141**	-1.909***	-24.557**	0.267	-0.873	0.367	-0.328
	(0.309)	(0.394)	(0.451)	(0.574)	(9.310)	(0.168)	(0.553)	(0.698)	(0.290)
	3,283	2,071	2,607	3,167	10,910	11,407	5,087	6,081	5,073
Gini	-3.579**	-6.597***	-6.682***	-13.376***	-118.231**	0.971	2.480	0.682	-0.759
	(1.558)	(2.112)	(2.273)	(3.247)	(56.578)	(0.956)	(3.415)	(4.311)	(2.436)
	3,283	2,071	2,607	3,167	10,910	11,407	5,087	6,081	5,073
Return to College	-0.190	-0.883	-0.585	-1.252	-15.710	0.080	-0.387	-0.521	-0.287
	(0.603)	(0.700)	(0.770)	(1.318)	(16.813)	(0.272)	(0.720)	(1.267)	(0.546)
	3,283	2,071	2,607	3,167	10,910	11,407	5,087	6,081	5,073
Residual 90/50	-1.289	-2.640**	-3.928**	-6.331***	-48.665	0.551	-5.974***	0.716	-1.547*
	(0.878)	(1.204)	(1.568)	(1.975)	(36.804)	(0.672)	(1.283)	(2.150)	(0.782)
	3,283	2,071	2,607	3,167	10,910	11,407	5,087	6,081	5,073
Residual 50/10	-1.399**	-3.800***	-2.713***	-5.014***	-64.059***	0.901**	-2.481**	1.974	-0.186
	(0.616)	(0.927)	(0.754)	(1.253)	(22.429)	(0.444)	(0.984)	(1.184)	(0.572)
	3,283	2,071	2,607	3,167	10,910	11,407	5,087	6,081	5,073

Notes: Each group of three numbers represents a coefficient, standard error, and the number of observations used in a separate OLS regression using the independent variable indicated in the first column and the dependent variable listed at the top. Standard errors, which are clustered by state, appear in parentheses. Standard errors, which are clustered by state, appear in parentheses. Significance levels are indicated by one, two, or three stars which represent 10 percent, 5 percent, and 1 percent levels, respectively. Each regression includes personal controls (age, education, gender, marital status, race category, religion group, income category, and employment status) and state-level variables for mean log income for full-time workers, the education distribution, the age distribution, percent immigrants, property crime rate, and violent crime rate. All specifications include fixed-effects for state and year of study.

Table 11: ANES Analysis of Inequality at the Bottom End and Social Capital Outcomes (Ages 20-45)

	Trust People	People are Fair	People are Helpful	Trust Index	Trust Government Index	Never Attend Religious Service	Increase Spending on Poor	It is a problem if chances are unequal	Favor Larger Government
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Residual 50/10	-1.399**	-3.800***	-2.713***	-5.014***	-64.059***	0.901**	-2.481**	1.974	-0.186
	(0.616)	(0.927)	(0.754)	(1.253)	(22.429)	(0.444)	(0.984)	(1.184)	(0.572)
	3,283	2,071	2,607	3,167	10,910	11,407	5,087	6,081	5,073
Total 50/10	-0.739**	-2.011***	-1.240*	-2.635***	-35.333**	0.608**	-1.013	1.312*	-0.379
	(0.360)	(0.638)	(0.690)	(0.833)	(13.515)	(0.238)	(0.627)	(0.733)	(0.353)
	3,283	2,071	2,607	3,167	10,910	11,407	5,087	6,081	5,073
Employment Rate of Non-College	0.003	-0.014	-0.000	0.009	0.220	0.001	0.005	-0.008	0.014
	(0.007)	(0.009)	(0.013)	(0.020)	(0.266)	(0.004)	(0.013)	(0.022)	(0.009)
	3,283	2,071	2,607	3,167	10,910	11,407	5,087	6,081	5,073
Poverty Rate	2.216*	-0.014	0.580	3.500	-45.080*	0.297	-3.614***	-2.106	-0.422
	(1.173)	(1.723)	(1.591)	(2.649)	(25.255)	(0.372)	(0.874)	(1.319)	(0.619)
	3,283	2,071	2,607	3,167	10,910	11,407	5,087	6,081	5,073

Notes: Each group of three numbers represents a coefficient, standard error, and the number of observations used in a separate OLS regression using the independent variable indicated in the first column and the dependent variable listed at the top. Standard errors, which are clustered by state, appear in parentheses. Standard errors, which are clustered by state, appear in parentheses. Significance levels are indicated by one, two, or three stars which represent 10 percent, 5 percent, and 1 percent levels, respectively. Each regression includes personal controls (age, education, gender, marital status, race category, religion group, income category, and employment status) and state-level variables for mean log income for full-time workers, the education distribution, the age distribution, percent immigrants, property crime rate, and violent crime rate. All specifications include fixed-effects for state and year of study.

Table 12: ANES Analysis of Inequality at the Top End and Social Capital Outcomes (Ages 20-45)

	Trust People	People are Fair	People are Helpful	Trust Index	Trust Government Index	Never Attend Religious Service	Increase Spending on Poor	It is a problem if chances are unequal	Favor Larger Government
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Residual 90/50	-1.289	-2.640**	-3.928**	-6.331***	-48.665	0.551	-5.974***	0.716	-1.547*
	(0.878)	(1.204)	(1.568)	(1.975)	(36.804)	(0.672)	(1.283)	(2.150)	(0.782)
	3,283	2,071	2,607	3,167	10,910	11,407	5,087	6,081	5,073
Total 90/50	0.204	-1.764***	-1.679*	-1.908	-18.683	-0.168	-0.672	-1.880	-0.259
	(0.764)	(0.614)	(0.921)	(1.402)	(17.119)	(0.259)	(1.227)	(1.409)	(0.671)
	3,283	2,071	2,607	3,167	10,910	11,407	5,087	6,081	5,073
Top 1% Share	-0.006	-0.014	-0.022*	-0.035	0.065	0.002	-0.056***	-0.002	-0.008
	(0.009)	(0.014)	(0.013)	(0.023)	(0.316)	(0.006)	(0.008)	(0.014)	(0.006)
	3,283	2,071	2,607	3,167	10,910	11,407	5,087	6,081	5,073
Top 5% Share	-0.008	-0.019	-0.023**	-0.039*	0.076	0.002	-0.052***	0.004	-0.009*
	(0.008)	(0.014)	(0.011)	(0.020)	(0.315)	(0.005)	(0.008)	(0.013)	(0.005)
	3,283	2,071	2,607	3,167	10,910	11,407	5,087	6,081	5,073
Top 10% Share	-0.010	-0.021	-0.023**	-0.043**	0.285	-0.002	-0.047***	0.010	-0.007
	(0.007)	(0.014)	(0.010)	(0.018)	(0.321)	(0.005)	(0.009)	(0.016)	(0.006)
	3,283	2,071	2,607	3,167	10,910	11,407	5,087	6,081	5,073

Notes: Each group of three numbers represents a coefficient, standard error, and the number of observations used in a separate OLS regression using the independent variable indicated in the first column and the dependent variable listed at the top. Standard errors, which are clustered by state, appear in parentheses. Significance levels are indicated by one, two, or three stars which represent 10 percent, 5 percent, and 1 percent levels, respectively. Each regression includes personal controls (age, education, gender, marital status, race category, religion group, income category, and employment status) and state-level variables for mean log income for full-time workers, the education distribution, the age distribution, p percent immigrants, roperty crime rate, and violent crime rate. All specifications include fixed-effects for state and year of study.

Table 13: ANES Analysis of Social Capital with Multiple Inequality Variables Together

	Trust People	People are Fair	People are Helpful	Trust Index	Trust Government Index	Never Attend Religious Service	Increase Spending on Poor	It is a problem if chances are unequal	Favor Larger Government
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Residual 90/50	-0.596	-0.180	-2.800	-4.043	-26.559	0.098	-3.902**	-0.032	-1.567
	(0.993)	(1.723)	(1.935)	(2.519)	(43.418)	(0.755)	(1.542)	(2.583)	(0.936)
Residual 50/10	-1.858*	-4.630***	-2.483*	-5.133**	-70.025***	1.100**	0.047	3.398**	0.731
	(1.054)	(1.641)	(1.281)	(2.254)	(26.087)	(0.451)	(0.986)	(1.517)	(0.803)
Top 5%	0.001	-0.013	-0.007	-0.006	0.416	-0.002	-0.039***	-0.009	-0.006
	(0.009)	(0.010)	(0.014)	(0.025)	(0.320)	(0.005)	(0.009)	(0.015)	(0.006)
Return to College	0.820	1.261	1.316	2.484	6.119	-0.268	0.537	-1.774	-0.211
	(0.851)	(0.798)	(0.902)	(1.634)	(20.349)	(0.253)	(0.689)	(1.312)	(0.639)
Observations	3,283	2,071	2,607	3,167	10,910	11,407	5,087	6,081	5,073

Notes: Each column respresents a separate OLS regression. Standard errors, which are clustered by state, appear in parentheses. Significance levels are indicated by one, two, or three stars which represent 10 percent, 5 percent, and 1 percent levels, respectively. Each regression includes personal controls (age, education, gender, marital status, race category, religion group, income category, and employment status) and state-level variables for mean log income for full-time workers, the education distribution, the age distribution, percent immigrants, property crime rate, and violent crime rate. All specifications include fixed-effects for state and year of study.

Table 14: ANES Analysis of Residual 50/10 Inequality on Social Capital by Subgroups

	Trust People	People are Fair	People are Helpful	Trust Index	Trust Government Index	Never Attend Religious Service	Increase Spending on Poor	It is a problem if chances are unequal	Favor Larger Government
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
College Graduates	0.124	-2.917	1.221	0.490	-78.813*	2.099**	-1.030	4.792*	-0.772
	(1.573)	(2.584)	(2.086)	(3.609)	(45.084)	(0.810)	(2.138)	(2.807)	(0.969)
	878	546	691	846	2,793	2,895	1,505	1,734	1,495
Non-College Grads	-2.217***	-3.534**	-4.010***	-7.169***	-62.662*	0.401	-2.799**	2.090	0.151
	(0.738)	(1.323)	(0.834)	(1.453)	(31.237)	(0.464)	(1.257)	(1.417)	(0.739)
	2,405	1,525	1,916	2,321	8,117	8,512	3,582	4,347	3,578
Income - Bottom Third	-2.304	-2.509	-3.805**	-6.147**	-11.901	0.050	0.498	-2.188	1.801
	(1.374)	(1.750)	(1.738)	(2.705)	(46.596)	(0.694)	(1.477)	(2.558)	(1.178)
	919	566	719	881	3,252	3,437	1,761	1,959	1,694
Income - Middle Third	-1.867	-2.885	-1.841	-4.774*	-62.948	1.186*	-3.343*	2.670	0.111
	(1.414)	(1.776)	(1.336)	(2.418)	(45.188)	(0.641)	(1.688)	(2.512)	(1.068)
	1,150	737	903	1,106	3,930	4,081	1,806	2,202	1,810
Income - Top Third	0.091	-5.777***	-1.551	-2.961	-94.521**	1.312*	-3.116*	5.653**	-0.847
	(1.236)	(1.493)	(1.628)	(2.724)	(37.204)	(0.758)	(1.561)	(2.113)	(1.107)
	1,214	768	985	1,180	3,728	3,889	1,520	1,920	1,569
Men	-0.958	-4.396*	-2.487*	-4.155*	-56.564*	2.596***	-2.683**	4.819***	0.798
	(0.963)	(2.497)	(1.324)	(2.319)	(32.085)	(0.711)	(1.249)	(1.701)	(0.718)
	1,524	936	1,209	1,471	5,054	5,272	2,410	2,843	2,409
Women	-1.584*	-3.081*	-3.200***	-5.824***	-68.212**	-0.544	-2.212*	-1.130	-0.747
	(0.845)	(1.653)	(0.996)	(1.627)	(27.623)	(0.594)	(1.312)	(2.012)	(0.764)
	1,759	1,135	1,398	1,696	5,856	6,135	2,677	3,238	2,664

Notes: Each group of three numbers represents a coefficient, standard error, and the number of observations used in a separate OLS regression using the sample indicated in the first column and the dependent variable listed at the top. Standard errors, which are clustered by state, appear in parentheses. Significance levels are indicated by one, two, or three stars which represent 10 percent, 5 percent, and 1 percent levels, respectively. Each regression includes personal controls (age, education, gender, marital status, race category, religion group, income category, and employment status) and state-level variables for mean log income for full-time workers, the education distribution, the age distribution, percent immigrants, property crime rate, and violent crime rate. All specifications include fixed-effects for state and year of study.

Table 15: ANES Analysis of Residual 90/50 Inequality on Social Capital by Subgroups

	Trust People	People are Fair	People are Helpful	Trust Index	Trust Government Index	Never Attend Religious Service	Increase Spending on Poor	It is a problem if chances are unequal	Favor Larger Government
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
College Graduates	-0.691	-5.517**	-2.321	-6.166	-144.045**	2.185	-4.281	0.988	-2.894
	(2.116)	(2.223)	(2.724)	(4.961)	(57.620)	(1.403)	(3.726)	(5.043)	(1.927)
	878	546	691	846	2,793	2,895	1,505	1,734	1,495
Non-College Grads	-1.395	-1.376	-4.491**	-6.804***	-18.482	0.099	-6.289***	2.003	-1.091
	(0.928)	(1.459)	(2.057)	(2.219)	(49.136)	(0.749)	(1.628)	(2.247)	(1.009)
	2,405	1,525	1,916	2,321	8,117	8,512	3,582	4,347	3,578
Income - Bottom Third	-1.955	-2.635	-4.535	-6.600	-16.762	-0.840	-0.283	2.025	-0.768
	(2.095)	(2.331)	(3.120)	(4.651)	(66.557)	(1.204)	(2.217)	(4.199)	(1.367)
	919	566	719	881	3,252	3,437	1,761	1,959	1,694
Income - Middle Third	0.035	-0.301	-5.267*	-4.747	-13.705	1.111	-10.288***	0.531	0.162
	(2.045)	(1.905)	(2.774)	(3.933)	(54.871)	(0.924)	(1.881)	(4.133)	(1.421)
	1,150	737	903	1,106	3,930	4,081	1,806	2,202	1,810
Income - Top Third	-2.588	-5.087**	-2.024	-8.302**	-122.171**	1.166	-4.344	-1.542	-1.608
	(1.623)	(2.245)	(2.586)	(3.784)	(52.850)	(1.155)	(3.210)	(3.433)	(1.816)
	1,214	768	985	1,180	3,728	3,889	1,520	1,920	1,569
Men	-2.041	-2.285	-4.463**	-6.093*	-89.930*	2.112**	-6.701***	1.741	-1.481
	(1.495)	(2.340)	(2.037)	(3.440)	(49.153)	(0.852)	(2.000)	(3.488)	(1.260)
	1,524	936	1,209	1,471	5,054	5,272	2,410	2,843	2,409
Women	-0.576	-2.899*	-3.362	-6.172**	-22.036	-0.773	-5.308**	-0.882	-1.659
	(1.007)	(1.719)	(2.476)	(2.738)	(38.838)	(0.820)	(2.226)	(2.860)	(1.133)
	1,759	1,135	1,398	1,696	5,856	6,135	2,677	3,238	2,664

Notes: Each group of three numbers represents a coefficient, standard error, and the number of observations used in a separate OLS regression using the sample indicated in the first column and the dependent variable listed at the top. Standard errors, which are clustered by state, appear in parentheses. Significance levels are indicated by one, two, or three stars which represent 10 percent, 5 percent, and 1 percent levels, respectively. Each regression includes personal controls (age, education, gender, marital status, race category, religion group, income category, and employment status) and state-level variables for mean log income for full-time workers, the education distribution, the age distribution, percent immigrants, property crime rate, and violent crime rate. All specifications include fixed-effects for state and year of study.

Table 16: ESS Analysis of Inequality and Trust with Robustness Checks

	Ages 25-45						Ages 46-65					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Disposable Income 90/10	-0.206	-0.200	-0.177	-0.192	-0.194	-0.368***	-0.101	-0.101	-0.108	-0.126	-0.121	-0.292**
	(0.132)	(0.130)	(0.119)	(0.120)	(0.119)	(0.094)	(0.118)	(0.119)	(0.099)	(0.100)	(0.098)	(0.115)
	79,648	79,607	79,218	78,765	78,397	77,897	61,909	61,885	61,550	61,320	61,017	60,558
Disposable Income Gini	-5.959**	-6.034***	-6.282***	-6.281***	-6.134***	-4.593	-5.675**	-5.713**	-6.181**	-6.096**	-5.971**	-5.307
	(2.162)	(2.162)	(2.141)	(2.146)	(2.160)	(3.195)	(2.501)	(2.523)	(2.315)	(2.336)	(2.367)	(3.264)
	68,340	68,295	68,020	67,615	67,347	65,286	52,132	52,107	51,855	51,640	51,430	49,996
Disposable Income 90/50	-0.235	-0.223	-0.177	-0.258	-0.299	-1.030***	0.035	0.042	0.151	0.094	0.093	-0.535
	(0.288)	(0.289)	(0.264)	(0.265)	(0.270)	(0.338)	(0.348)	(0.345)	(0.319)	(0.304)	(0.297)	(0.498)
	79,648	79,607	79,218	78,765	78,397	77,897	61,909	61,885	61,550	61,320	61,017	60,558
Disposable Income 50/10	-0.842**	-0.831**	-0.701**	-0.696**	-0.672**	-0.771***	-0.671	-0.679	-0.762**	-0.790**	-0.758**	-0.904***
	(0.355)	(0.350)	(0.314)	(0.317)	(0.310)	(0.269)	(0.472)	(0.476)	(0.350)	(0.346)	(0.339)	(0.316)
	79,648	79,607	79,218	78,765	78,397	77,897	61,909	61,885	61,550	61,320	61,017	60,558
Top 5% Income Share	0.012	0.011	0.014	0.015	0.014	0.027	0.020	0.019	0.025**	0.026**	0.023**	0.025*
	(0.009)	(0.009)	(0.014)	(0.014)	(0.014)	(0.022)	(0.011)	(0.011)	(0.009)	(0.009)	(0.010)	(0.012)
	38,783	38,782	38,657	38,613	38,526	38,526	30,619	30,619	30,473	30,441	30,362	30,362
Poverty Rate	-3.916**	-3.938**	-4.300***	-4.301***	-4.169***	-4.100**	-5.873***	-5.894***	-6.193***	-6.168***	-6.140***	-4.776**
	(1.529)	(1.520)	(1.360)	(1.337)	(1.334)	(1.500)	(1.917)	(1.904)	(1.766)	(1.786)	(1.776)	(1.872)
	48,307	48,264	48,036	47,723	47,513	47,513	38,098	38,074	37,859	37,690	37,489	37,489
Age and Gender		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
Education Group			Yes	Yes	Yes	Yes			Yes	Yes	Yes	Yes
Marital Status by Education				Yes	Yes	Yes				Yes	Yes	Yes
Employment Status					Yes	Yes					Yes	Yes
Percent Immigrants						Yes						Yes
GDP per Capita						Yes						Yes
Year Fixed-Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed-Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Each group of three numbers represents a coefficient, standard error, and the number of observations used in a separate OLS regression using the independent variables indicated in the first column and "trust" as the dependent variable. Standard errors, which are clustered by country, appear in parentheses. Significance levels are indicated by one, two, or three stars which represent 10 percent, 5 percent, and 1 percent levels, respectively.

Table 17: ESS Analysis of Inequality on Various Social Capital Measures for Ages 25-65

	Trust People	People are Fair	People are Helpful	Strongly Agree Govt Should Reduce Gaps	Satisfied with Govt	Satisfied with Life	Happiness	More Religious
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Disposable Income 90/10	-0.346***	-0.295***	-0.203	0.004	1.056	0.162	-0.171	0.340
	(0.106)	(0.093)	(0.177)	(0.060)	(0.794)	(0.179)	(0.155)	(0.229)
	138,455	138,065	133,562	138,588	135,997	133,502	138,181	137,735
Gini - Disposable Income	-5.217***	-2.829*	-3.246**	1.030**	-14.452**	-7.333***	-5.470***	-0.311
	(1.825)	(1.448)	(1.349)	(0.448)	(5.462)	(2.401)	(1.497)	(1.720)
	85,002	84,749	83,767	85,114	83,661	83,746	84,815	84,445
Disposable Income 90/50	-0.859**	-0.539	-0.436	0.005	4.555	0.617	-0.888	0.948
	(0.386)	(0.320)	(0.465)	(0.227)	(2.933)	(0.540)	(0.629)	(0.752)
	138,455	138,065	133,562	138,588	135,997	133,502	138,181	137,735
Top 1% Income Share	0.031*	0.012	0.053***	0.017*	0.045	-0.031	0.016	0.090***
	(0.016)	(0.009)	(0.016)	(0.008)	(0.120)	(0.022)	(0.017)	(0.023)
	73,902	73,827	73,856	73,926	71,351	73,863	73,867	73,704
Top 5% Income Share	0.024	0.015**	0.038***	0.017**	0.042	-0.032*	0.017	0.056**
	(0.016)	(0.005)	(0.012)	(0.007)	(0.098)	(0.015)	(0.013)	(0.024)
	68,888	68,813	68,853	68,904	67,807	68,853	68,853	68,694
Top 10% Income Share	0.018	0.010	0.032**	0.015*	0.034	-0.029**	0.018	0.046
	(0.018)	(0.006)	(0.014)	(0.008)	(0.090)	(0.013)	(0.012)	(0.027)
	73,902	73,827	73,856	73,926	71,351	73,863	73,867	73,704
Disposable Income 50/10	-0.850***	-0.849***	-0.500	-0.015	1.519	0.162	-0.201	0.711
	(0.265)	(0.176)	(0.455)	(0.104)	(1.666)	(0.425)	(0.334)	(0.546)
	138,455	138,065	133,562	138,588	135,997	133,502	138,181	137,735
Poverty Rate	-4.333**	-2.024	-3.616***	1.043***	-14.765**	-5.704**	-4.147**	-1.028
	(1.631)	(1.484)	(0.862)	(0.348)	(5.912)	(2.480)	(1.711)	(1.703)
	85,002	84,749	83,767	85,114	83,661	83,746	84,815	84,445
Poverty Gap	-2.241***	-0.938*	-1.385**	0.685***	-3.894***	-2.315**	-1.668**	0.085
	(0.553)	(0.468)	(0.638)	(0.146)	(0.893)	(0.851)	(0.648)	(0.554)
	94,140	93,870	94,053	94,281	92,577	94,021	93,949	93,579
Employment Rate	0.018	0.015*	-0.014	-0.004	0.191***	0.045***	0.046**	0.014
	(0.014)	(0.007)	(0.019)	(0.004)	(0.043)	(0.013)	(0.020)	(0.018)
	174,375	173,888	151,136	174,574	169,809	151,015	174,019	173,500
Employment Rate - Ages 25-39	1.658*	1.088	0.917	0.162	12.828***	2.887***	2.464*	0.383
	(0.912)	(0.704)	(1.159)	(0.215)	(1.631)	(0.977)	(1.344)	(1.005)
	183,663	183,152	160,415	183,870	178,934	160,301	183,303	182,759
Unemployment Rate - Ages 25-39	-1.349	-1.182*	-0.855	-0.181	-13.014***	-3.446***	-3.128**	-0.677
	(0.947)	(0.674)	(1.187)	(0.224)	(0.720)	(0.753)	(1.259)	(1.101)
	183,663	183,152	160,415	183,870	178,934	160,301	183,303	182,759

Notes: Each group of three numbers represents a coefficient, standard error, and the number of observations used in a separate OLS regression using the independent variable indicated in the first column and the dependent variable listed at the top. Standard errors, which are clustered by country, appear in parentheses. Significance levels are indicated by one, two, or three stars which represent 10 percent, 5 percent, and 1 percent levels, respectively. Each regression includes personal controls (age, education, gender, marital status, and employment status), year fixed-effects, and country-level fixed-effects and and GDP per capita.

Table 18: ESS Analysis of Inequality on Various Social Capital Measures for Ages 25-65

	Trust People	People are Fair	People are Helpful	Strongly Agree Govt Should Reduce Gaps	Satisfied with Govt	Satisfied with Life	Happiness	More Religious
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Disposable Income 90/50	-0.764*	-0.538	-0.477	-0.125	2.006	0.253	-1.344**	0.188
	(0.415)	(0.354)	(0.446)	(0.182)	(1.920)	(0.612)	(0.492)	(0.568)
Disposable Income 50/10	-0.705*	-0.770***	-0.673	-0.158	-0.289	-0.010	0.060	0.121
	(0.342)	(0.198)	(0.525)	(0.147)	(1.652)	(0.457)	(0.346)	(0.560)
Employment Rate	0.012	0.015**	-0.015	-0.003	0.168***	0.044***	0.055***	0.021**
	(0.014)	(0.007)	(0.016)	(0.005)	(0.041)	(0.012)	(0.018)	(0.009)
Observations	130,566	130,189	125,676	130,697	128,226	125,618	130,299	129,875

Notes: Each column represents a separate OLS regression. Standard errors, which are clustered by country, appear in parentheses. Significance levels are indicated by one, two, or three stars which represent 10 percent, 5 percent, and 1 percent levels, respectively. Each regression includes personal controls (age, education, gender, marital status, and employment status), year fixed-effects, and country-level fixed-effects and and GDP per capita.

Table 19: ESS Analysis of 90/10 Inequality on Various Social Capital Measures within Subgroups for Ages 25-65

	Trust People	People are Fair	People are Helpful	Strongly Agree Govt Should Reduce Gaps	Satisfied with Govt	Satisfied with Life	Happiness	More Religious
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
College Graduates	-0.370***	-0.460***	-0.238	-0.040	1.501	0.052	-0.081	0.413*
	(0.098)	(0.097)	(0.143)	(0.059)	(0.918)	(0.173)	(0.175)	(0.227)
	39,413	39,351	37,949	39,432	38,991	37,936	39,336	39,225
Non College Graduates	-0.324**	-0.232**	-0.191	0.009	0.895	0.191	-0.173	0.272
	(0.130)	(0.108)	(0.215)	(0.065)	(0.779)	(0.202)	(0.157)	(0.244)
	99,042	98,714	95,613	99,156	97,006	95,566	98,845	98,510
Men	-0.306**	-0.325**	-0.219	0.006	1.099	0.096	-0.193	0.351
	(0.132)	(0.141)	(0.204)	(0.052)	(0.871)	(0.182)	(0.158)	(0.254)
	66,008	65,858	63,774	66,083	65,112	63,755	65,881	65,642
Women	-0.375**	-0.263***	-0.185	0.003	1.015	0.211	-0.162	0.317
	(0.143)	(0.084)	(0.188)	(0.069)	(0.737)	(0.203)	(0.160)	(0.238)
	72,447	72,207	69,788	72,505	70,885	69,747	72,300	72,093

Notes: Each group of three numbers represents a coefficient, standard error, and the number of observations used in a separate OLS regression. Standard errors, which are clustered by country, appear in parentheses. Significance levels are indicated by one, two, or three stars which represent 10 percent, 5 percent, and 1 percent levels, respectively. Each regression includes personal controls (age, education, gender, marital status, and employment status), year fixed-effects, and country-level fixed-effects and and GDP per capita.

Table 20: ESS Analysis of 50/10 Inequality on Various Social Capital Measures within Subgroups for Ages 25-65

	Trust People	People are Fair	People are Helpful	Strongly Agree Govt Should Reduce Gaps	Satisfied with Govt	Satisfied with Life	Happiness	More Religious
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
College Graduates	-1.000***	-0.828***	-0.717	-0.102	1.721	-0.085	-0.016	0.794
	(0.325)	(0.282)	(0.486)	(0.096)	(1.983)	(0.480)	(0.397)	(0.529)
	39,413	39,351	37,949	39,432	38,991	37,936	39,336	39,225
Non College Graduates	-0.793**	-0.836***	-0.435	0.004	1.392	0.201	-0.208	0.704
	(0.356)	(0.222)	(0.514)	(0.119)	(1.655)	(0.480)	(0.345)	(0.629)
	99,042	98,714	95,613	99,156	97,006	95,566	98,845	98,510
Men	-0.845**	-0.777**	-0.596	-0.033	1.716	0.013	-0.182	0.541
	(0.306)	(0.313)	(0.455)	(0.108)	(1.690)	(0.484)	(0.332)	(0.467)
	66,008	65,858	63,774	66,083	65,112	63,755	65,881	65,642
Women	-0.847**	-0.902***	-0.404	0.005	1.332	0.269	-0.246	0.822
	(0.361)	(0.224)	(0.554)	(0.126)	(1.668)	(0.420)	(0.361)	(0.717)
	72,447	72,207	69,788	72,505	70,885	69,747	72,300	72,093

Notes: Each group of three numbers represents a coefficient, standard error, and the number of observations used in a separate OLS regression. Standard errors, which are clustered by country, appear in parentheses. Significance levels are indicated by one, two, or three stars which represent 10 percent, 5 percent, and 1 percent levels, respectively. Each regression includes personal controls (age, education, gender, marital status, and employment status), year fixed-effects, and country-level fixed-effects and and GDP per capita.

Table 21: ESS Analysis of 90/50 Inequality on Various Social Capital Measures within Subgroups for Ages 25-65

	Trust People	People are Fair	People are Helpful	Strongly Agree Govt Should Reduce Gaps	Satisfied with Govt	Satisfied with Life	Happiness	More Religious
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
College Graduates	-0.774	-1.411***	-0.312	-0.134	6.420**	0.409	-0.463	1.027
	(0.476)	(0.365)	(0.274)	(0.219)	(2.775)	(0.431)	(0.469)	(0.677)
	39,413	39,351	37,949	39,432	38,991	37,936	39,336	39,225
Non College Graduates	-0.805*	-0.239	-0.455	0.020	3.898	0.708	-0.916	0.649
	(0.401)	(0.333)	(0.619)	(0.236)	(2.967)	(0.622)	(0.697)	(0.806)
	99,042	98,714	95,613	99,156	97,006	95,566	98,845	98,510
Men	-0.745	-0.735	-0.466	0.031	4.439	0.404	-0.999	1.160
	(0.517)	(0.472)	(0.555)	(0.200)	(3.180)	(0.583)	(0.593)	(0.876)
	66,008	65,858	63,774	66,083	65,112	63,755	65,881	65,642
Women	-0.930*	-0.338	-0.392	-0.015	4.655	0.802	-0.794	0.731
	(0.484)	(0.268)	(0.555)	(0.251)	(2.735)	(0.610)	(0.666)	(0.698)
	72,447	72,207	69,788	72,505	70,885	69,747	72,300	72,093

Notes: Each group of three numbers represents a coefficient, standard error, and the number of observations used in a separate OLS regression. Standard errors, which are clustered by country, appear in parentheses. Significance levels are indicated by one, two, or three stars which represent 10 percent, 5 percent, and 1 percent levels, respectively. Each regression includes personal controls (age, education, gender, marital status, and employment status), year fixed-effects, and country-level fixed-effects and and GDP per capita.