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# INTERGENERATIONAL MOBILITY, SOCIAL CAPITAL, AND ECONOMIC FREEDOM

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## Key Findings

- ✓ Many scholars have examined the role of social capital in determining economic and social mobility. However, few have tied the role of market institutions (namely, economic freedom) in determining social mobility.
- ✓ We combine the economic freedom data at the MSA-level with social capital data from Chetty et al. 2022 to estimate their effects on social mobility within the United States.
- ✓ We find that economic freedom almost always matters for absolute and relative mobility.
- ✓ While the literature is already clear on the fact that economic freedom increases incomes, this study is the first within the United States to show that the effect of economic freedom helps those at the bottom more relative to those at the top.
- ✓ Social capital (specifically “economic connectedness”) also matters for mobility, but to a lesser extent than economic freedom.

## 1 | INTRODUCTION

Since the early 2000s, an increasing share of debates in economics have centered on the study of inequality broadly defined. Intricately tied to these debates is the topic of social mobility. The connecting link is through the effect that income inequality at a given point in time has on later chances of upward mobility for people lower on the ladder (Corak 2013). The existence of this link has been confirmed across multiple studies studying multiple countries and time periods. Fortunately, there are other factors that can strongly mitigate the effect of inequality. One of those factors is social capital in its multiple forms (Chetty et al. 2014; Chetty et al. 2022a, b; Levy et al. 2020). The emergence of greater computational capabilities combined with greater data availability has allowed multiple scholars to deepen our understanding of the role of community ties (i.e., networks) and economic opportunity.

However, that new literature has been less attentive to the role of institutions and how they can offset the effects of inequality.<sup>1</sup> More precisely, the role of economic freedom (secure property rights, limited regulation, open trade, sound money, limited government) in promoting income mobility has been largely ignored.



To the best of our knowledge, the works of Boudreaux (2016), Kufenko and Geloso (2020), Dean and Geloso (2022) and Callais and Geloso (2023) constitute the only works that connect directly economic freedom to social mobility (or its proxies).<sup>2</sup> All of these works find that economic freedom improved mobility in a strong way. However, these works are limited in that they use relatively small datasets or use intragenerational income mobility in short time-windows. Using the recent data of Chetty et al. (2022a, b) on social capital and intergenerational income mobility in the United States at the subnational-level, we seek to expand on these papers by asking whether a) economic freedom does improve intergenerational mobility in a meaningful way when using higher quality data and; b) whether economic freedom complements or substitutes the different types of social capital.

Three key facts guide our efforts. The first is the aforementioned finding that social capital has a connection to social mobility—both across generations or within one’s lifetime (Güell et al. 2018; Chetty et al. 2022a). Chetty et al. (2022a) are particularly clear that of the different types of social capital—bridging and bonding—the former is most important. Equating “bridging” with “cross-type connectedness”, Chetty et al. (2022a, p. 109) argue that the “extent to which different types of people (for example, high income versus low income) are friends with each other” is the most important determinant of income mobility in the United States. “Bonding” social capital (which they label as “network cohesiveness” because of the degree to which networks of contacts are clustered into cliques) as well as measures of community-level characteristics of civic engagement that do not speak to the depth and types of connection between people are far weaker determinants of intergenerational income mobility.

The second is there is a large literature connecting economic freedom to improved living standards. Reviewing some 1,300 articles that used indexes of economic freedom as a variable, Lawson (2022, p. 188) found that the vast majority were tied to improved socio-economic outcomes. For the subsets of articles surveyed that dealt with income levels, income changes, entrepreneurship, investment, and trade—between 50% and 73% were positive. Most of the remaining results were “mixed/null/uncertain” with a small share (between 0% and 3.1%) of the results being negative (Lawson 2022, p. 196). These results—many of the recent which are being derived using more robust methods of causal inference (see notably Grier and Grier 2021)—constitute a call to consider how they can be extended to the topic of income mobility.

The third is that there is also a sizable share of the literature on economic freedom that has investigated its connection to social capital. Many of these articles find economic freedom is generally (but not unambiguously) tied—on net—with higher levels of social capital (Berggren and Jordahl 2006). These results recognize the key distinction—and contradictions in terms of outcomes—between the different types of social capital (i.e., bridging and bonding). With respect to bridging, they argue that economic freedom—by favoring commerce—increases contact between people who would otherwise have been strangers (see also Bjørnskov 2007; Bidner and François 2011)<sup>3</sup> in ways that also foster tolerance (Berggren and Nilsson 2013) and reward the development of socially productive behaviors (Zak 2010; Choi and Storr 2019; Smith and Wilson 2019; Callais et al. 2022).<sup>4</sup> However, there is a literature that argues that economic freedom and social capital are substitutes (Williamson and Mathers 2011; Mathers and Williamson 2011) rather than complements (Graafland 2020). This lack of unanimity stems from the fact that “bonding” capital can be an input into forms of collective action that favor rent-seeking. If cliques of similar individuals can organize more cheaply to request government privileges (Holcombe 2018), that particular form of social capital could be noxious to human welfare by depressing economic freedom (Murphy et al. 1993; Choi and Storr 2019).<sup>5</sup> In turn, this could help explain some of the ambiguous results regarding the connection between growth and social capital (e.g., Berggren et al. 2008; Forrester and Nowrasteh 2023). Redrawing these mappings of the relations between economic freedom, social capital, and economic growth by swapping the latter variable for income mobility appears like a valuable step to consider the importance of institutions broadly defined in promoting social mobility.

Using the Metropolitan Statistical Area (MSA) index of economic freedom from 1972 to 2017 produced by Stansel (2019)<sup>6</sup>, we are able to create the largest dataset of economic freedom measures matched with both absolute and relative intergenerational income mobility measures. Adopting—akin to Chetty et al. (2022a, b)—a purely associational analysis, we find that a) economic freedom (both in aggregate form and its components) is tied to greater absolute and relative mobility; b) we find that it has no association with the racial gap in mobility; c) we find that the effect of economic freedom generally outweighs that of inequality; d) the effect of economic freedom matches those of “bridging” social capital and overpowers that of other forms of social capital. Employing interaction terms, we also find that e) there is a positive cross-association between economic freedom and “bridging” social capital. There are f) no other signs of positive or negative cross-associations between economic freedom and social capital.

**Our paper is organized as follows:**

**SECTION 2** explains our empirical strategy and data.

**SECTION 3** presents the results.

**SECTION 4** discusses and concludes by highlighting how future researchers need to develop causal inference approaches to test the importance of economic freedom on improving social mobility.



## 2 | DATA AND EMPIRICAL METHODS

The main starting point of our analysis is found in Chetty et al. (2022a). In earlier works, they had used the proportions of individuals from a particular birth cohort who, at age 30, outearned their parents at the same age (regardless of rank in the income distribution). This measure of absolute mobility, however, was only available at the state level. To obtain a greater number of observations and granularity, they shifted to county-level and zip-code-level units which dramatically increased the number of observations. However, this meant that the variable for absolute mobility was modestly altered to the “average income percentile rank in adulthood of children [born between 1978 and 1983] who grew up in that county with parents at the 25th percentile of the national parental household income distribution” (Chetty et al. 2022, p. 113). A person born in San Francisco but who now resides in Lafayette parish (LA) is thus still assigned to San Francisco in that definition (this will matter as we will see below when we define how to include the MEFI). Because the starting point is so low in the distribution, any gains in rank relative to one’s parents imply the presence of absolute gains. They also create a measure of “relative mobility” which is the “slope from OLS regression of child rank on parent rank within each MSA [Metropolitan Statistical Area]” (Chetty et al. 2014, datafile). On that measure, a smaller number is a sign of less persistence/greater mobility. We will include both these measures. Moreover, we will also take the difference in absolute income mobility between Whites and Blacks. This is meant to assess whether economic freedom might have a differentiated effect across groups.

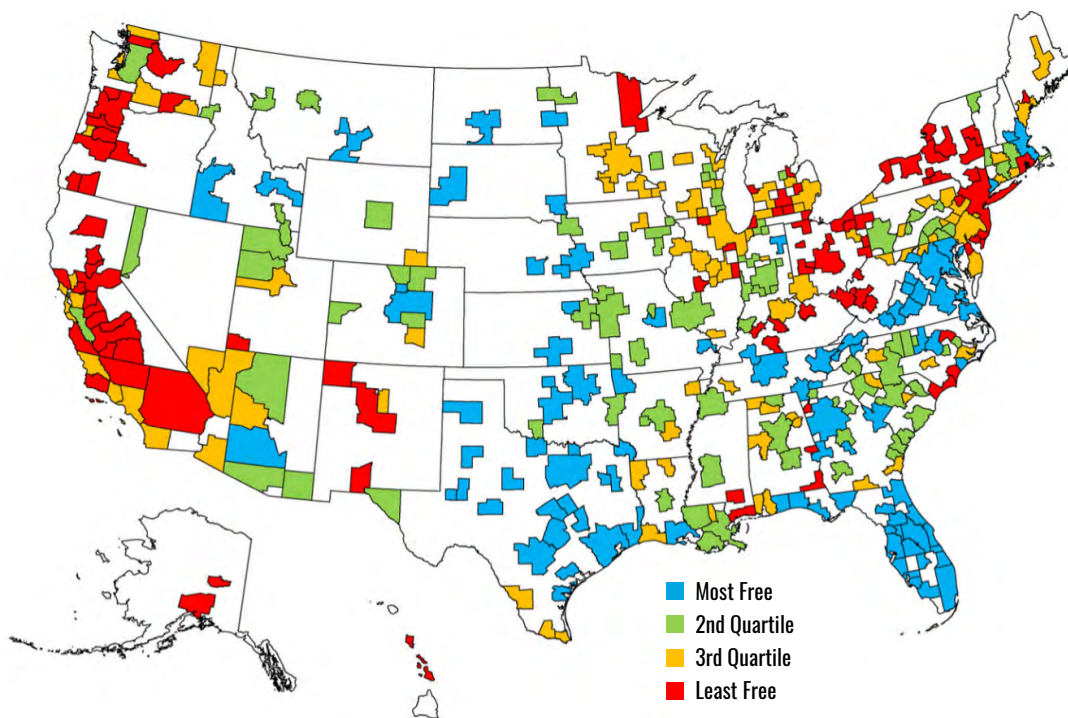
The measures of social capital are also found in Chetty et al. (2022a). We choose their variables for the purpose of being as conceptually similar as they are. This simplifies the comparison between our respective works. Their data are broken into three categories: cross-type connectedness, network cohesiveness, and civic engagement. The difference between these categories is that cross-type connectedness is tied to “bridging” capital in the sense that it serves as “connector between otherwise disparate groups” (Jackson 2020, p. 315). Network cohesiveness speaks to “bonding” in that it “describes connections within [emphasis is ours] a group or community characterized by high levels of similarity in demographic characteristics, attitudes, and available information and resources” (Institute for Social Capital, nd).<sup>7</sup> Indicators of social capital that conform to both of these categories can be created by methods inspired from network analysis (Jackson 2020). The last category does not “use data on networks at all and are instead based purely on individual or community-level characteristics” (Chetty et al. 2022a, p. 109). Using data from social media platforms, they create multiple variables. The one they emphasize the most within the cross-type connectedness category is “economic connectedness” which is defined as the “share of high or above median income friends among people with low or below-median incomes” (Social Capital Atlas, nd). Within the network cohesiveness category, they create a variable for “clustering” and one for “support ratio.” The former is the rate at which two friends of a given person are in turn friends with each other. The latter captures the rate at which pairs of friends in a community have other friends in common. Finally, they use measures of civic organizations and volunteering to speak to the third category of social capital. Of all the variables they use (and even after using a LASSO procedure), Chetty et al. (2022a, pp. 114-15) argue that only economic connectedness is strongly and positively associated with economic mobility. They find the others are weaker correlates, and this is especially true for measures of civic engagement. All these variables—organized at commuting zone-level or county-level—will be used for our baseline analysis.

That results for civic engagement not mattering may be puzzling for some, and it could be argued that this is because the measures are not synonymous with what they aim to measure. To deal with this potential concern, we will replicate our results for civic engagement using the US Senate’s Social Capital Project (Joint Economic Committee 2018). The project created an index of social mobility at the county-level using 10 separate indicators aggregated in four different components. These data come from different sources from

Chetty et al. (2022a) and include measures of family unit and institutional trust. The pattern of correlation between these variables of civic engagement and the cross-type connectedness and network cohesiveness variables of Chetty et al. (2022a) is the same as within the latter’s work.

The economic freedom data (labeled MEFI) are taken from Stansel (2019), which are available at the five-year mark from 1972 to 2012 for 385 US metropolitan areas (henceforth MSA). **Figure 1** shows the map of the areas contained in the MEFI. This index is constructed on the same architecture as the commonly used index of Economic Freedom of North America (known as EFNA) produced by the Fraser Institute (Stansel et al. 2022). Economic freedom, as defined by Gwartney and Lawson (2003, p. 406), is the set of institutions and policies that “provide an infrastructure for voluntary exchange, and protect individuals and their property from aggressors seeking to use violence, coercion, and fraud to seize things that do not belong to them.” That set of institutions and policies must also “refrain from actions that interfere with personal choice, voluntary exchange, and the freedom to enter and compete in labor and product markets.” This latter part of the definition is then extended to taxation as it affects the returns to voluntary exchanges. In the case of the subnational indexes such as MEFI, the property rights component is not as important (since there is little variation across states) which is why the index has three key components.

**Figure 1 | MAP OF THE MEFI, 2017 FOR ALL THE MSA AVAILABLE IN THE DATASET**



Source: Stansel (2019)



The first component is “government spending” (often called Area 1) and is constructed on measures of government consumption, transfers and subsidies, social insurance, and retirement payments. The second component (often called Area 2) is “taxation” and is based on data on income and payroll taxes, sales tax revenue, revenue from property tax, and tax revenue from each source except severance taxation (since this is levied at the state level only). The last component (often called Area 3) is “labor market freedom” and is based on the local minimum wages, government employment shares, and private union density.<sup>8</sup>

We should note that we expect the last of the three components to weigh heavily. This is because of the work of Dean and Geloso (2022) on intragenerational income mobility at the provincial-level in Canada. Using EFNA, they found that decile mobility and absolute income mobility over multiple five-year windows were strongly affected by labor market freedom. The index as a whole was also significant, but the first two components provided inconsistent results in terms of significance (not in terms of signs). The reason, they argue, is that the first two components may cancel each other out. Higher levels of taxation, by reducing the returns to human capital investments, would depress upward mobility (see Feldmann 2017). However, redistribution (captured in government spending) can reallocate resources to lower income households which can use them to make educational and business investment decisions that propel them upwards (see Lindert 2021). As such, we expect that the first two components might yield inconsistent results.

There is also potential criticism that we must pre-empt—namely that the MEFI might not fully cover aspects of state intervention that matter disproportionately to marginal groups (Geloso et al. 2023). For example, occupational licensing tends to be associated with reduced socio-economic outcomes for lower income groups (Deyo and Plemmons 2022; Plemmons 2022; Plemmons and Timmons 2023).<sup>9</sup> Similarly, regulations that affect childcare supply tend to matter more for women than men as they increase the price (Gorry and Thomas 2017) and thus influence the decision not to re-enter the workforce following a pregnancy (Powell 2002; Baker et al. 2008; Lefebvre and Merrigan 2008). As such, we also attempted to use occupational licensing data from Carpenter et al. (2021)<sup>10</sup> at the MSA-level to assess whether any results we obtain using the index of economic freedom (and especially the component that speaks to labor market regulation) is conceptually echoed by that different measure. The vast majority of these findings show that pro-market institutions are important correlates for mobility.

We must now explain how we arrayed the Chetty et al. (2022a) data at the MSA-level so that they would be consistent with the MEFI dataset. Our main constraint was that the White-Black absolute mobility gap is only available at the commuting zone-level, which is the most limited of our data sources. Within the primary data provided by Chetty (2022a), commuting zone statistics are assigned to the largest county in the territory. We aggregate these counties to the MSA-level by using population weights and cross-walking the county observations to the MSA. We only use MSAs in which there is a substantial overlap with the commuting zone, which eliminates many of the smallest MSAs from the sample. We are left with gap information for 261 medium and large MSA which are then matched to data from both the MEFI and the 2019 American Community Survey. The MEFI contains data from 1972 to 2017 at the MSA-level. It is a limitation of our study that, while many precautions were taken to assure similar boundaries throughout the sample, the counties and boundaries of some MSAs have changed over time, with the most recent substantial change in the mid-1990s. There is no current crosswalk or weighted adjustment that can identify and remove this shift, but since we are using averages over many decades, we believe this does not have an impact on the reliability of our results.

Because Chetty et al. (2022a) use people born between 1978 and 1983 and who spent their childhood in a county, we must consider carefully the years of MSA-estimates of economic freedom to use. Indeed, using an economic freedom index for 2017 is not going to be immensely relevant as its economic freedom in childhood (i.e., enhancing socio-economic opportunities for parents) and early adulthood (i.e., enhancing

socio-economic opportunities for children) that truly matter. We also care about the economic freedom of parents just before they have children. As such, we average values of economic freedom in each MSA from 1972 up to 2017. This way we produce a “lifetime” estimate of the exposure to economically-free environments that a person enjoys.

As our data is cross-sectional in nature—just as for Chetty et al. (2022a)—we are constrained to use an Ordinary Least Squares (OLS) strategy of the following type:

$$1) M_i = MEFI_i' \beta_1 + SK_i' \beta_2 + X' \delta + e$$

where  $M_i$  is one of the measures of income mobility (i.e., absolute mobility, relative mobility, racial in absolute mobility),  $MEFI_i$  is one of the measures of economic freedom (i.e., the aggregate index and its three components),  $SK_i$  is one of the measures of social capital (i.e., economic connectedness, clustering, support ratio, civic organizations, and volunteering rates). A matrix of control variables  $X'$  is included. Informing our choice of control variables is the work of Meehan et al. (2019) who used the data of Chetty et al. (2014) to test the effect of the growth of licensing of low-income occupations at the county-level on income mobility. As controls, they used teenage pregnancies, human capital, proportion of uninsured individuals below 65 years old, county-level inequality, and the average age of the population in the county. All of these are available from the American Community Survey (ACS) for 2019 (to avoid issues linked to non-response biases during the more recent COVID-era surveys). We also include a state dummy to account for differences in state-level policies or unmeasured differences in state-level policies.

Because the literature on economic freedom debates whether it is a substitute or complement to social capital, we produce a variant on this specification by adding interaction terms in the form:

$$2) M_i = MEFI_i' \tilde{\beta}_1 + SK_i' \tilde{\beta}_2 + (MEFI \cdot SK_i)' \tilde{\beta}_3 + X' \tilde{\delta} + e$$

where the variables are the same as in 1) but with the exception that we include interaction terms. For conciseness, we will only present the results from specification 2) with the aggregate index of economic freedom. However, we will mention the results in footnotes of specifications with the subcomponents.



### 3 | RESULTS

To measure different facets of economic freedom, we use an aggregated index of economic freedom, proxies for the government spending, taxation, and labor market freedom. These measures are developed using several subindices (as we mention above in the data section) to measure aspects like government consumption, transfers and subsidies, government investment, top marginal tax rates, as well as income and payroll taxes.

**Table 1** provides summary statistics of both economic freedom and the social capital measures provided by Chetty et. al (2022a). There are some notable level differences, as economic freedom and its subindices are measured on a scale between 1 and 10, with the majority of scores lying between 3 and 8. Social capital measures, discussed above and provided through Chetty’s publicly available files, are scored between 0 and 1 for most subindices. The differences in scaling will be relevant when discussing the magnitude of correlative relationships with intergenerational mobility and relative effect sizes.

Descriptive statistics for our dependent variables of interest (absolute, relative, and gap mobility) are presented in the third panel of Table 1. Gap mobility represents the difference in absolute mobility between the average rank of a White person born in the 25th percentile minus the average rank of a Black person born in the 25th percentile. This comparison will provide insight into the mechanisms underlying changes in absolute and relative mobility, and if increases are equally experienced or concentrated in one specific ethnic or racial group. Relative mobility, taken from Chetty et al. (2014), is inverted for ease of interpretability so that positive coefficient estimates correspond to higher levels of relative mobility.

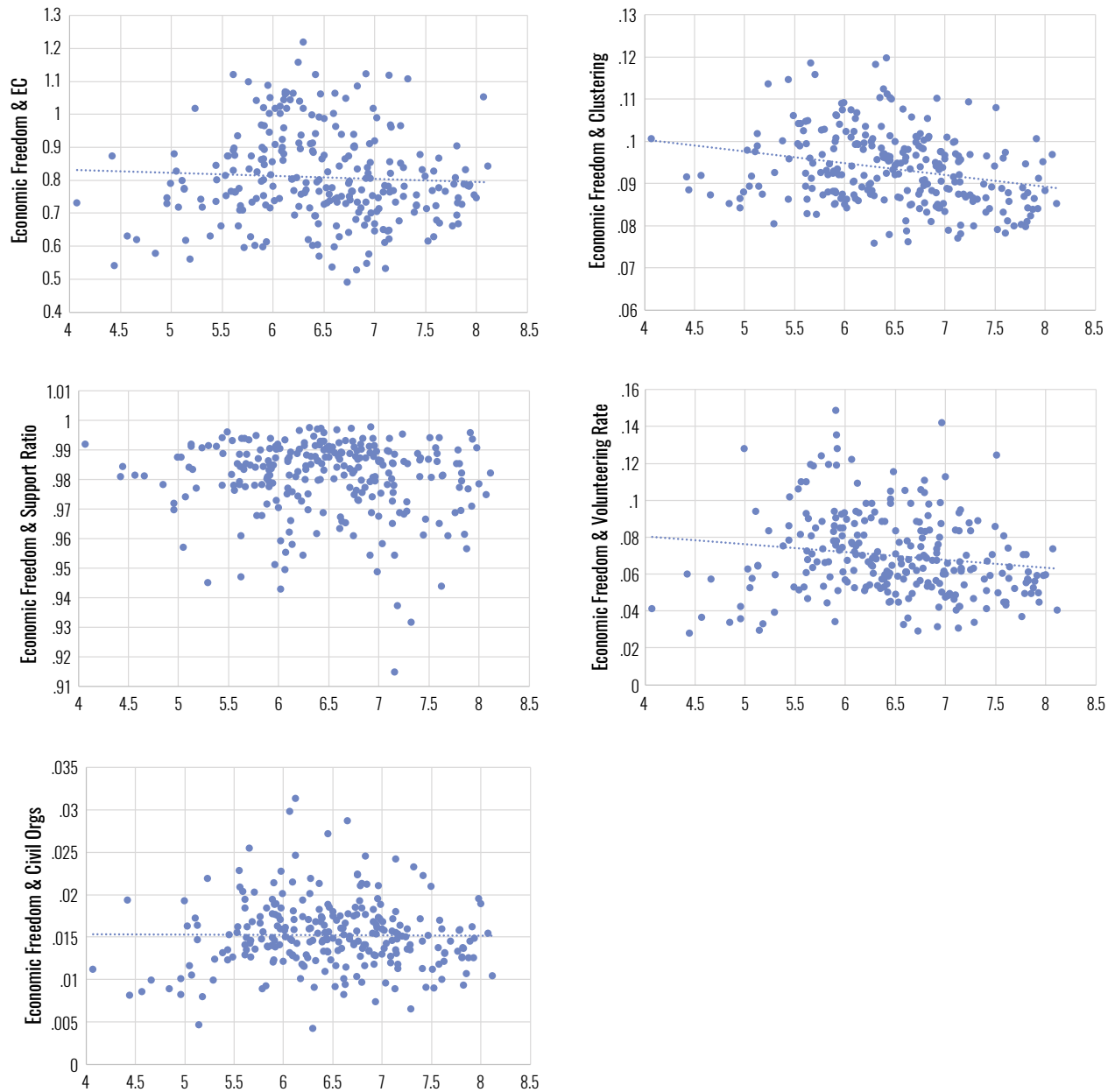
**Table 1 | SUMMARY STATISTICS**

	Obs	Mean	Std. dev.	Min	Max
<b>Economic Freedom Measures</b>					
Economic Freedom	261	6.473	0.784	4.071	8.113
Govt Spending (Area 1)	261	6.922	1.081	2.555	8.694
Taxation (Area 2)	261	6.013	0.744	3.401	7.888
Labor Mrkt Free. (Area 3)	261	6.484	0.919	4.079	8.350
<b>Social Capital Measures</b>					
Economic Conn.	261	0.809	0.140	0.491	1.220
Clustering	261	0.093	0.009	0.076	0.120
Support Ratio	261	0.981	0.013	0.915	0.998
Volunteering	261	0.070	0.023	0.028	0.149
Civic Org.	261	0.015	0.004	0.004	0.031
<b>Mobility Measures</b>					
Absolute Mobility	261	41.543	3.439	33.728	123
Relative Mobility	261	0.326	0.056	0.170	123
White-Black Abs. Mob	261	0.112	0.046	-0.048	0.469

Note: We invert the relative mobility score from Chetty et al. (2014) so that higher scores of relative mobility corresponds to higher levels of mobility. White-Black gap in absolute mobility is the average rank of a White person born in the 25th percentile minus the average rank of a Black person born in the 25th percentile.

To ensure that economic freedom and social capital are not colinear or accounting for similar variation, we first present a series of scatter plots of the measure types in **Figure 2**, showing economic freedom and social capital are largely uncorrelated.

**Figure 2 | SCATTER PLOTS OF ECONOMIC FREEDOM ON MEASURES OF SOCIAL CAPITAL**



Economic freedom is displayed on the x-axis of each figure; social capital measures are shown on the y-axis. "EC" stands for economic connectedness.

Prior to combining the measures, we want to also understand the correlative relationship between the measures and our dependent variables separately. This allows us to assess two crucial areas of concern. The first is understanding the baseline correlative relationship between economic freedom and mobility, as well as social capital and mobility, when not accounting for these alternative measures. The second is to provide an identical specification to the county-level assessment between the social capital measures and both aggregate and relative mobility provided by Chetty et. al (2022) to ensure our MSA-level analysis is consistent with prior findings in terms of magnitude, direction, and significance.

**Table 2** regresses the four economic freedom measures against absolute, relative, and gap mobility. Note, each cell within the table represents a separate regression of one measure of economic freedom against one measure of economic mobility, which results in twelve separate regressions. For the sake of brevity, we do not report the coefficient estimates of the control variables (state-level fixed effects, average age, percent with more than a high school degree, teen birth rate, Gini coefficient, and rate of uninsured persons). We find that the composite measure of overall economic freedom is highly correlated with increasing both absolute and relative mobility, while not having any noticeable effect on the White-Black gap, showing that these increases are equally experienced and not limited to a single ethnic or racial group. When looking at the three areas of economic freedom separately, we find that (low levels) of government spending and high values of labor market freedom are highly correlated with increases in both absolute and relative mobility. This effect is either null or has a weak disproportionate positive affect on White people relative to Black people. Government taxation policies do not appear to influence economic mobility. While not reported in Table 2 for conciseness, we also find that the Gini coefficient is generally weaker than the effect of economic freedom.<sup>11</sup>

**Table 2 | SUMMARY OF ECONOMIC FREEDOM ON MOBILITY (INCLUDING CONTROLS)**

	<b>Absolute Mobility</b>	<b>Relative Mobility</b>	<b>White-Black Gap in Absolute Mobility</b>
Economic Freedom	2.155***	0.018***	0.002
Govt Spending (Area 1)	1.421***	0.014***	-0.003
Taxation (Area 2)	0.779	0.009	-0.011
Labor Market Freedom (Area 3)	1.626***	0.010*	0.013*

Notes: \*\*\*, \*\*, \* indicate significance at the .01, .05, and .10 level, respectively. State-level fixed effects, average age, percent with more than a high school degree, teen birth rate, Gini coefficients, and uninsured rate are included (all at the MSA-level).

Economic freedom scores and its areas are the average from 1972-2017. Note that each coefficient presented is from a separate regression (therefore, 12 in total). We invert the relative mobility score from Chetty et al. (2014), so that higher scores of relative mobility correspond to higher levels of mobility. White-Black gap in absolute mobility is the average rank of a White person born in the 25th percentile minus the average rank of a Black person born in the 25th percentile.

Identical correlative analysis is repeated for all the publicly available measures of social capital used by Chetty et. al (2022) in **Table 3**. While the magnitude of these results differs due to differences in scaling, the direction and significance of these measures on economic mobility strongly match coefficient estimates in the original paper. As in the previous table, each cell represents a separate equation. Increases in economic connectedness are highly correlated with large positive increases in economic mobility, while increases in the support ratio lower mobility. Coefficient estimates for clustering and civic organizations mimic the results of



Chetty et. al (2022) in terms of both signage and insignificance. Volunteering has a similar magnitude and direction, but we failed to find the significant relationship observed by Chetty et. al (2022). These results reinforce our confidence that our population-weighted method for aggregating to the MSA-level maintains the same relationships and observations for social capital in the original paper.

**Table 3 | SOCIAL CAPITAL ON MOBILITY (INCLUDING CONTROLS)**

	<b>Absolute Mobility</b>	<b>Relative Mobility</b>	<b>White-Black Gap in Absolute Mobility</b>
Economic Connectedness	16.755***	0.219***	-0.028
Clustering	-6.542	-0.658*	1.102**
Support Ratio	-34.357**	-0.757***	-0.146
Volunteering Rate	4.683	-0.009	-0.214
Civic Organizations	0.013	-0.049	-0.129

Notes: \*\*\*, \*\*, \* indicate significance at the .01, .05, and .10 level, respectively. State-level fixed effects, average age, percent with more than a high school degree, teen birth rate, Gini coefficients, and uninsured rate are included (all at the MSA-level).

Economic freedom scores and its areas are the average from 1972-2017. Note that each coefficient presented is from a separate regression (therefore, 12 in total). We invert the relative mobility score from Chetty et al. (2014), so that higher scores of relative mobility correspond to higher levels of mobility. White-Black gap in absolute mobility is the average rank of a White person born in the 25th percentile minus the average rank of a Black person born in the 25th percentile.

In a series of Tables (4-8) we isolate each pair of economic freedom and social capital variables and regress both against our three measures of economic mobility to determine if they are additive effects or if freedom and social capital are substitutes for one another. **Table 4** estimates the social capital measure of economic connectedness with the four types of economic freedom on our three measures of mobility. Diverting from the previous convention, each number column represents a separate simple regression. In terms of absolute mobility, increases in all measures of economic freedom were associated with higher absolute mobility even when including economic connectedness. In fact, when including both and accounting for scaling of the independent variables, both even have similar effect sizes for increased absolute mobility. In terms of relative mobility, economic freedom and government spending account for some variation that is not accounted for by economic connectedness, while taxation and labor market freedoms do not. In terms of the White-Black gap, we do not find evidence that the presence of both economic freedom and economic connectedness has any unequal favoritism toward either White or Black individuals. There is some evidence that increases in labor market freedom have a small increase in the White-Black mobility gap.

**Table 4 | EFFECT OF ECONOMIC FREEDOM AND ECONOMIC CONNECTEDNESS ON MOBILITY**

<b>Panel A: Absolute Mobility</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>
Economic Freedom	1.810***			
Govt Spending (Area 1)		1.098***		
Taxation (Area 2)			0.867**	
Labor Mrkt Freedom (Area 3)				1.392***
Economic Connectedness	16.077***	15.885***	16.823***	16.185***
<b>Panel B: Relative Mobility</b>	<b>(5)</b>	<b>(6)</b>	<b>(7)</b>	<b>(8)</b>
Economic Freedom	0.014**			
Govt Spending (Area 1)		0.009**		
Taxation (Area 2)			0.01	
Labor Mrkt Freedom (Area 3)				0.007
Economic Connectedness	0.214***	0.212***	0.220***	0.216***
<b>Panel C: White-Black Gap</b>	<b>(9)</b>	<b>(10)</b>	<b>(11)</b>	<b>(12)</b>
Economic Freedom	0.002			
Govt Spending (Area 1)		-0.003		
Taxation (Area 2)			-0.011	
Labor Mrkt Freedom (Area 3)				0.013*
Economic Connectedness	-0.029	-0.026	-0.029	-0.033

Notes: \*\*\*, \*\*, \* indicate significant at the .01, .05, and .10 levels, respectively. State-level fixed effects, average age, percent with more than a high school degree, teen birth rate, Gini coefficients, and uninsured rate are included (all at the MSA-level).

Economic freedom scores and its areas are the average from 1972-2017. We invert the relative mobility score from Chetty et al. (2014), so that higher scores of relative mobility correspond to higher levels of mobility. White-Black gap in absolute mobility is the average rank of a White person born in the 25th percentile minus the average rank of a Black person born in the 25th percentile.

This analysis is repeated for each of the other social capital measures from Chetty et. al (2022), including Clustering (**Table 5**), Support Ratio (**Table 6**), Volunteering Rate (**Table 7**), and presence of Civic Organizations (**Table 8**). When accounting for clustering, increases in overall economic freedom, government spending, and labor market freedoms still maintain positive effects on both absolute and relative mobility, though clustering does not have any sizable and significant effect. Surprisingly, while increasing economic freedom is not correlated with substantial differences in the mobility improvements between White and Black individuals, increases in clustering heavily improves mobility for White families over similar Black families, signaling escalating racial inequality that come from the collaboration of “elite” or privileged groups.

**Table 5 | EFFECT OF ECONOMIC FREEDOM AND CLUSTERING ON MOBILITY**

<b>Panel A: Absolute Mobility</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>
Economic Freedom	2.153***			
Govt Spending (Area 1)		1.429***		
Taxation (Area 2)			0.779	
Labor Mrkt Freedom (Area 3)				1.639***
Clustering	-3.214	-12.120	-6.366	7.087
<b>Panel B: Relative Mobility</b>	<b>(5)</b>	<b>(6)</b>	<b>(7)</b>	<b>(8)</b>
Economic Freedom	-0.631*			
Govt Spending (Area 1)		0.014***		
Taxation (Area 2)			0.009	
Labor Mrkt Freedom (Area 3)				0.009*
Clustering	0.018**	-0.713*	-0.656*	-0.580
<b>Panel C: White-Black Gap</b>	<b>(9)</b>	<b>(10)</b>	<b>(11)</b>	<b>(12)</b>
Economic Freedom	0.002			
Govt Spending (Area 1)		-0.004		
Taxation (Area 2)			-0.010	
Labor Mrkt Freedom (Area 3)				0.015**
Clustering	1.106**	1.117**	1.100**	1.228***

Notes: \*\*\*, \*\*, \* indicate significant at the .01, .05, and .10 levels, respectively. State-level fixed effects, average age, percent with more than a high school degree, teen birth rate, Gini coefficients, and uninsured rate are included (all at the MSA-level).

Economic freedom scores and its areas are the average from 1972-2017. We invert the relative mobility score from Chetty et al. (2014), so that higher scores of relative mobility correspond to higher levels of mobility. White-Black gap in absolute mobility is the average rank of a White person born in the 25th percentile minus the average rank of a Black person born in the 25th percentile.



**Table 6 | EFFECT OF ECONOMIC FREEDOM AND SUPPORT RATIO ON MOBILITY**

<b>Panel A: Absolute Mobility</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>
Economic Freedom	2.043***			
Govt Spending (Area 1)		1.388***		
Taxation (Area 2)			0.796*	
Labor Mrkt Freedom (Area 3)				1.503***
Support Ratio	-25.634*	-31.108**	-34.681**	-18.007
<b>Panel B: Relative Mobility</b>	<b>(5)</b>	<b>(6)</b>	<b>(7)</b>	<b>(8)</b>
Economic Freedom	0.015**			
Govt Spending (Area 1)		0.013***		
Taxation (Area 2)			0.009	
Labor Mrkt Freedom (Area 3)				0.006
Support Ratio	-0.692***	-0.727***	-0.762***	-0.695***
<b>Panel C: White-Black Gap</b>	<b>(9)</b>	<b>(10)</b>	<b>(11)</b>	<b>(12)</b>
Economic Freedom	0.001			
Govt Spending (Area 1)		-0.003		
Taxation (Area 2)			-0.010	
Labor Mrkt Freedom (Area 3)				0.013*
Support Ratio	-0.142	-0.154	-0.142	-0.006

Notes: \*\*\*, \*\*, \* indicate significant at the .01, .05, and .10 levels, respectively. State-level fixed effects, average age, percent with more than a high school degree, teen birth rate, Gini coefficients, and uninsured rate are included (all at the MSA-level).

Economic freedom scores and its areas are the average from 1972-2017. We invert the relative mobility score from Chetty et al. (2014), so that higher scores of relative mobility correspond to higher levels of mobility. White-Black gap in absolute mobility is the average rank of a White person born in the 25th percentile minus the average rank of a Black person born in the 25th percentile.

**Table 7 | EFFECT OF ECONOMIC FREEDOM AND VOLUNTEERING RATE ON MOBILITY**

<b>Panel A: Absolute Mobility</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>
Economic Freedom	2.199***			
Govt Spending (Area 1)		1.425***		
Taxation (Area 2)			0.810*	
Labor Mrkt Freedom (Area 3)				1.689***
Volunteering Rate	8.315	5.339	5.797	9.949
<b>Panel B: Relative Mobility</b>	<b>(5)</b>	<b>(6)</b>	<b>(7)</b>	<b>(8)</b>
Economic Freedom	0.018***			
Govt Spending (Area 1)		0.014***		
Taxation (Area 2)			0.009	
Labor Mrkt Freedom (Area 3)				0.011*
Volunteering Rate	0.021	-0.003	0.003	0.024
<b>Panel C: White-Black Gap</b>	<b>(9)</b>	<b>(10)</b>	<b>(11)</b>	<b>(12)</b>
Economic Freedom	0.001			
Govt Spending (Area 1)		-0.003		
Taxation (Area 2)			-0.012	
Labor Mrkt Freedom (Area 3)				0.012*
Volunteering Rate	-0.213	-0.216	-0.230	-0.178

Notes: \*\*\*, \*\*, \* indicate significant at the .01, .05, and .10 levels, respectively. State-level fixed effects, average age, percent with more than a high school degree, teen birth rate, Gini coefficients, and uninsured rate are included (all at the MSA-level).

Economic freedom scores and its areas are the average from 1972-2017. We invert the relative mobility score from Chetty et al. (2014), so that higher scores of relative mobility correspond to higher levels of mobility. White-Black gap in absolute mobility is the average rank of a White person born in the 25th percentile minus the average rank of a Black person born in the 25th percentile.

**Table 8 | EFFECT OF ECONOMIC FREEDOM AND CIVIC ORGANIZATIONS ON MOBILITY**

<b>Panel A: Absolute Mobility</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>
Economic Freedom	2.161***			
Govt Spending (Area 1)		1.422***		
Taxation (Area 2)			0.780	
Labor Mrkt Freedom (Area 3)				1.638***
Civic Organizations	11.647	3.741	2.554	16.841
<b>Panel B: Relative Mobility</b>	<b>(5)</b>	<b>(6)</b>	<b>(7)</b>	<b>(8)</b>
Economic Freedom	0.018***			
Govt Spending (Area 1)		0.014***		
Taxation (Area 2)			0.009	
Labor Mrkt Freedom (Area 3)				0.011*
Civic Organizations	0.050	-0.013	-0.020	0.059
<b>Panel C: White-Black Gap</b>	<b>(9)</b>	<b>(10)</b>	<b>(11)</b>	<b>(12)</b>
Economic Freedom	0.002			
Govt Spending (Area 1)		-0.003		
Taxation (Area 2)			-0.011	
Labor Mrkt Freedom (Area 3)				0.013*
Civic Organizations	-0.121	-0.137	-0.164	0.003

Notes: \*\*\*, \*\*, \* indicate significant at the .01, .05, and .10 levels, respectively. State-level fixed effects, average age, percent with more than a high school degree, teen birth rate, Gini coefficients, and uninsured rate are included (all at the MSA-level).

Economic freedom scores and its areas are the average from 1972-2017. We invert the relative mobility score from Chetty et al. (2014), so that higher scores of relative mobility correspond to higher levels of mobility. White-Black gap in absolute mobility is the average rank of a White person born in the 25th percentile minus the average rank of a Black person born in the 25th percentile.

While increases in economic freedom remain consistent across several models and tables, increases in the support ratio weakly lower absolute mobility and strongly reduce relative mobility; the support ratio does not cause further dispersion of the racial gap. Volunteering and the presence of civic organizations does not affect any type of economic mobility after accounting for economic freedom.

We determine if the social capital-economic freedom relationship to mobility are complements or substitutive effects by taking the interaction between them in our regressions, as shown in **Table 9**. Here, we measure the interaction between economic freedom with each individual measure of social capital. The subcomponent analysis for government spending and labor market freedoms follows similar patterns, while taxation does not find any related effects.



**Table 9 | EFFECT OF ECONOMIC FREEDOM AND SOCIAL CAPITAL ON MOBILITY (INTERACTION TERM)**

	<b>Econ Conn.</b>	<b>Clustering</b>	<b>Support</b>	<b>Volunteering</b>	<b>Civic Org</b>
<b>Panel A: Absolute Mobility</b>					
Economic Freedom (EF)	1.846*	6.588***	-54.285	27.614	623.729**
Social Capital (SC) Measure	16.366*	309.152**	-2.160	2.374***	3.458***
EF*SC	-0.046	-47.952**	4.266	-3.011	-94.513**
<b>Panel B: Relative Mobility</b>					
Economic Freedom (EF)	-0.007	7.998***	0.264	0.005	0.026**
Social Capital (SC) Measure	0.051	0.141***	1.005	-1.466*	3.79
EF*SC	0.026	-1.325***	-0.253	0.232*	-0.577
<b>Panel C: White-Black Mobility Gap</b>					
Economic Freedom (EF)	-0.234	-0.02	-0.222	-0.009	-4.868
Social Capital (SC) Measure	-0.023	-0.437	-1.663	1.305	-0.009
EF*SC	0.033	0.237	0.226	0.17	0.732

Notes: \*\*\*, \*\*, and \* indicate significance at the .01, .05, and .10 level, respectively. State-level fixed effects, average age, percent with more than a high-school degree, teen birth rate, Gini coefficients, and uninsured rate are included (all at the MSA-level).

Economic freedom scores and its areas are averaged from 1972-2017. We invert the relative mobility score from Chetty et al. (2014), so the higher scores of relative mobility correspond to higher levels of mobility. White-Black gap in absolute mobility is the average rank of a White person born in the 25th percentile minus the average rate of a Black person born in the 25th percentile.

Overall, when accounting for potential interactions, increases in economic freedom improve absolute mobility, even when accounting for each of our measures of social capital. The interaction with economic connectedness is not significant, suggesting that the two variables are probably additive and independent of each other. However, the interaction with clustering and civic organizations is noxious to social mobility. This seems to suggest that social capital can—in certain forms—be a substitute for economic freedom. Finally, the inclusion of economic freedom does not appear to increase racial inequality as measured through the Black-White mobility gap under any specification.

Therefore, it seems that generally, economic freedom is stronger than “bridging social capital” (in the form of economic connectedness), but that their effects are independent of each other. It appears that they are neither substitutes nor complements and rather additive elements to greater upward mobility. However, the measures of “bonding social capital” are more consistent with the literature suggesting that economic freedom is a substitute to social capital (Mathers and Williamson 2011; Williamson and Mathers 2011).

## 4 | CONCLUSION

Our paper is the first to consider the relationship between economic freedom and social mobility using intergenerational data for a large sample in conjunction with high-quality social capital data. Our results suggest that the current literature, which largely ignores the role of markets and broader institutions, needs to devote more attention to the role of economic freedom.

The question now is how to move to more causal assessments. Fortunately, empirical studies of the connection between economic freedom and economic growth offer viable templates. For example, Grier and Grier (2021) use matching methods to assess whether “big jumps” in economic freedom indices are tied with faster rates of growth. Using international data, they found that big liberalization meant that countries had incomes per capita 16% higher than the counterfactuals suggest. Callais and Young (2023) used the same method for the income of people at different deciles and their share of total income—finding that there were gains for all (if unevenly). Similar methods could be used for countries—like Canada or the United States—that have subnational data on income mobility to assess what happens when a subnational government enacts large reforms. As way of another example, synthetic control methods could be used to assess counterfactual scenarios of changes in economic freedom by governments who improve property rights, deregulate occupations, or reduce trade barriers.

We find that economic freedom almost always matters for relative and absolute mobility in the United States. There is little to no association that economic freedom widens the racial gap in mobility. Furthermore, the effect of economic freedom generally outweighs the relative impact of both inequality and social capital with respect to correlating with mobility. While the literature is already clear on the fact that economic freedom increases incomes, this study is the first within the United States to show that the effect of economic freedom helps those at the bottom more relative to those at the top.

While policymakers can likely do little about social capital measures, economic institutions are often determined by them. Policymakers should seriously consider laxer government regulations in the labor market, as well as lowering taxes and government spending as a way to positively impact those who wish to move up the income ladder. We see these results as a call to greater research, but also a first attempt at pointing out the influential impact that economic freedom has on helping those at the bottom rise.

Regardless of the way forward in terms of causal approaches, we see our results as a call to research that should be heeded before we find ourselves discussing arcane points of minute policymaking as advisers to prime ministers, presidents, and kings rather than pointing out that the principles and broader ideas that underlie liberal democracy are those that can help people rise up best.



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## ENDNOTES

- <sup>1</sup> With the exception of policies related to the provision of education (see more in the next footnote).
- <sup>2</sup> There are, however, articles that make indirect connections. For example, Meehan et al. (2019) found that occupational licensing of low-skill occupations had a considerable effect on intergenerational income mobility in the United States. Similarly, Feldmann (2017) makes a connection through how economic freedom encourages human capital accumulation while Alesina et al. (2021) find a connection between income mobility in Africa through proximity to capitals (i.e., proximity to public goods protection that could include property rights definition and enforcement). However, searching google scholar for “income mobility” together with “property rights” yields no empirical study of that potential connection even though few would contest that secure property rights is necessary to have upward mobility. Generally, these are exceptions as the bulk of the literature appears concerned with the role of structural factors, redistribution policies, and interventions meant to remedy high levels of immobility (Huang et al. 2021; Ichino et al. 2011; Pekkarinen et al. 2017; Chen et al. 2015; Rauh 2017; Liu et al. 2022). Moreover, when some positive indirect links going from economic growth to intergenerational mobility are found (e.g., Neidhöfer 2019), the obvious connection to improvements in property rights protection, openness of markets, business regulations, and sound money are ignored despite a large causal inference literature connecting growth to these institutional variables that compose economic freedom indexes (Billmeier and Nannicini 2013; Grier and Grier 2021; Callais and Young 2023).
- <sup>3</sup> However, some like Knack and Zak (2003) point out that the effects of components of economic freedom indexes such as property rights tend to matter only in the long run (i.e., there needs to be long-term exposure). As such, the effects need to be considered over long periods of time to be observed in full. It is unlikely that liberalization now would increase trust tomorrow.
- <sup>4</sup> There are also indirect connections as social capital is also tied to economic growth (Bjørnskov 2009; 2012; Dearmon and Grier 2011) and improvements in human development measures (Özcan and Bjørnskov 2011). If economic growth is then tied (as per Neidhöfer 2019; Callais and Geloso 2023) to income mobility, then economic freedom is tied to the latter via social capital and economic growth.
- <sup>5</sup> A historically relevant example would be the work of Satyanath et al. (2017) on how social capital in Weimar Germany was a strong determinant of the pace of entry into the Nazi Party and how this then predicted the electoral success of the party. However, it should be noted that Guinnane et al. (2022) show a different result (by criticizing the earlier) suggesting that social capital is not necessarily a strong input into activities that would ultimately reduce economic freedom.
- <sup>6</sup> And used in recent works (Wiseman 2017; Arif et al. 2020; Bennett 2021; Callais and Bologna Pavlik 2022; Dove and Dove 2023).
- <sup>7</sup> The difference between bridging and bonding can be thought of as analogous to the difference between homophily (e.g., Kossinets and Watts 2009) and heterophily (e.g., Barranco et al. 2019).
- <sup>8</sup> Murphy (2020) built a rule of law measurement (i.e., property rights security) for a single year at the state-level. In our supplementary materials, we replicate our results but swap the state dummy variables for the state-level property rights measure constructed by Murphy. Our results are unaltered.
- <sup>9</sup> However, that criticism might be moot. Measures of occupational licensing barriers in low- and moderate-income professions (Carpenter et al. 2015; 2018) are highly correlated with economic freedom measures. Similarly, measures of childcare regulations are correlated with economic freedom measures (Gorry and Thomas 2017) (see Geloso et al. 2023). Using Murphy (2020) and his state-level property rights (which are absent from the overall indexes produced by the Fraser Institute at the state level and which have the same architecture as the MSA indexes we use here), we also find strong correlations. A similar finding applies to small business regulation measures by Winegarden (2015) and economic freedom at the state-level produced by the Fraser Institute.
- <sup>10</sup> A dataset recently employed by Plemmons and Ghosh (2022) in assessing between-city migration.
- <sup>11</sup> When expressed in terms of standard deviations, a one-standard deviation increase in economic freedom measures generally beats a one standard deviation increase in inequality.

## ABOUT THE AUTHORS



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