

**The Company You Keep: Economic Freedom, Preference-Policy Mismatch,  
and Satisfaction with Life**

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## ABSTRACT

We examine the interaction between individual preferences for markets and state-level economic freedom as it relates to Satisfaction with Life (SWL). Fundamental tenets of economic freedom assert that societies free of excessive government involvement are wealthier and, ultimately, happier; individuals who are allowed to pursue self-interest are argued to be more motivated and more productive, and so society as a whole is better off. Though there is substantial empirical evidence that freer societies are wealthier, the evidence connecting economic freedom and happiness is less clear. We explore the relationship between economic freedom and SWL at the individual level. We examine differences between personal preferences for free markets and state policy and how this ‘preference-policy mismatch’ is related to SWL. We then briefly examine the relationship between preference-policy mismatches and individual voting behavior, including implications for Tiebout sorting. This study is the first to focus on individual economic ideology, i.e. individual level of support for free markets, and SWL in the United States. Combining individual and state level data we offer improvements to prior studies in a number of areas including an enhanced measure of life satisfaction, a richer basis for examining left-right differences than simple political identification, and an examination of the effect of preference-policy mismatches on satisfaction with life. We find significant relationships between SWL and individual support for markets, state-level economic freedom, and preference-policy mismatch. Further, preference-policy mismatch is positively associated with self-reported voting frequency. We find little support for Tiebout sorting.

# The Company You Keep: Economic Freedom, Preference-Policy Mismatch, and Satisfaction with Life

## I. Introduction

Satisfaction with life (SWL) is correlated with a wide range of socio-economic variables including income, age, gender, marital status, religion, employment, inflation, and multiple measures of government intervention in the economy (MacKerron, 2012; Ferrer-i-Carbonell, 2013; Bhuiyan et al., 2017). The body of work examining “satisfaction with life”, “life satisfaction”, or “happiness”<sup>1</sup> published in the economics literature has grown rapidly since 2000 (MacKerron 2012; Bhuiyan 2017), including papers in leading journals (e.g., De Neve et al., 2018; Proto and Oswald, 2017; Oswald and Wu 2011; Knabe et al. 2010; DiTella and MacCulloch 2005; Di Tella et al. 2001). This paper focuses on one area in this line of research that is of particular interest to economists and yet is under researched: the effects on SWL of the interaction between individual preferences for markets and government intervention in the economy.

Fundamental tenets of economic freedom assert that societies free of excessive government involvement are wealthier and, ultimately, happier. Individuals who are allowed to pursue self-interest are argued to be more motivated and more productive, and so society as a whole is better off. Though there is substantial empirical evidence that freer societies are wealthier, the evidence connecting economic freedom and happiness is less clear. We suggest that because less government intervention is not a universal goal some individuals may be less happy in the presence of more economic freedom. We exploit a unique data set to examine the relationship between economic freedom and SWL at the individual level and mismatches between personal preferences

for freedom and state policy. We then explore the impact of preference-policy mismatches on voter behavior.

It seems almost axiomatic that freer people must be happier. More choice and more control over one's own actions are well-known to be positively associated with multiple psychological measures (e.g., Gore 2016; Bandura 1997). Yet, preferences for government intervention, and therefore less individual control and choice, vary from individual to individual. Regulations, for example, may be seen by some as infringements on individual economic freedom while others may see them as needed protection from market forces. Acknowledging heterogeneous preferences allows for differing responses to greater economic freedom. As part of our analysis, we examine the "left-right" divide identified in some prior cross-country studies: left leaning ideology has been associated with lower levels of SWL compared to right leaning. For ease of interpretation, we identify the "right" (of the economic ideology spectrum) as those who view regulations, taxes, etc. as an infringement on freedoms; for them, a reduction in regulation, etc. would be expected to lead to greater happiness. For those on the opposite end of the spectrum, the "left", that same reduction in regulation would be expected to lead to less happiness.<sup>2</sup> We hypothesize that individuals whose personal preferences for economic freedom do not match state policies will have lower SWL than individuals whose preferences are aligned with those policies.<sup>3</sup> That is, an individual on the "left" living in a right leaning (high economic freedom) state or vice-versa might very well be marginally less happy than others. Thus, an increase in state-level economic freedom may identifiably lead to higher SWL for some and lower SWL for others. Consequently, we consider individuals' preferences for economic freedom in the context of state-level government intervention in economic choices, as measured by regulation, taxes, and the like, as we examine how mismatches between individual preferences and state policy are correlated with SWL. We also connect

preference-policy mismatch to voting behavior, as one example of the wider implications of such dissatisfaction. Though Flavin and Keane (2012) examine the connection between SWL and voting we believe we are the first to examine preference-policy mismatch and voting in the context of economic freedom.

We provide several improvements and extensions of the current understanding of government policies and its effect on SWL. Recent research has focused on cross-country studies, most often using the World Values Survey (WVS) and the European Values Survey (EVS) as sources of SWL (Bjørnskov et al. 2007; Dreher 2011; Nikolaev 2014; Knoll 2013; Gehring 2013; Curini 2014). These studies generally find a positive correlation between Economic freedom and SWL and that those on the ideological left (sometimes referred to in these papers as ‘liberals’) tend to be less happy than those on the ideological right (‘conservatives’).<sup>4</sup> Nearly all of these studies rely on one-question measures of SWL, a Likert-type scale with either 10, 4, or 3 points<sup>5</sup>, arguably a less reliable measure of satisfaction than multiple statement scales such as that of Diener et al. (1985), used in this study. Prior studies can also be criticized for using self-rated measures of individual liberal-conservative ideology and for using the ambiguous terms ‘left-wing’ and ‘right-wing’ as prompts in that self-assessment. We measure economic ideology via a multi-statement index that focuses exclusively on economic issues and we define “left” and “right” based on placement along this continuum. Prior studies also proxy economic freedom by political party affiliation or vote shares rather than direct measures of government policies. While party affiliation and economic freedom may be expected to be correlated generally (e.g., Republicans favor less government intervention while Democrats favor more), we argue that the affiliation (or vote share) of the party currently in power is a poor proxy for current economic freedom governed by myriad policies,

economic, social, and foreign. Unlike prior studies, we use a well-established measure of economic freedom based on objective measures of government intervention.

This study is the first to focus on individual preferences for economic freedom and SWL in the United States.<sup>6</sup> Our data set consists of individual-level survey responses from United States residents collected expressly for this study. We extend prior analysis with our examination of *preference-policy mismatch*, adding an important nuance to the understanding of the impacts of government intervention in the economy. In sum, we offer improvements on prior studies in a number of areas including an enhanced measure of life satisfaction, a richer examination of the left-right divide than simple political identification, use of a more comprehensive measure of state-level economic freedom, and most significantly, an examination of the effect of preference-policy mismatches on satisfaction with life.

## **II. Data and methods**

Data for this study were collected using anonymous online surveys administered in December 2015 and June 2016 to U.S. residents using Amazon's Mechanical Turk (MTurk) platform.<sup>7</sup> Participants were asked to respond to statements regarding SWL, views on economic issues, and demographics. In all, 2390 valid surveys were collected.<sup>8</sup>

We use an enhanced measure of SWL compared to prior research. Prior studies use 3-, 4-, or 10-point scales, based on response to a single statement. We use the five-statement index developed by Diener et al. (1985) which produces an index with a range of 5 to 35. This index has been used in hundreds of studies, with Cronbach's reliability measure exceeding 0.80 (Pavot and Diener 1993; Diener et al. 2013). Using this five-statement index (see Table 1) rather than a single statement produces a more reliable measure of satisfaction, as multiple combined measures are

less susceptible to measurement error (Nunnally and Bernstein, 1994; Gliem and Gliem, 2003). Furthermore, Diener et al.'s. index provides more variation in responses and is more likely to capture the complex nature of a respondent's SWL than could a single statement. This measure of SWL is our dependent variable in the regressions below.<sup>9</sup>

<INSERT TABLE 1 ABOUT HERE>

Individuals' economic ideology (ie level of support for markets) is measured using a comprehensive 10-statement index, focusing solely on economic issues. Developed by Hadsell et al. (2013) the 'Capitalism Index' (CI) has been shown to be a reliable measure of how individuals view markets: Cronbach's alpha measure of reliability for the CI ranges from 0.85 to 0.91 in prior studies (Jones et al. 2019)<sup>10</sup>. Table 2 shows the ten statements that comprise the index. For some statements agreement indicates a more laissez-faire, free-market view while for others, agreement indicates a more interventionist view. The *Capitalism Index* (CI) is created by first reverse coding those statements (indicated with an \* in Table 2) that represent the less capitalist/pro-market view (that is, a response of 1 is changed to 7; a response of 2 is changed to 6, and so on). Responses to all ten statements are then summed. The Capitalism Index has a potential range from 10 to 70. Higher scores indicate the individual has a greater pro-market, capitalist view (less government interventionist view). The CI is an improvement in measuring individual preference for markets as any individual's level of support for markets is complex and is unlikely to be wholly captured by a single attribute and simply asking respondents whether they are "left" or "right", as some prior studies have done. Moreover, the CI reduces mismeasurement as individuals consider only

economics related issues and not social (e.g., abortion, illegal drug policy, death penalty) or other factors.<sup>11</sup>

We include the CI in our regression as an explanatory variable. We also define “Right” (i.e., “Conservative”) and “left” (i.e., “liberal”) based on the individual’s placement on the CI (one standard deviation above or below the mean). Armed with these definitions, we examine the ‘left–right divide’ found in prior studies (in which the “left” is associated with lower levels of SWL compared to the “right”).

<INSERT TABLE 2 ABOUT HERE>

The Fraser Institute’s *Economic Freedom of North America* (hereafter EF) is our measure of government intervention in the economy.<sup>12</sup> This index measures the extent to which policies of state governments in the U.S. support “personal choice, voluntary exchange, freedom to enter markets and compete, and security of the person and privately-owned property” (Stansel et al., 2016). The EF index consists of three subgroups: fiscal policy, which is mainly state and local taxation; regulatory policy, mainly related to land use, labor markets, and occupational entry; and personal freedom, measuring choice on a wide-range of products, services, and activities. Higher values on the index represent greater economic freedom (less government intervention) in the form of lower taxes, less regulation, and generally greater support for individual choice in market settings. The overall EF index is the focus below, but separate regressions with each of its three subgroups produce similar results. Use of an alternative index, from the Cato Institute<sup>13</sup>, produces substantively similar results to those reported below.

Our primary innovation is creation of a metric we call *preference–policy mismatch (PPM)*, defined as the difference between an individual’s level of support for markets (as measured by the CI) and the corresponding state-level measure of economic freedom (EF). With the creation of the



PPM, ideological mismatch relative to state policies can identify an ‘economically-right’ individual (high CI) living in an ‘economically-left’ (low economic freedom) state and an ‘economically-left’ individual (low CI) living in an ‘economically-right’ (high economic freedom) state. Because our measure of PPM is multi-value (i.e., not dichotomous) we are able to reach graduated evaluations of the impact of being an ideological minority (or majority) and demonstrate the importance of PPM by connecting it to individual self-reported voting behavior.

*Preference-policy mismatch* is based on the difference between the respondent’s state economic freedom (EF) measure and his/her individual CI. We hypothesize that regardless of personal ideology, the farther an individual’s personal preference for freedom (ie markets) is from the policies implemented by the state the less happy that individual is. To create a measure of PPM, EF and CI are first standardized to range between 0 and 1. With a minimum potential score on the CI of 10 and maximum of 70, the standardized CI for individual  $i$  is

$$CI_{si} = (CI_i - 10)/60. \quad (1)$$

A similar adjustment is made for the EF. Then for each individual,  $EF_{si}$ , is subtracted from  $CI_{si}$  and squared:

$$PPM_i = (CI_{si} - EF_{si})^2. \quad (2)$$

The difference is squared to give more weight to individuals with greater preference-policy mismatch under the belief that larger differences between individual preferences and government policy are increasingly salient to the individual. Squaring also ensures that PPM is non-negative (which makes its regression coefficient easy to interpret). The resulting PPM index ranges from 0

to 1. The results below are robust to alternative measures of the PPM, including simple differences ( $EF_{si} - CI_{si}$ ), absolute value of simple differences, and standard deviation differences.<sup>14</sup>

Figure 1 presents a stylized illustration of the PPM. The vertical axis represents the economic policies of a state in which an individual lives and the horizontal axis captures the individual's preferences for markets. The dashed lines visually represent the somewhat arbitrary cut-points often used in prior research to categorize respondent's preferences or the state's policies as being outside a moderate middle range. For example, research considering only an individual's market preferences (CI) would consider everyone in the shaded area to be similar as they have similar economic market preferences. However, individuals with similar individual market preferences may vary considerably in circumstance because, though they all fall in the shaded area (measured along the horizontal axis) they may live under very different policies, as measured vertically. Someone in the upper-right corner (conservative living in a high EF state) is in a quite different environment than someone in the lower-right corner (conservative living in a low-EF state). Our work considers that preference-policy mismatch occurs off the diagonal. Examining just "liberals" in a capitalist/free state (shaded area to the left) or "conservatives" in a liberal/less free state (shaded area to the right) would be misleading. First, some liberals (conservatives) are farther from their preferred set of state policies than are others. This nuance is not captured in prior research that treats all liberals (conservatives) similarly unhappy. Second, some in the middle of the ideological continuum, neither liberals nor conservatives, are not considered in prior research, though they, too, can be a distance from their set of preferred state policies. Rather than an individual being classified by extremes of the continuum, it is movements off the diagonal that represents mismatches.<sup>15</sup> This is the strength of PPM. The shaded areas are extremes or subsets (in

total lumping together multiple levels of propinquity). PPM is thus more comprehensive in its approach.

<INSERT FIGURE 1 ABOUT HERE>

Demographic and other data collected from each respondent include gender, race, age, marital status, employment status, income, and religiosity.<sup>16</sup> Each has been shown in prior research to be important correlates with SWL.

Summary statistics for all variables are presented in Table 3. After dropping incomplete responses and those that failed an attention check or could not be matched with other data, 2380 geographically dispersed (within the U.S.) responses remain. For the CI, principal component analysis indicates a coherent scale measuring a single construct with all items at a 0.559 or better factor loading. Confirmatory factor analysis indicates high item-to-total correlation for the ten statements, with a Cronbach's alpha of 0.88. In sum, the CI measures a single construct, support for free-markets, and has very high internal consistency, leading to a strong confidence in sample to sample reproducibility. The SWL index is likewise strongly reliable with a Cronbach's alpha of 0.92.<sup>17</sup>

<INSERT TABLE 3 ABOUT HERE>

We estimate several variations of the basic model:

$$SWL = \beta_0 + \beta_1(EF) + \beta_2(CI) + \beta_3(PPM) + \sum \beta_i(\text{Demographics}) + \varepsilon_i \quad (3)$$

As SWL ranges from 5 to 35 and consists of responses to five seven-point Likert-type statements, each of which is not simply a ranking but rather reflect strength of agreement, we treat the SWL index as interval data and perform OLS. Several researchers have recently provided

support for such an approach. Ferrer-i-Carbonell and Frijters (2004, p. 655) in examining responses to life satisfaction surveys (which in their study ranged from 1 to 4), conclude that “assuming cardinality or ordinality of the answers to general satisfaction questions [which are Likert scales/indexes] is relatively unimportant to results” (see also Moro et al. 2008 and Welsch 2006). Similarly, Oswald and Wu (2011) report no substantive difference between OLS and an ordered estimator in their examination of SWL.<sup>18</sup>

### **III. Estimation Results and Discussion**

The first version of the model has demographics and EF, as shown in column 1 of Table 4.<sup>19</sup> All versions use robust standard errors clustered at the state level. t-statistics are in parentheses. The signs on the coefficients of the demographic variables are as expected and consistent with prior studies. Higher SWL is associated with being white, female, married, employed, richer (higher income), younger, and religious. The coefficient on EF, on the other hand, is unexpectedly negative, in contrast to prior findings (Jackson 2017; Belasen 2013; Knoll 2013; Gehring 2013) and is small: moving from the least free state (New York) to the most free (New Hampshire), a 2.6 point change of EF, results in just a 0.127 standard deviation (0.95 point) change in SWL. Our initial conclusion is that economic freedom has a small negative impact on SWL.

There are several potential reasons our estimate on EF differs from prior findings. The most obvious is the refined nature of our measure of SWL, as it ranges from 5 to 35, rather than 0 to 3, 4, or 10, as in prior work. Allowing a greater range and measuring SWL, and with multiple items rather than a single statement, is likely to provide a more accurate measure of SWL (Nunnally and Bernstein 1994; Gliem and Gliem 2003). Another possibility is that EF could be non-uniform, in the sense that more freedom increases SWL for some people even while for others more freedom

reduces SWL. Results from cross-country studies may, for example, reflect that some countries are beyond the optimal and other countries below. Third, the result could reflect individual preferences and asymmetric responses to preference mismatches.

<INSERT TABLE 4 ABOUT HERE>

Version 2 of the model (second set of figures in the Table 4) adds the CI to account for the individual ideological preferences. Results show that those with more support for free markets also have higher SWL, as expressed by the positive coefficient on the Capitalism Index, a result that is consistent with prior findings. The magnitude is small, however: a one-unit change in the CI is associated with just a 0.045-unit change in SWL. Thus, a one standard deviation (11.2 units) change in the CI translates to a 0.07 standard deviation change in SWL, about 0.50 units. Importantly, the coefficient on EF remains negative and little changed even after incorporating respondents' CI.

The third set of numbers in Table 4 shows that the relation between individual market orientation and SWL is not linear. We define binary variables *economically-left* and *economically-right* to indicate one standard deviation below mean CI and one standard deviation above mean CI, respectively. Replacing the CI with these dummies indicates economically-left individuals are less happy than moderates and those on the economic right, consistent with prior research noted earlier.

The coefficient on EF remains little changed: economically-left individuals are less happy with more economic freedom but EF is associated with lower SWL across the board, independent of level of support for markets. This result suggests that economically-left individuals in capitalist

states are particularly unhappy, demonstrating an asymmetric response to freedom. The effect on SWL for the economically-left is statistically significant and 26 times the magnitude of Right.

<INSERT TABLE 5 ABOUT HERE>

The third column in Table 4 suggests that the economic left and right have different levels of satisfaction. When the first model is run on a subset of the data, the asymmetric responses to economic freedom begin to appear: Estimation results for the segmented data are shown in Table 5 where the first column presents version 1 from the previous table with the sample restricted to economically left individuals, the second column displays the relationships only for economic moderates (neither *left* nor *right*), and the third column only for the economically-right individuals. A cursory examination of the relationships between economic freedom and satisfaction suggests that economic freedom is detrimental to the satisfaction of those on the economic left and (surprisingly) has little effect on those on the right.<sup>20</sup> These results suggest an avenue for further exploration: does a mismatch between individual preferences and state policies diminish satisfaction and if so, is the diminishment symmetric along the capitalism index spectrum?

<INSERT TABLE 6 ABOUT HERE>

To examine the effect of a mismatch between an individual's economic preferences (their CI) and their state's policies (EF) our measure of the mismatch is substituted into the model in place of the individual's CI and EF. The estimation results focusing on preference mismatches are shown in Table 6. Four sets of results are presented. The first presents the results for the full dataset, while the second, third, and fourth present results for the economically-left, moderate, and economically-right sub groups. A strongly significant decline in satisfaction occurs for the

economically-left and moderate sub-groups when there is a mismatch between preferences and policies. The magnitude of the reduction in SWL is, at its greatest, equivalent to being divorced (rather than married) or unemployed (rather than employed). These results suggest the effect of economic policy on SWL is dependent upon the match between state policy and constituents' preferences, other things equal.

Another way to interpret the impact of PPM might be as follows. The mean SWL is 21.95 (from Table 3), and Table 6 shows that, *ceteris paribus*, a one-unit increase in PPM (movement from no mismatch to full mismatch) would reduce SWL by an average of 3.426 units, or 15.6%; this is a potentially huge effect on happiness. In the sample, the mean value of PPM (Table 3) is 0.14; so in practice, the results suggest that PPM is reducing SWL by an average of  $3.426 \times 0.14 = 0.47964$  units, or 2.185%. The effect is twice as strong for liberals as for moderates, and does not appear to matter to conservatives.

#### **IV. Implications**

We have shown that while state-level economic freedom and individual preferences for free markets have minor impact on SWL, a preference-policy mismatch has greater influence. One might expect this PPM will lead to individual action, as individuals seek to reduce their mismatch and thereby increase their SWL. Action to reduce PPM, taking the individual back to the diagonal in Figure 1, might come either through individuals voting with the ballot, with an eye toward changing their state's EF; or by voting with their feet, by moving to another state with a more desirable level of economic freedom<sup>21</sup>. For each possibility the individual with PPM attempts to realign their views with their state's level of economic freedom. We can offer a tentative assessment of the first possibility, having collected self-reported voting habits in the same survey.

Examination of the latter possibility can only be speculative at this time, as we lack relevant data on mobility. Both should be further pursued in future research

### ***Voting Behavior***

Greater SWL may lead to greater voter participation as happier, more satisfied individuals may seek to engage in their community more broadly (Liberini et al., 2017; Zhong and Chen, 2002). On the other hand, greater SWL may lead to increased complacency and apathy toward the political process and less voting (Flavin and Keane, 2012). Using aggregate country-level data, Ward (2015) and Liberini et al. (2017) both find that satisfaction with life accounts for more of the variance in government vote share than standard macroeconomic variables. In short, “voters hold incumbent governments to account for the happiness of society” (Ward, 2015, p. 2). Though the research on voting and myriad influences, including SWL is vast (see, for example, Flavin and Keane, 2012; Besley, Persson, and Sturm, 2010; Zhong and Chen, 2002), the relationship between PPM and voting behavior has not been explored.

We might expect voters with high levels of PPM to be more motivated to vote, seeking to change state-level policies so as to bring them more in line with their own preferences for markets and economic freedom. Of course, it is possible that voters with high PPM will be discouraged and vote less often. After all, high PPM represents a gulf between the individual’s personal preferences and those of many of her fellow citizens who elect the government that decides the level of economic freedom, perhaps representing little chance for one vote to make a difference.

As part of our data collection we asked respondents how often they vote, ranging from ‘*not at all*’ to ‘*always*’.<sup>22</sup> Thirty-one percent indicate they vote in all elections, 31.2 percent vote in “most”, 12.5 percent vote “some”, 11.7 percent “occasionally”, 11.8 percent report being either



being unregistered or never voting. We define Vote Habit based on these responses, ranging from 0 to 5. Vote Habit has a mean of 3.52.

<INSERT TABLE 7 ABOUT HERE>

Table 7 shows the results of an ordered probit analysis with Vote Habit explained by PPM and demographic variables typically found in the voting literature. The signs on the coefficients of age, education, and other variables are consistent with findings from prior analyses (e.g., Flavin and Keane, 2012). Of primary interest, we see that greater PPM is strongly correlated with greater voting participation. In other words, greater difference between an individual's preference for markets and their state's reliance on markets implies greater direct engagement in the political process via voting.<sup>23</sup>

### **Tiebout sorting**

The second avenue for change relies on Tiebout sorting. Tiebout (1956) suggests local governments offer a quasi-market solution to the traditionally political problem of determining which services and how much of each should be publicly provided. Tiebout argues that with decentralized (i.e., local) service provision a consumer-voter can choose the jurisdiction which most closely matches his or her preferences. Our work is complementary and suggests that local government provision not only may provide a mechanism for revealing preferences but given variety among jurisdictions, individuals may be able to increase life satisfaction by finding a jurisdiction with policies that closely match their own. However, in the vein of Lancaster's (1990) work, the stability of such variety and heterogeneity requires that jurisdictions have sufficient incentive to differentiate themselves and that consumer preferences are sufficiently varied to

support different policy sets. While we see variety in terms of state-level policies as measured by the economic freedom index, and we see a wide range of consumer preferences for free-market principles, individuals appear not to choose state of residence so as to match their preferences for economic freedom to the state's offering. In our sample, respondents' state economic freedom is uncorrelated with their personal level of preference for markets. There is no evidence of sorting by voters into states with matching economic freedom: the similarity of distributions by level of economic freedom can be seen in Figure 2, which shows the kernel density function for the capitalism index for quintiles based on state economic freedom enjoyed by the individual.

<INSERT FIGURE 2 ABOUT HERE>

The strong similarity of distributions of CI regardless of state EF is surprising, as a reasonable expectation is for the CI distribution to shift to the right with greater EF. After all, state EF should reflect the median voter; states with more pro-market policies should be populated with individuals who more strongly support markets. The similar CI distributions may reflect sampling bias – our respondents may not reflect the typical voter of the state. Perhaps more market-oriented individuals were less likely to complete the survey. This explanation seems counter-intuitive, as participating in MTurk – the marketplace from which the data were obtained – might well be expected to attract individuals who like the market idea, as participants were paid for their participation (see earlier footnote on MTurk). Completing the survey is a purely market transaction. On the other hand, the similarity of distributions of CI may reflect a sorting process in flux; one in which equilibrium is never attained, as individuals move for a large variety of reasons, often ending up with a mis-

match between their individual market preferences and their state's economic policies. Data limitations limit our ability to investigate further in this paper.

## **V. Conclusions**

This paper is the first to explore the relationship between individual preferences for markets, state-level economic freedom, and satisfaction with life (SWL). We show that a greater disparity between individual preferences for economic freedom and economic freedom afforded by state policies, what we call preference-policy mismatch, is associated with lower SWL. This finding is robust to multiple alternative definitions of PPM. This reduction in SWL is, at its greatest, equivalent to being divorced (rather than married) or unemployed (rather than employed). We suggest that individuals may react to a mismatch between individual preference and state policy by voting, through the ballot box or with their feet, à la Tiebout, in both cases in an effort to change their state's level of economic freedom. We are able to test the former possibility and indeed find that greater PPM is associated with increased probability of self-reported voting activity. Future work should further explore the impacts of PPM. We leave for later inquiry examination of the Tiebout sorting, but we do provide evidence suggesting that Tiebout sorting is not occurring.

This research adds to our understanding of the relationship between economic freedom and satisfaction with life. Accounting for differential views of freedom and of market forces generally allows for an appreciation of the complicated relationship between free markets and happiness. Further inquiry is warranted.

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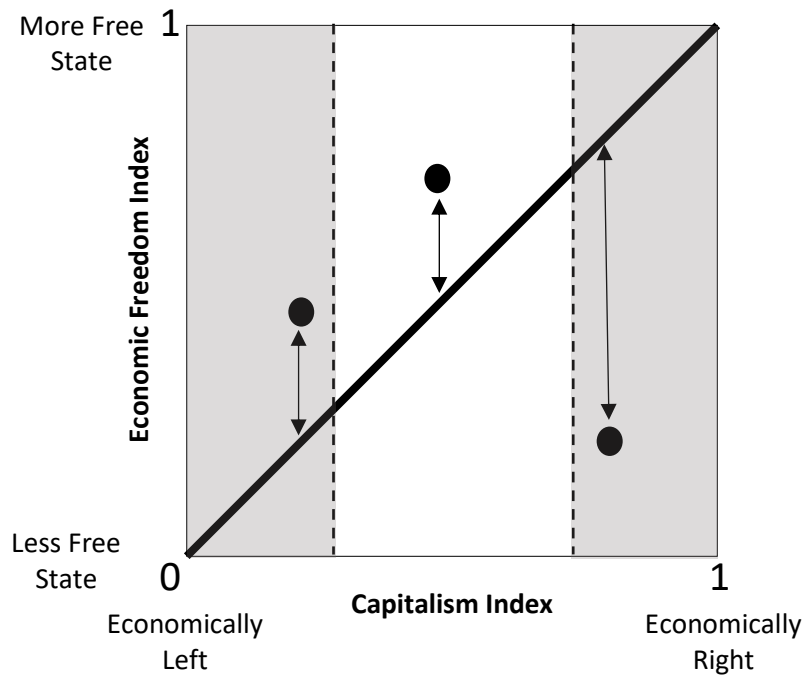
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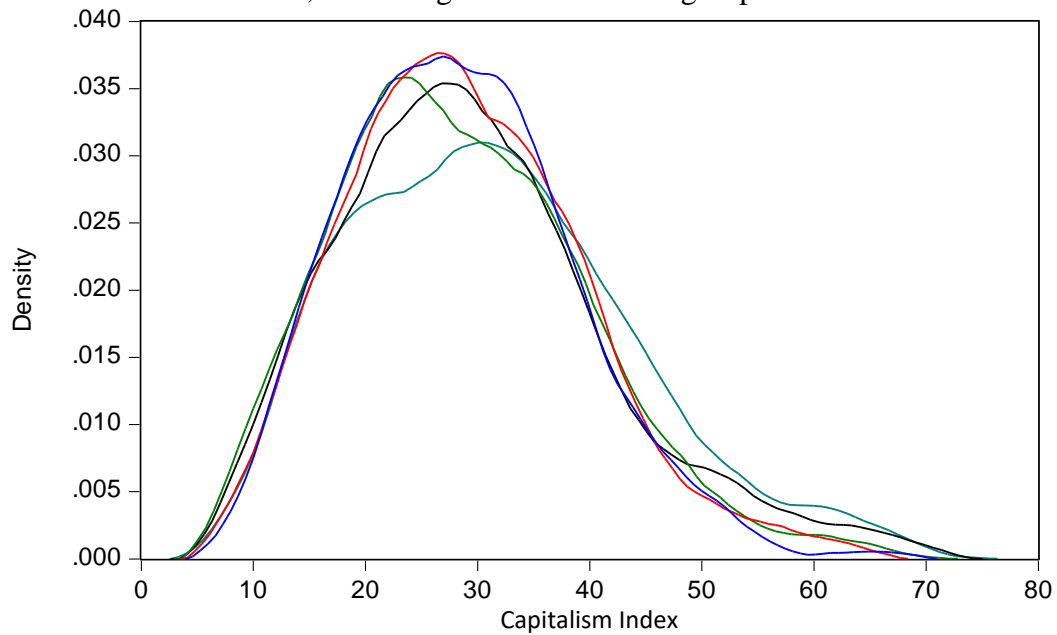


Figure 1: Preference Policy Mismatch



For individuals along the diagonal personal preferences for markets match the state-level economic freedom. Greater distance between an individual's support for capitalism and state-level Economic Freedom is associated with lower SWL. Thus, the individual represented by the point in the lower right would have lower SWL than the individual represented by the left-most point, which is closer to the diagonal.

**Figure 2.** Kernel density of the Capitalism Index.  
The five groups are sorted by state-level economic freedom, low to high. N=476 in each group.



All 2280 respondents are sorted by their state-level economic freedom, low to high, and placed into five equal-sized groups. The kernel density of the Capitalism Index for each of those quintiles is shown above. The similarity of distributions of the CI across levels of EF indicates that states with quite different levels of EF have very similar residents (respondents) in terms of their preference for markets. This suggests that Tiebout sorting is not taking place.

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**Table 1: Satisfaction with Life Statements**

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Satisfaction With Life Scale

Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

1. In most ways, my life is close to my ideal.
2. The conditions of my life are excellent.
3. I am satisfied with my life.
4. So far, I have gotten the important things I want in life.
5. If I could live my life over, I would change almost nothing.

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Source: Diener et al. (1985)

**Table 2: Capitalism Index**

“Using the following rating scale, indicate how strongly you agree or disagree with each statement.”

Strongly Disagree		Neither		Strongly Agree	
Disagree	Disagree	Disagree	Disagree	Agree	Agree
1	2	3	4	5	6

1. If people are poor, it is mostly because of their own actions.
2. \*The price of pharmaceutical drugs should be regulated by the government.
3. Within the US, at birth, everyone has an opportunity to become rich.
4. Tax money should NOT be used to subsidize the development of technologies designed to be environmentally friendly.
5. \*People with high incomes and wealth should be heavily taxed.
6. \*The government should ensure that all people are provided with basic housing.
7. \*The government should provide benefits and training to help the unemployed get back on their feet.
8. \*The government should help the poor.
9. \*Healthcare is a basic human right that must be guaranteed by the government.
10. \*High levels of income inequality are bad for society.

Agreement with statements without an \* indicates a more laissez-faire, free-market view whereas agreement with statements with an \* [not shown to survey takers] indicates a less laissez-faire, free-market view. We characterize the former as capitalist/pro-market (i.e. conservative) and the latter as less capitalist/pro-market (i.e. liberal).

The Capitalism Index is created by first reverse coding Statements with an \* (that is, a response of 1 is changed to 7, 2 is changed to 6, etc) and then summing the responses to the 10 statements, equally weighted. As each individual statement value can range from 1 to 7, the Capitalism index can range from 10 to 70.

Principal component analysis indicates a coherent scale measuring a single item. Details available upon request. Confirmatory factor analysis indicates high item-to-total correlation for the ten statements, with a Cronbach’s alpha of greater than 0.85 in each testing. Cronbach’s alpha for the sample reported in this paper is 0.879.

The statements used here are modified from Hadsell, McAvoy, and McGovern (2013). See the appendix in that paper for additional details on the creation of the survey.

**Table 3: Demographic Summary Statistics**

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	Mean	Median	Max	Min	Std. Dev.	Skew.	Kurtosis	Obs.
SWL	21.95	23	35	5	7.5115	-0.3344	2.2662	2390
WHITE*	0.824	1	1	0	0.3807	-1.7040	3.9037	2390
FEMALE	0.495	0	1	0	0.5001	0.0167	1.0003	2390
MARRIED	0.405	0	1	0	0.4912	0.3834	1.1470	2390
DIVORCED	0.072	0	1	0	0.2592	3.3005	11.8931	2390
UNEMPLOYED	0.094	0	1	0	0.2921	2.7796	8.7261	2390
EMPLOYED	0.625	1	1	0	0.4840	-0.5205	1.2710	2390
SELF_EMPLOYED	0.187	0	1	0	0.3900	1.6052	3.5768	2390
HOME_MAKER	0.066	0	1	0	0.2493	3.4789	13.1027	2390
INCOME (,000)	55.89	49	150	0	36.0099	0.9149	3.2953	2390
INCOME squared	4420.55	2401	22500	0	5441.782	1.9614	6.4158	2390
AGE	34.88	32	60	18	16.1904	18.6408	644.811	2390
CAP INDEX	29.33	28	69	10	11.1468	0.6160	3.3115	2390
RELIG INDEX	22.34	22	45	5	11.7228	0.1237	1.8220	2390
PPM	0.14	0.0770	0.9667	1E-08	0.1692	1.7086	5.8184	2380
Econ Freedom	7.01	7.14	8.29	5.70	0.72			50

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\*Due to a data collection error White includes Hispanic

**Table 4: Regression Results**  
 $SWL = \beta_0 + \beta_1(EF) + \beta_2(CI) + \beta_3(PPM) + \sum \beta_i(\text{Demographics}) + \varepsilon_i$

SWL	(1)	(2)	(3)
White	1.416*** (4.64)	1.358*** (4.46)	1.440*** (4.85)
Female	0.862** (2.54)	0.989*** (3.01)	0.958*** (2.85)
Married	2.556*** (6.04)	2.552*** (5.88)	2.548*** (5.88)
Widowed	-0.148 (-0.11)	-0.0203 (-0.01)	-0.143 (-0.10)
Divorced	-0.831 (-1.12)	-0.843 (-1.13)	-0.826 (-1.12)
Unemployed	-4.739*** (-5.54)	-4.680*** (-5.56)	-4.814*** (-5.75)
Employed	-2.184** (-2.40)	-2.171** (-2.45)	-2.317** (-2.68)
Self Employed	-3.185*** (-3.50)	-3.144*** (-3.52)	-3.247*** (-3.71)
Employed as Home Maker	-1.476 (-1.52)	-1.556 (-1.63)	-1.696* (-1.82)
Income	0.0945*** (7.55)	0.0910*** (7.55)	0.0898*** (7.82)
Income_sq	-0.000328*** (-4.94)	-0.000318*** (-4.99)	-0.000305*** (-4.99)
Age	-0.0364** (-2.32)	-0.0373** (-2.27)	-0.0365** (-2.37)
Religiosity	0.0876*** (7.56)	0.0771*** (6.41)	0.0776*** (6.54)
EF	-0.367*** (-3.26)	-0.389*** (-3.21)	-0.381*** (-3.04)
Capitalism Index		0.0452*** (3.49)	
“Right”			0.0763 (0.20)
“Left”			-2.016*** (-5.23)
Constant	19.95*** (13.24)	19.17*** (12.65)	20.75*** (13.43)
<i>N</i>	2380	2380	2380
<i>R</i> <sup>2</sup>	0.199	0.203	0.207

Omitted variables: Non-white, Male, Never Married, Not in labor force.  
T-statistics in parentheses. \*\*\* = statistically significant at 1%, \*\* = 5%, \* = 10%.

**Table 5: Regression Results by CI Type**

SWL	“Left” on CI	moderate on CI	“Right” on CI
White	1.925 (1.49)	1.459 <sup>**</sup> (4.13)	1.213 (0.99)
Female	2.454 <sup>***</sup> (3.27)	0.735 <sup>*</sup> (1.75)	0.442 (0.55)
Married	2.786 <sup>**</sup> (2.66)	2.488 <sup>***</sup> (6.24)	3.069 <sup>**</sup> (2.42)
Widowed	-0.608 (-0.23)	0.0896 (0.06)	1.784 (1.39)
Divorced	0.666 (0.38)	-1.455 <sup>*</sup> (-1.69)	2.888 (1.55)
Unemployed	-3.002 (-1.00)	-4.828 <sup>***</sup> (-3.85)	-8.823 <sup>***</sup> (-4.20)
Employed	0.626 (0.22)	-2.667 <sup>**</sup> (-2.30)	-5.838 <sup>***</sup> (-4.00)
Self Employed	0.182 (0.06)	-3.536 <sup>***</sup> (-2.86)	-7.892 <sup>***</sup> (-5.64)
Employed as Home Maker	2.794 (0.77)	-2.838 <sup>**</sup> (-2.02)	-2.882 (-1.40)
Income	0.126 <sup>***</sup> (3.86)	0.0822 <sup>***</sup> (5.37)	0.0742 <sup>*</sup> (1.85)
Income_sq	-0.000512 <sup>**</sup> (-2.40)	-0.000260 <sup>***</sup> (-2.80)	-0.000220 (-0.94)
Age	-0.0459 (-1.05)	-0.0307 <sup>**</sup> (-2.40)	-0.121 <sup>**</sup> (-2.22)
Religiosity	0.0763 <sup>*</sup> (1.89)	0.0750 <sup>***</sup> (4.93)	0.0893 <sup>***</sup> (2.97)
EF	-1.207 <sup>**</sup> (-2.69)	-0.238 <sup>**</sup> (-2.02)	-0.318 (-0.67)
Constant	19.56 <sup>***</sup> (3.90)	20.35 <sup>***</sup> (12.18)	27.04 <sup>***</sup> (6.07)
<i>N</i>	320	1701	359
<i>R</i> <sup>2</sup>	0.235	0.175	0.256

Omitted variables: Non-white, Male, Never Married, Not in labor force.

T-statistics in parentheses. \*\*\* = statistically significant at 1%, \*\* = 5%, \* = 10%.

**Table 6: Regression Results with Policy Mismatches**

SWL	Full Sample	“Left”	Moderate	“Right”
White	1.380 <sup>***</sup> (4.62)	1.772 (1.40)	1.452 <sup>***</sup> (4.14)	0.960 (0.81)
Female	0.904 <sup>***</sup> (2.76)	2.465 <sup>***</sup> (3.28)	0.760 <sup>*</sup> (1.82)	0.264 (0.33)
Married	2.525 <sup>***</sup> (5.77)	2.719 <sup>**</sup> (2.56)	2.471 <sup>***</sup> (6.15)	3.131 <sup>**</sup> (2.50)
Widowed	-0.0792 (-0.06)	-0.709 (-0.27)	0.0985 (0.06)	1.596 (1.29)
Divorced	-0.829 (-1.13)	0.628 (0.36)	-1.521 <sup>*</sup> (-1.77)	3.098 (1.62)
Unemployed	-4.685 <sup>***</sup> (-5.57)	-2.825 (-0.96)	-4.802 <sup>***</sup> (-3.83)	-8.784 <sup>***</sup> (-4.17)
Employed	-2.159 <sup>**</sup> (-2.41)	0.734 (0.26)	-2.665 <sup>**</sup> (-2.27)	-5.727 <sup>***</sup> (-3.93)
Self Employed	-3.127 <sup>***</sup> (-3.49)	0.295 (0.10)	-3.531 <sup>***</sup> (-2.84)	-7.726 <sup>***</sup> (-5.46)
Employed as Home Maker	-1.480 (-1.52)	2.811 (0.79)	-2.833 <sup>*</sup> (-2.01)	-2.786 (-1.35)
Income	0.0922 <sup>***</sup> (7.60)	0.126 <sup>***</sup> (3.79)	0.0818 <sup>***</sup> (5.35)	0.0739 <sup>*</sup> (1.81)
Income_sq	-0.000319 <sup>***</sup> (-4.95)	-0.000514 <sup>**</sup> (-2.40)	-0.000259 <sup>***</sup> (-2.80)	-0.000213 (-0.89)
Age	-0.0356 <sup>**</sup> (-2.24)	-0.0456 (-1.02)	-0.0301 <sup>**</sup> (-2.35)	-0.120 <sup>**</sup> (-2.23)
Religiosity	0.0811 <sup>***</sup> (6.97)	0.0727 <sup>*</sup> (1.84)	0.0726 <sup>***</sup> (4.76)	0.0895 <sup>***</sup> (2.96)
PPM	-3.426 <sup>***</sup> (-5.40)	-3.803 <sup>***</sup> (-2.83)	-1.907 <sup>**</sup> (-2.13)	-3.289 (-1.18)
Constant	18.11 <sup>***</sup> (15.72)	12.42 <sup>***</sup> (2.94)	19.02 <sup>***</sup> (13.23)	25.11 <sup>***</sup> (8.66)
<i>N</i>	2380	320	1701	359
<i>R</i> <sup>2</sup>	0.203	0.235	0.176	0.258

Omitted variables: Non-white, Male, Never Married, Not in labor force.

T-statistics in parentheses. \*\*\* = statistically significant at 1%, \*\* = 5%, \* = 10%.



**Table 7 – Voting, Ordered Probit Estimation**

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PPM	0.2814** (2.13)
AGE	0.0081*** (6.07)
BAPLUS	0.2534*** (5.51)
WHITE	0.2378*** (4.12)
FEMALE	0.1024*** (2.28)
MARRIED	0.2374*** (4.91)
EMPLOYED	0.1347*** (2.79)
INCOME	0.0025*** (3.52)

Pseudo R-squared = 0.027  
n = 2363

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Sample restricted to those who are eligible to vote. z-statistic in parentheses. BAPLUS equals 1 if the respondents has a Bachelors degree or higher, 0 otherwise. \*\*\* = statistically significant at 1%, \*\* = 5%,

## APPENDIX - TABLE A1

### Economic Freedom by state

STATE	EF		
Alabama	6.95	Montana	6.91
Alaska	6.16	Nebraska	7.39
Arizona	7.39	Nevada	7.27
Arkansas	6.69	New Hamp.	8.29
California	5.91	New Jersey	6.68
Colorado	7.28	New Mexico	6.18
Connecticut	7.14	New York	5.70
Delaware	6.75	North Carolina	7.30
Florida	8.10	North Dakota	7.37
Georgia	7.43	Ohio	6.47
Hawaii	6.20	Oklahoma	7.39
Idaho	7.16	Oregon	6.32
Illinois	6.69	Pennsylvania	7.18
Indiana	7.25	Rhode Island	6.83
Iowa	6.91	South Carolina	6.68
Kansas	7.27	South Dakota	8.04
Kentucky	6.39	Tennessee	7.93
Louisiana	6.96	Texas	8.03
Maine	6.55	Utah	7.00
Maryland	7.24	Vermont	6.30
Massachusetts	7.27	Virginia	7.76
Michigan	6.90	Washington	6.87
Minnesota	6.31	West Virginia	6.30
Mississippi	6.39	Wisconsin	6.71
Missouri	7.41	Wyoming	7.03
		All	7.01

## END NOTES

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<sup>1</sup> Although differences may exist we use SWL throughout this paper as equivalent to Life Satisfaction and Happiness, for ease of exposition (see Curini et al, 2014, p. 145, fn 1).

<sup>2</sup> Eckersley (2013, p. 532): “Freedom can be disturbing as well as exciting; while it creates new opportunities for personal experience and growth, it also carries risks of social dislocation and isolation, and a cultural attenuation that makes self-identity problematic.”. And, “Freedom is implicated in the increased rates of mental health problems among Western youth (which are also at odds with the SWB data).”

<sup>3</sup> See Eckersley (2013)

<sup>4</sup> The finding that liberals are less happy also is supported by Napier and Jost (2008) and Taylor et al. (2006). DiTella and MacCulloch (2005) find liberals prefer inflation over unemployment (and conservatives the opposite).

<sup>5</sup> The data sets are from the World Values Survey (WVS), the European Values Survey (EVS) and the Generalized Social Survey (GSS). The GSS asks a single question on general happiness “Taken all together, how would you say things were these days— would you say that you are very happy, pretty happy, or not too happy?” The WVS asks: “All things considered, how satisfied are you with your life as a whole these days?” The response scale ranges from 0-10. The EVS and other data sources take a similar approach. An exception is Nikolaev (2014) who uses multiple measures taken from the OECD Quality of Life Index.

<sup>6</sup> Jackson (2017) analyzes EF and SWL but does not consider individual ideology. Jackson also uses the 4-point GSS measure of SWL, a limitation that our dataset allows us to overcome. Belasen (2013) also studies SWL using the EF but does so at the state level, using a composite measure for state aggregate satisfaction.

<sup>7</sup> Academic researchers are increasingly using MTurk as an inexpensive, reliable source of data for surveys and experiments. Recent examples from the economics literature include Elias et al. (2015), Tinkler and Woods (2013), Chandler and Kapelner (2013), and Kuziemko et al. (2015). Data collected on MTurk appear to be as reliable as data from traditional sources (Dalya and Natarajanb, 2015; Fleischera et al., 2015; Buhrmester et al., 2011; Germine et al., 2012). MTurk is an online free-lance marketplace where workers complete a wide range of tasks posted by employers. Individuals register with Amazon to become eligible to complete tasks and are paid for their effort according to the pay scale set by the employer (investigator). Anonymity is protected in the payment system: workers receive a code upon completion of the survey that they enter into the MTurk system to receive payment. Workers are

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then paid by MTurk with monies paid by the employer prior to creation of the task. The employer never knows the identity of workers who completed the work. MTurk does allow for exclusion based on previously completed work. Thus, workers who completed the survey in December were prohibited from completing it again in June. A primary factor behind expected and observed data validity collected through MTurk is its system of payment and performance rating. MTurk workers are paid only when the employer is satisfied with the work performed. Further, employers can limit the availability of tasks to workers with a minimum number of task completions and approval rate. Workers are informed when they register with MTurk that employers will approve or reject work. Our survey is restricted to respondents in the U.S. with at least a 95% approval rate on prior tasks. Each respondent was paid \$0.75.

<sup>8</sup> Our non-random sampling approach, more specifically exogenous sampling, produced a somewhat younger and more educated sample compared to the general population. As we control for age, race, and income, differences between our sample and the general population will not affect interpretation of the regression results (see Wooldridge, 2013, for a discussion of exogenous sampling).

<sup>9</sup> Ferrer-i-Carbonell and Frijters (2004) in examining responses to life satisfaction surveys, conclude that “assuming cardinality or ordinality of the answers to general satisfaction questions [which are Likert scales/indexes] is relatively unimportant to results” (p. 655). For recent papers taking a similar approach with Likert scales, see Ravida et al., 2017; Dawson, 2017; Humphriesa and Kosse, 2017; and Chen et al., 2017. Treating the index as cardinal rather than ordinal requires assuming that the interval between responses is approximately equal. Using seven-point Likert-type items for each statement and then summing those related statements to create a scale/index further enhances this assumption, as respondents’ choices are more refined. For additional discussion of treating Likert scales (multi statement indexes) as interval see Kim and Mueller, 1978; Brown, 1988; and Brown, 2011.

<sup>10</sup> Principal component analysis, high item-to-total correlations, and a Crohbach’s alpha exceeding 0.8 indicate that each of the 10 statements measure a facet of a single construct – support for markets – and form a coherent, reliable scale.

<sup>11</sup> The measure used in many prior studies is based on the question “In political matters, people talk of “the left” and “the right”. How would you place your own views on this scale? (from 1 to 10).” See, for example, Di Tella and MacCullough (2005).

<sup>12</sup> For more information about the Fraser index, see <https://www.freedominthe50states.org/>.

<sup>13</sup> See <https://www.cato.org/policy-report/novemberdecember-2016/freedom-50-states>.

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<sup>14</sup> For standard deviation differences, replace equation 1 with  $CI_{si} = (CI_i - \text{mean CI})/\text{standard deviation of CI}$  and doing a similar standardization for EF. PPM is then calculated as in equation 2.

<sup>15</sup> Note that our measure of distance is horizontal, or vertical, in nature and not shortest distance from the diagonal as used in the illustration for simplicity.

<sup>16</sup> Religiosity is based on Jones et al (2019) and measures intensity of religious beliefs and actions, captured by Likert-type responses to multiple statements. Beliefs are measured by statements about belief in God, an afterlife, and hell (or similar place). Activity is measured by attendance at worship services, frequency of prayer and reading of holy texts, and emphasis placed on the importance of persuading others to share their religious (or spiritual) views. The range for this measure is 5 to 45.

<sup>17</sup> The Cronbach's alpha for the religiosity index, based on Jones et al. (2019) is 0.90.

<sup>18</sup> For additional discussion of treating Likert scales (multi statement indexes) as interval see Kim and Mueller, 1978; Brown, 1988; and Brown, 2011. Treating the SWL as cardinal rather than ordinal requires assuming that the interval between responses is approximately equal. Using seven-point Likert-type items for each statement and then summing ten related statements to create a scale/index further enhances this assumption, as respondents' choices are more refined.

<sup>19</sup> The results are essentially unchanged when each of the three sub categories of the EF is used instead. Results available upon request.

<sup>20</sup> One may also note that the constants in Table 5 are consistent with the results in Table 4 as baseline satisfaction increases as a respondent moves up the CI scale.

<sup>21</sup> In fact, the Cato Institute's stated goal for their economic freedom project is to provide information to the public about state-level policies so that individuals can locate to states that more closely match their preferences (C-Span, 2018).

<sup>22</sup> Some indicated they were not registered to vote or were not eligible to vote. The former were included as never voting while the latter were excluded from the analysis (only 17 respondents fell into this latter category).

<sup>23</sup> Anecdotal evidence of the importance of voting can be seen in states such as West Virginia. Jason Sorens of the Cato Institute describes how West Virginia moved from a "deep blue state to a deep red state" politically after 2010. The state's public policies changed accordingly, increasing economic freedom (according to Cato's measure) the

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second most of all the states between 2015 and 2016. See 58:15 – 59:00 <https://www.c-span.org/video/?450444-1/state-regulation-fiscal-policy> (CATO, Freedom of the 50 States, 2018).