The consistency of market beliefs as a determinant of economic freedom

Pál Czeglédi¹

Published online: 17 February 2020
© The Author(s) 2020

Abstract

Accepting the view that beliefs about the market determine the policies and institutions of economic freedom, this paper considers the cross-country consequences of the fact that these beliefs are not one-dimensional and they may be inconsistently distributed over these dimensions. The paper asks the question of whether cross-country differences in the consistency of market beliefs help explain the cross-country differences in areas of economic freedom, especially the contrasting cross-country pattern of the size of government and the legal system and property rights area. It shows that under some plausible conditions in a probabilistic voting framework, a higher consistency leads to higher economic freedom in some areas and lower economic freedom in other areas. Therefore, the concept of the consistency of market beliefs helps us understand why countries with higher economic freedom score for legal system and property rights usually have a lower economic freedom score for the size of government. Using Cronbach's (coefficient) alpha of four different market beliefs as a measure of consistency in cross-country regressions, the paper finds that consistency is an explanatory factor of the two economic freedom areas.

Keywords Economic freedom · Culture · Beliefs · Institutions

JEL Classification D72 · H11 · P48 · Z18

1 Introduction

In an attempt to better identify the links between citizen beliefs and the institutions and policies used to characterize economic freedom (Gwartney et al. 2018), in this paper I focus on one of the puzzling features of its cross-country and time series patterns: the negative correlation between the “size of government” area of economic freedom with that of “legal system and property rights”. One answer to this puzzle

✉ Pál Czeglédi
czeglédi.pal@econ.unideb.hu

¹ Institute of Economics, University of Debrecen, Böszörményi St. 138, Debrecen 4032, Hungary

is that the size of government should not be considered (Ott 2018) when measuring economic freedom. Another answer is the one offered by Murphy (2019a), who views the difference between these two areas (legal system and property rights and the size of government) as describing state capacity, a concept quite different from economic freedom. The negative correlation is an implication of the fact that a higher state capacity makes it possible for the government to raise more revenue and provide the security that is needed to maintain well-functioning markets. In this paper I attempt to give a third answer, which might complement this second one and which is based on the traditional idea that public opinion rules (Wohlgemuth 2005; Caplan and Stringham 2005), that is, the policies and institutions of a country are basically shaped by people's beliefs concerning the right kind of institutions and policies.

There are two reasons why applying this approach seems useful in trying to answer the puzzle. First, viewing it with this approach in mind, the puzzle seems even more challenging. The negative correlation between the two areas means that in those countries in which people want more secure property rights, they want more government intervention, too. Is it fair to say then that they want more economic freedom on the one hand, and less economic freedom on the other? Isn't that inconsistent? If so, wouldn't one expect that richer and more educated people would be more consistent and choose a more consistent set of institutions and policies? The evidence shows the opposite: it is precisely the richer and more educated countries that provide a higher security of property rights on the one hand and larger government on the other. Even if demanding more of the services of a government characterized by high state capacity is not inconsistent, one can ask the question of how beliefs affect this demand.

Second, there is much evidence (discussed in Sect. 2) that "culture" is among the determinants of institutions and policies, including those of economic freedom. The way these soft or informal factors have their effect is less clear, however—or so it seems—, than is the fact that their effect is significant. Shaping the consistency of market beliefs may be one of the ways through which culture forms institutions.

The answer I will try to elaborate on in this paper is to show that under some conditions people with more consistent beliefs about markets will choose to have less consistent institutions and policies. To do so, the paper will first review the literature on the relation between market beliefs and market institutions in Sect. 2, focusing on the question of why beliefs may matter for economic freedom in addition to (material) interest. Section 3 introduces the idea, and a cross-country measure, of the inconsistency of beliefs as the feature of the distribution of beliefs about the market economy. Section 4 considers a reason why a higher consistency of beliefs may lead to more economic freedom in one area and less in another. In Sect. 5 I turn to cross-country empirics of the consistency of market beliefs. Using the World Values Survey and the European Values Study (WVS 2015; EVS 2011) as the sources of market beliefs, I will examine how it is associated with the size of government and legal system areas of economic freedom.

The results show that it is the size of government and the legal system area that are correlated with this measure of consistency, and the correlation is negative in the former case and positive in the latter. The consistency of market beliefs is therefore

an explanation for the puzzle of a negative correlation between these two areas of economic freedom, and therefore of State Economic Modernity or state capacity (Murphy 2019a). Looking for cultural determinants of the consistency of market beliefs in Sect. 6 I argue that although consistency is connected to some comprehensive cultural attitudes, its determinants are more elusive than are those of a free-market mentality

2 The importance of beliefs for economic freedom

Investigating “culture” as a determinant of institutions has become a fruitful research topic in economics (Alesina and Giuliano 2015; Beugelsdijk and Maseland 2010), as has the research on the determinants of economic freedom (Bologna and Hall 2014, pp. 130–131). Several papers (Williamson 2009; Williamson and Kerekes 2011; Williamson and Mathers 2011; Williamson and Coyne 2014) have merged these two strands of research productively. The term “culture” is, however, just a summary measure of different kinds of informal factors that might shape behavior and that are considered so “deep” that Murphy (2019c) refers to this literature on “culture and institutions” as a “culturalist–nativist” paradigm.

Political ideology is also discussed in the context of economic development by public choice scholars. Finding an effect of ideology might be an indirect way of showing the effect of beliefs, insofar as ideologies can be seen as bundles of beliefs offered to citizens to choose between. And political ideology has been found by Jäger (2017) and Murphy (2019b) to be a force that shapes cross-country differences in economic freedom in the not so long run. Using data on government ideology, Bjørnskov and Rode (2018) show that the change in area 1 (size of government) and area 5 (regulation) of economic freedom is dependent on the ideology of the incumbent government, and that left-wing governments are more prone to increase the size of government. In their review Lawson et al. (2018) find seven papers concerned with “ideology” as determinants of economic freedom, which really focus either on political ideology or deep culture, not on the beliefs this paper focuses on.

Political ideology is, however, different from beliefs (Hinich and Munger 1992, p. 14). I define “beliefs” as those parts of culture that are usually learnt deliberately, or intentionally, and which provide guidance (or even constraints) for thinking. As such they may be contrasted with those parts of “culture” that constrain actions and are usually learnt unintentionally.¹ In contrast to deep culture, beliefs may be changed by persuasion, which requires deliberation by both those persuading and those being persuaded.

Beliefs are therefore less “deep” than the values discussed in the literature on “culture and institutions”, but culture shapes beliefs. Vanberg and Buchanan (1989, p. 50) see beliefs as “cognitive components of choice”, which is to say they are “theories about the world, in particular, what these outcomes are likely to be”

¹ For the association of culture and informal institutions see, for example, Guiso et al. (2006, p. 36), Mokyr (2016, p. 8), Kasper (2012, pp. 108–118), and Voigt (2018).

(ibid.). They shape human choice, and especially public choice, because “how a person chooses between potential alternatives is not only a matter of ‘what he wants’ but also of ‘what he believes’ ” (ibid.: 51). Beliefs are more influential over choices that are made about rules, than they are in private choices, giving an answer to the question of “what public policies will be successful” (Olson 1996, pp. 15–16). The learning process through which these “shared mental models” evolve (Denzau and North 1994) is however cultural since such learning is based on common experience (Congleton 2019). The fact that the learning process can reduce the natural ignorance (Congleton 2001) everyone starts life with can explain the inconsistencies in our thinking about the market economy.

“Public opinion” is also used to describe beliefs. While public opinion often seems to be a “non-issue in public choice theory” (Wohlgemuth 2005, p. 43), the fact that public choice explanations of policies and institutions usually give prominence to material interests does not necessarily mean a complete absence of the role of beliefs. For example, Grubel’s (2015) interest group story of economic freedom admits that new and “radical political and economic paradigms about the role of government” (ibid.: 3) may arise relatively quickly and change economic freedom.

Another reason to think that beliefs are an exogenous factor that shapes economic freedom is that it is a special kind of public good in whose production no one may have a material interest, although it benefits everyone. As Clark and Lee (2015) explain, there is no interest group that is privately advantaged by an increase in economic freedom, as opposed to, for example, defense spending.²

While public opinion or beliefs can be considered as one of the determinants of policies and institutions in the standard public choice view, there is an alternative tradition of political economy which, as Caplan and Stringham (2005) show, holds them to be *the* ultimate determinant. In this view “‘what is, is popular’ is a fair generalization” (Caplan and Stringham 2005, p. 94). This might not hold in a democratic setting only. As Ludwig von Mises, the early champion of this view, writes, “In non-democratic states, too, only a government which can count on the backing of public opinion is able to maintain itself in the long run” (Mises 1951, p. 72).

In this public opinion view of politics, special interest is only secondary, although it is not exactly made clear what its significance is. Caplan and Stringham (2005, pp. 100–101) find two different mechanisms in the works of Bastiat and Mises. The first is that it is public opinion that makes rent seeking possible, but it is rent seeking that finally determines policy. Public opinion sets the limits of rent seeking but these limits usually leave much room for the maneuverings of various interest groups. The second possible mechanism is that special interest can have an influence over public opinion, which means that special interest works completely through public opinion.

People as a group often act “surprisingly” rationally compared to their explicit beliefs and actions (Smith 2003), but this “ecological rationality” is made possible by the institutional environment of the market. Even though it is not obvious that democracy is not a market-like institutional environment (Wittman 1989), there

² Following Congleton’s (1991) conception, this is to say that no *economic* interest group is lobbying for more economic freedom as such. There might be *ideological* interest groups, however, that do.

are good reasons to think that the inconsistencies of market beliefs, as beliefs that are concerned with institutions and policies subject to political choice, can easily be the result of rational or natural ignorance. Rational ignorance (Downs 1957, pp. 238–259) implies that it might simply be rational not to know how markets work, considering the almost zero effect one voter with such a knowledge could have on economic policy.

Ignorance might not result from any choice. It is reasonable to suppose that people simply do not know that there is anything to learn about the way markets work. Such a natural ignorance (Congleton 2001, 2019) might explain the prevalence of zero-sum thinking (Rubin 2019). In addition to ignorance, beliefs may be further systematically biased because of a “delusion by choice” in the form of expressive voting (Brennan and Lomasky 1993) or because of rational irrationality (Caplan 2007). Ignorance—whether rational or natural—as well as “delusion by choice” provide reasons to think that market beliefs will be inconsistent because people will be ignorant or will have delusions about the relationships between different implications of the market.

If public opinion or beliefs matter for public policy one can expect that free-market ideas held by the public will shape economic freedom. Newland (2018) and Czeglédi and Newland (2018a, b) have shown that a “free-market mentality” has an explanatory power over economic freedom. A higher free-market mentality alone, however, cannot account for an important feature of the cross-country data on economic freedom, i.e. the negative correlation between the size of government areas with some others, most importantly the security of the legal system. Murphy’s (2019a) explanation for the negative correlation between the size of government and the legal system area of economic freedom is based on his hypothesis (Murphy 2018, pp. 72–76) regarding the reversed U-shaped relationship between social capital and efficiency. The present paper complements this by adding another factor, the consistency of market beliefs.

In sum, there are two shortcomings of this literature which I will try to address in this paper. One is that those authors looking for the “cultural” determinants of economic freedom do not focus on the beliefs people have on the way the market economy works. Instead, these authors are looking for “deeper” or “stickier” determinants such as religious beliefs or more general convictions about life, work, and society. Second, although the negative correlation between area 1 (size of government) and area 2 (legal system and property rights) of economic freedom can be seen as an inconsistency, the question regarding the inconsistency of beliefs people hold is not addressed in the literature.

3 The (in)consistency of market beliefs

In quantitative studies beliefs are usually seen as running on a one-dimensional scale, such as in the case of market beliefs, between pro- or anti-market positions. That is, even if more than one survey question is considered, the questions are aggregated and transformed into one single scale. The simplest method of making such an aggregation is to take a kind of average of the different answers given for one survey

question, then to take the average of the averages of all the survey questions considered. Another way of aggregating beliefs to the country level is to first calculate the percentage of those on one side of a scale, and then to use principal component analysis to aggregate the different dimensions into one single number.³

These methods, however, neglect an aspect of beliefs which might be important: the consistency or inconsistency of these beliefs measured as the cross-individual relations between beliefs about different aspects of the market economy. All the different methods of aggregating individual beliefs seem to ignore the cross-individual correlations between the different dimensions. Technically, of course, principal component analysis considers these correlations for the aggregation. But the fact that it is the principal components that are used means that the cross-country differences of these correlations are ignored.

However, when all the questions are concerned with some aspects of the market economy, these correlations seem important. For example, do those who attribute great importance to private property attribute great importance to market competition, too? Average views concerning these two questions may be the same even if the answer is in the negative or in the positive. But if the sample means are the same and yet this correlation is different, then it would mean that in some countries people tend to be more consistently pro- or anti-market than in others. To put it differently, saying that 30% of the respondents give private property a high mark and 30% give market competition a high mark is not the same as saying that 30% of them give a high mark to private property *and* market competition.

To create a measure of market beliefs and their consistency I use four questions from the combined dataset of the World Values Survey (WVS 2015) and the European Values Study (EVS 2011) to calculate the average of the following beliefs about the market economy:

Property “Private ownership of business and industry should be increased” versus “government ownership of business and industry should be increased”.

Responsibility “People should take more responsibility to provide for themselves” versus “the government should take more responsibility to ensure that everyone is provided for”.

Competition “Competition is good. It stimulates people to work hard and develop new ideas” versus “competition is harmful. It brings out the worst in people”.

Wealth “Wealth can grow so there’s enough for everyone” versus “people can only get rich at the expense of others”.⁴

To measure the consistency of these beliefs I use the so-called Cronbach’s (coefficient) alpha, a well-known measure in sociology and psychology to check if

³ This method was made seminal by Tabellini (2010) in the literature on culture and institutions. Bjørnskov and Paldam’s (2012) method is exceptional inasmuch as they consider only one survey question but investigate its distribution with a measure calculated in a way similar to the way the Gini coefficient is calculated. As, however, even this measure is a linear transformation of the mean of the sample, its use in cross-country regressions is equivalent to using the sample means.

⁴ The wording of the questions are from the official questionnaire of wave 6 and wave 5 of the World Values Survey (Inglehart et al. 2014a, b). The four questions are coded as E036, E037, E039, and E041 in the integrated WVS–EVS file.

different survey questions are actually concerned with the same issue. Cronbach's alpha, which quantifies the extent to which the total variance of the answers derive from one common source, can be seen as a multiple-variable generalization of the two-variable correlation coefficient,⁵ is calculated for the country level using the individuals' responses country by country. Market beliefs can run between 1 (least pro-market) and 10 (most pro-market). Cronbach's alpha has no obvious minimum,⁶ but it has a maximum of 1, indicating perfect consistency. Cronbach's alpha is calculated for all the country-year pairs in the WVS–EVS database, which leads to 204 observations in 98 countries⁷ for different years between 1989 and 2014, as seen in Table 8 of “The consistency of beliefs by country and year” section in Appendix.

Cronbach's alpha is not used here as a test of the goodness of the question but as a test of whether the respondents have the same concept in mind when answering them while it is supposed that they should. That is, although Cronbach's alpha is usually used to check whether the questions are asked in a consistent way, as they are supposed to be, I am trying to turn this approach on its head by supposing that the questions are asked in a consistent way and I check whether the answers are consistent, too. The surveyed are not required to be as consistent as are the surveyors. I look on Cronbach's alpha as an absolute measure of consistency of beliefs because what it measures is the extent to which the consistency of the distributions of answers in the country in question differs from an objectively perfect consistency.⁸

A deviation from this objectively perfect consistency might not sound inconsistent at all to many. It might not be inconsistent, for example, to demand more services from a government that has the capacity to underpin, and not undermine, the objective that one thinks is to be achieved. Taking efficiency or economic growth as the objective, higher quality government can be defined (Paldam 2003, pp. 459–460) as the ability to reduce market failure at a cost of creating less additional government failure. Then what is called inconsistency here is just a demand for a more efficient way and size of government activity. In this case “consistency” can still be understood as a merely technical feature of the distribution of beliefs.

A concern one may have⁹ is whether the *alpha* created in this way really reflects the consistency of beliefs. Since I argued that consistency of beliefs is a part of culture, even if it is not as “deep” as some other aspects of culture, an imperfect check is to examine the within and between variance of the data. That is what is done in Table 1. The sample in Panel A is restricted in two respects. First, it includes only those countries that have more than one observation. This makes within variance

⁵ For a general description of Cronbach's alpha, see DeVellis (2003, pp. 27–38).

⁶ Negative values are possible but are considered as very serious signs of inconsistency showing that the researcher is measuring different concepts with different questions (Ritter 2010).

⁷ The alpha of Bahrain, which has only one observation in 2014, is so unbelievably low that it is ignored.

⁸ That is why some more sophisticated measure of consistency or reliability would not fit my approach. Congeneric reliability, such as the ω coefficient (Trizano-Hermosilla and Alvarado 2016), is based on a measurement model (structural equation modeling, more generally) that would fit coefficients (loadings) on every country sample and measure a goodness of this fit. That would not exactly measure what I intend to, which is a deviation from the ideal in which all the four dimensions are equally important.

⁹ As did an anonymous referee, which I am grateful for.

larger in comparison to the sample that I use in regressions in Sect. 5. Second, only those country–year observations are used for which some alternative measures of culture or ideology are available. The aim is to compare the relative within and between variances of *alpha* with other, more accepted, measures of culture and ideology. After restricting the sample in this way it includes 55 countries and 156 observations. In Panel B of Table 1 the analysis is repeated for the 85-country sample on which most of the regressions are run in Sect. 4.

Table 1 presents a simple analysis of variance of *alpha* and four other measures of culture and ideology also derived from the WVS–EVS integrated database (EVS 2011; WVS 2015). *Trust* and *control* were introduced by Tabellini (2010) as parts of a measure of culture. *Trust* simply shows the percentage of those saying¹⁰ that “most people can be trusted” as opposed to the option “you can’t be too careful” (WVS 2015). *Control* is the average of the answers for the question¹¹ of how much control the respondent feels they have over their life, where the possible answers run between 1 (“none at all”) and 10 (“a good deal”). These measures are usually thought to measure the deeper parts of culture (Williamson 2009). Indeed, their between-country variance is much larger than the within-country variance.¹²

IFMMI and the CS-score are measures of less deep economic beliefs. IFMMI is the average of the answers for the four questions above (Czeglédi and Newland 2018b): first, the average of the four beliefs is calculated for the individuals, and then the average of the individual means is calculated for the country sample. The IFMMI is therefore a summary of how “market-friendly” the average person is in a country–year sample. The CS-score, calculated as suggested by Bjørnskov and Paldam (2012), focuses only on the property question and reflects the distribution of the answers in a way similar to the GINI coefficient of income inequality.

The main message of Table 1 is that the within variance of *alpha* as compared to its between variance is higher than that of the deeper cultural measures, but somewhat lower than those of economic beliefs. The share of the total variance explained by between-country variance is actually identical with that of the CS-score, which confirms the idea that *alpha*, too, describes a feature of the distribution of beliefs, just as does the CS-score with the property question.

One can observe, however, some significant changes of *alpha* in Table 8 in “The consistency of beliefs by country and year” section in Appendix. There are 106 cases of a change overall. Out of the 106 cases there are 15 in which the within-country change is larger than the between-country standard deviation of the widest sample. All these examples are related to some kind of political or economic change or crisis, if not a war. Ten of these changes occurred through the 2008/2009 financial and economic crisis.¹³ In the case of the remaining five cases

¹⁰ In the IVS the question is coded as A165.

¹¹ Question no. A173.

¹² In the table *alpha* is multiplied by 100 and control and IFMMI is multiplied by 10 in order to make them have values on a scale roughly comparable to those of trust and CS-score.

¹³ Armenia 1997–2011, Azerbaijan 2007–2011, Cyprus 2006–2011, India 2007–2014, Nigeria 1995–2011, Romania 2005–2012, Rwanda 2007–2012, South Africa 2006–2013, Spain 2007–2011.

Table 1 ANOVA of *alpha*, and other measures of culture and ideology

Variable	Between var.	Within var.	Total var.	Between/total	Within/total
Panel A: countries with several observations					
Alpha $\times$ 100	399.62	176.06	575.69	0.69	0.31
Trust	241.73	29.55	271.28	0.89	0.11
Control $\times$ 10	43.86	13.26	57.12	0.77	0.23
CS-score	266.11	123.24	389.36	0.68	0.32
IFMMI $\times$ 10	15.22	12.66	27.88	0.55	0.45
Panel B: the regression sample					
Alpha $\times$ 100	502.80	143.46	646.26	0.78	0.22
Trust	235.43	24.62	260.05	0.91	0.09
Control $\times$ 10	43.45	10.31	53.76	0.81	0.19
CS-score	317.58	102.44	420.02	0.76	0.24
IFMMI $\times$ 10	17.36	10.80	28.16	0.62	0.38

Section A: N = 156, number of countries = 55 for each measure.

Section B: N = 182, number of countries = 85 for each measure

the interval starts just after,¹⁴ or in the middle of,¹⁵ dramatic economic or political changes.

Developed countries with a democratic political system however do not show much variance of *alpha*. For example, the US (four observations) has an average *alpha* of 0.55 with a standard deviation of 0.05; the same numbers for Sweden (four observations) are 0.51 and 0.015, and for Germany they are 0.34 and 0.125, with the higher standard deviation explained by the unusually higher *alpha* in 1990. Because of the relative stability of *alpha* it seems to be sensible to “collapse” the panel of Table 8 into a cross-country database by taking the country averages.

4 The consistency of market beliefs and political choice

What does the public opinion-centered view imply for the consistency of market beliefs as a determinant of economic freedom? To arrive at such a prediction one needs a specific model which cannot be the median voter model (combined with the assumption of systematically biased beliefs) as suggested by Caplan and Stringham (2005). First, in a more-than-one dimension setting the median voter model leads to a unique outcome under conditions that are much more restrictive than are those one needs for the one-dimension setting to do so (Adams 2019, pp. 190–193). Second, the “what is, is popular” idea is thought to hold not only under democratic elections the working of which the median voter model is aimed at understanding, but in other conditions, too.

¹⁴ Argentina 1995–2006, Mexico 1990–1995, South Korea 1990–1996, Turkey 1990–1996.

¹⁵ Poland 1989–1990.

The alternative framework I apply in this section is a simple probabilistic voting model. Although just like the “what is, is popular” framework, this model is not very well accepted in public choice, the probability voting model seems to be the proper way to transplant the belief-centered hypothesis into a two-dimension setting. Even if it is about “voting”, which refers to democratic institutions, the solution of the model is equivalent to a maximization of the social welfare function (Mueller 2003, p. 254). Assuming a utility function over beliefs, this would not be equivalent to efficiency but to an “ideological maximum”. This appears to be in line with the way the public opinion-centered view argues politics works, according to which policies chosen, no matter whether they are voted for by the majority or implemented by an autocrat, reflect an equilibrium which is just as good or bad as is public opinion. The probability of voting in a democratic setting becomes the strength of ideological support in a non-democratic one.

Even in an n -dimensional issue space, however, it is not obvious at all (Ledyard 1984, p. 28) that the equilibrium platform will not be the mean of the n -dimensional distribution of beliefs, and that consistency in itself has any effects on the political outcome. For this reason I modify the simplest version of the two-dimension probability voting framework in two ways.¹⁶ First, I suppose that the distribution of the ideal points may be more or less consistent. As we saw in Sect. 2, rational or natural ignorance as well as rational or expressive irrationality can explain why people may be supportive of the market economy for one reason and less supportive of it for another. In two dimensions the consistency of (the distribution of) market beliefs can, therefore, be quantified by the correlation of the ideal points within the sample. An extremely consistent distribution would mean a correlation coefficient of 1, while an extremely inconsistent one would mean -1 .

Second, Becker and Mulligan (2016, p. 9) argue that the claim that voting is rational but not instrumental implies that “group-sponsored advertising will dominate individual self-interest as a determinant of public decisions”. Such interest group activity can therefore “sway” the political choice of non-members (of the interest group). Considering that interest groups usually benefit from a reduction of economic freedom, I suppose the direction of this swaying is usually towards less economic freedom. The reduction of one dimension of economic freedom can bring material gain for one group of voters which is in this way privileged. A reduction in all the dimensions is, however, understood to bring material loss, while there is no material interest in increasing all the dimensions.

As a result of interest group persuasion, the reduction of only one dimension of economic freedom will be felt to be the lesser evil as opposed to a more consistent change in all areas. That is, people will be more willing to accept a move in which economic freedom is reduced on one dimension and increased on another than they are willing to accept a move in which both dimensions change in the same direction.

People are also supposed to be different in their willingness to give in to the persuasion of interest groups. What I will call the stubbornness assumption says that

¹⁶ The modifications are not ad hoc. A check on whether the crucial assumptions I make in this section hold in the WVS data can be found in the “Appendix”.

those with freer ideal points are more stubborn; they are less easily persuaded by interest groups to accept an institutional mix different from their ideal one.¹⁷

To formalize these assumptions suppose that n voters are to make a decision to choose between combinations of the dimensions of economic freedom, x and y , which are also the dimensions of market beliefs. A higher x and y means higher economic freedom. Voter i has an ideal point (x_i, y_i) , and the ideal points are distributed around zero: $\sum_{i=1}^n x_i = 0$, $\sum_{i=1}^n y_i = 0$ with given and equal standard deviation of x_i 's and y_i 's, σ_y and σ_x . Voter i has a utility function:

$$U_i(x, y) = Z_i - \frac{1}{2}(x - x_i)^2 - \frac{1}{2}(y - y_i)^2 - \gamma_i(x - x_i)(y - y_i), \quad (1)$$

where Z_i is a constant and

$$\gamma_i = \bar{\gamma} - \delta_x x_i - \delta_y y_i, \quad \text{such that} \quad 0 < \gamma_i < 1, \bar{\gamma}, \delta_x, \delta_y > 0. \quad (2)$$

The utility function above includes the two unusual assumptions I have just introduced. One is the assumption that economic freedom dimensions x and y are in negative complementarity. This assumption is in line with the idea that although theories may provide reasons to prefer a certain level of economic freedom, special interests bias these preferences. Citizens can be “bribed” to accept a move away from their ideal point. This “bribe” usually takes the form of offering a kind of privilege which is equivalent to a reduction of one of the areas of economic freedom. The negative complementarity reflects this by supposing that a move from the ideal point in which one of the dimensions is reduced is preferred to a consistent move away from the ideal, even if the distance is the same in both moves. A deviation from the ideal may be partially, but not totally, compensated for by a reduction on one of the dimensions of economic freedom. Total compensation is excluded by the assumption¹⁸ that $\gamma_i < 1$. The parameter γ_i can thus be seen as a measure of ideological stubbornness, with a lower γ_i meaning greater stubbornness.

The other unusual assumption is that γ_i depends on x_i and y_i in a negative way. Since γ_i measures the strength of the possible compensation for an ideological loss as explained above, the assumption in Eq. (2) is to formalize the idea that those with a freer ideal point are more stubborn: it is more difficult to compensate them for being distanced away from their ideal points by some material gain that results from a reduction of one dimension of freedom. This assumption therefore reflects the idea that not everyone's preferences are biased by special interest to the same extent, and this difference in the bias is not randomly related to the two dimensions of freedom.

Following Mueller (2003, pp. 252–255), a simple probabilistic voting setting is supposed in which the strength of the ideological support given to a candidate

¹⁷ Congleton (1991) calls this ideological conviction and defines it as (ibid., p. 71) “the extent to which messages affect prior beliefs”. He shows, in line with the assumption I make here, that given that the stronger is the ideological conviction of the voter, the lower is the marginal product of persuasion, the fewer resources will be spent on it. That a “moral cover” makes rent seeking easier is also supported by the argument and econometrics of McLaughlin et al. (2019).

¹⁸ See the “Appendix” for the reason why.

depends on the difference in the utilities of the platform they offer. Supposing that the probability functions have the usual characteristics, the conclusion is that there is an equilibrium (x^*, y^*) described by the conditions:

$$-\sum_{i=1}^n U'_{ix} = \sum_{i=1}^n (x^* - x_i) + \sum_{i=1}^n \gamma_i (y^* - y_i) = 0, \quad (3)$$

$$-\sum_{i=1}^n U'_{iy} = \sum_{i=1}^n (y^* - y_i) + \sum_{i=1}^n \gamma_i (x^* - x_i) = 0, \quad (4)$$

or

$$\sum_{i=1}^n x^* - \sum_{i=1}^n x_i = -\sum_{i=1}^n \gamma_i y^* + \sum_{i=1}^n \gamma_i y_i, \quad (5)$$

$$\sum_{i=1}^n y^* - \sum_{i=1}^n y_i = -\sum_{i=1}^n \gamma_i x^* + \sum_{i=1}^n \gamma_i x_i. \quad (6)$$

Using the assumptions above and introducing the notations $\sigma_{\gamma x} \equiv \frac{1}{n} \sum_{i=1}^n \gamma_i x_i$, $\sigma_{\gamma y} \equiv \frac{1}{n} \sum_{i=1}^n \gamma_i y_i$, and noting that $\bar{\gamma} = \frac{1}{n} \sum_{i=1}^n \gamma_i$, the equations become

$$x^* = -\bar{\gamma} y^* + \sigma_{\gamma y}, \quad (7)$$

$$y^* = -\bar{\gamma} x^* + \sigma_{\gamma x}, \quad (8)$$

which lead to the solution

$$x^* = -\frac{\bar{\gamma}}{1 - \bar{\gamma}^2} \sigma_{\gamma x} + \frac{1}{1 - \bar{\gamma}^2} \sigma_{\gamma y}, \quad (9)$$

$$y^* = -\frac{1}{1 - \bar{\gamma}^2} \sigma_{\gamma x} + \frac{\bar{\gamma}}{1 - \bar{\gamma}^2} \sigma_{\gamma y}. \quad (10)$$

The implication is that under some conditions, an increase in the consistency of beliefs x and y will increase x^* and decrease y^* , or vice versa.

Proposition *If $\delta_x/\delta_y < \bar{\gamma}$, then $\partial x^*/\partial \rho_{xy} > 0$ and $\partial y^*/\partial \rho_{xy} < 0$, and if $\delta_x/\delta_y > \frac{1}{\bar{\gamma}}$, then $\partial x^*/\partial \rho_{xy} < 0$ and $\partial y^*/\partial \rho_{xy} > 0$, where ρ_{xy} is the correlation coefficient between x_i and y_i .*

This is to say that a change only in the correlation between the ideal points will change the equilibrium, but the effect on the two dimensions of policy will work, however, in the opposite directions. The proposition says, however, that there is another crucial assumption in addition to the one about stubbornness. It is to assume that among the several dimensions of market beliefs there is a “dominant” one which

is more strongly related to ideological stubbornness than the others. For example, the condition $\delta_x/\delta_y < \bar{\gamma}$ says that y is a dominant dimension of market beliefs because an increase in y_i will reduce γ_i more than does a reduction in x_i : $\delta_x < \bar{\gamma}\delta_y < \delta_y$.

The prediction, then, is that under some conditions related to preferences over beliefs regarding the market economy, the consistency of the belief distributions matters. Provided that the conditions above hold and that the average of these beliefs does not change, a more consistent electorate will end up having more freedom in some areas and less in others. A country with a more consistent system of market beliefs is *not* predicted to have a consistently freer economy.

5 State Economic Modernity and consistency of beliefs: some cross-country results

In Sect. 4 we have seen a way to solve the puzzle that the public opinion-centered view confronts: it is the countries with *more* consistent beliefs about the market economy that have *less* consistent market institutions, namely more secure legal systems and larger governments. In this section I will show empirically that this is indeed so. Higher consistency of beliefs predicts better scores of economic freedom in the legal system area (area 2) and worse scores for the size of government area (area 1).¹⁹ More consistent market beliefs therefore predict higher state capacity as measured by Murphy's (2019a) State Economic Modernity Index.

Tables 2, 3 and 4 provide some simple OLS cross-country estimations of the effect of *alpha* on the "size of government" and "legal system and property rights". Considering that the within country variation of *alpha*, as well as that the average number of observations per country, are relatively low (see Table 1), I run cross-country regressions with the average of areas of economic freedom as dependent variables. The independent variables are therefore averages, too, including of course my main independent variable, the consistency of market belief.

It is not straightforward, however, to take the averages of the economic freedom data over different periods. The practical problem is that economic freedom data before 2000 are only provided in every fifth year, meaning that the period for which *alpha* is available usually does not overlap perfectly with that for which economic freedom data are available. The rules that I followed in picking the period over which economic freedom is averaged are the following: (1) economic freedom data must be an average over at least 5 years; (2) the two periods must overlap but if a perfect overlap is not possible then the start and the end year of time period of *alpha* must be lagged compared to that of economic freedom areas; (3) this lag must not be more than 5 years.²⁰ The independent variables are either observed in the same year as *alpha* or yearly, and they are averaged over the same period as is *alpha*.

¹⁹ Results showing that the other three areas do not correlate with *alpha* are available from the author.

²⁰ For example, if the *alpha* is observed in 1997 and 2011, then the time period of economic freedom will be 2000–2011, if *alpha* is only observed in 1990, then the time period of economic freedom is 1990–1995, but if *alpha* is observed between 1995 and 2012, then economic freedom is averaged over the period 1995–2012.

The only difference between the regressions of Tables 2, 3, and 4 is the dependent variable. *Government size* is the dependent variable in Table 2, *legal system and property rights* in Table 3, and the State Economic Modernity Index (SEM) in Table 4. The dependent variables form three groups. The first includes the two variables concerned with market beliefs. Variable *alpha*, the main variable of interest, is the measure of consistency, while IFMMI is the average free-market mentality index, and both are described in Sect. 3.

The second group includes measures of economic development from the Penn World Table 9.1 (Feenstra et al. 2015): real GDP per capita calculated at PPP exchange rates (RGDP^e per capita) and the human capital index as constructed in the PWT 9.1. The inclusion of these two variables is to account for the possibility that economic development leads to institutional change, and to check if this can be said to occur through a change in beliefs about the market economy, as suggested by Paldam and Gundlach (2008) and Bjørnskov and Paldam (2012).

A third group of independent variables that are not shown includes time dummies. Trying to account for possible time effects in the WVS–EVS data, their value is one if all the observations of *alpha* are from the same decades. There are three such dummies: one for the period 1990–1999, one for 2000–2009, and yet another one for 2010–2014. If a country has only one observation then one of these dummies must be one, too.

In all three tables there are five regressions. The difference between columns 1 and 2 is the number of observations,²¹ while the difference between columns 2–4 is the independent variables included. In column 1 the regression is run with only *alpha* and the IFMMI as independent variables in addition to the “time dummies” just mentioned. Six countries must be dropped from the 98 countries whose *alpha* I have observations of because they have no observations on economic freedom. A further seven countries must be dropped because they lack data on GDP or human capital. Column 2 repeats the first regression on this sample of 85 countries to make the coefficients comparable with those derived from the regressions with GDP and human capital as independent variables. The change of the coefficients between columns 2 and 3, and columns 3 and 4 is caused by the inclusion of GDP and human capital among the independent variables.

The coefficients in column 5 are calculated by a Heckman correction model (Heckman 1979), which is run to check if the sample of 85 countries results from a biased selection. It seems plausible²² that those countries that have WVS–EVS data are those whose state capacity is relatively high. To account for this possible bias, one needs a broader sample with variables that (1) are able to predict the binary variable of having, or not having observations in the WVS–EVS, and (2) overlap with the independent variables of the regressions. What are the variables

²¹ See Table 8 in “The consistency of beliefs by country and year” section in Appendix for exactly which countries are excluded from which sample I use throughout the paper.

²² Thanks to an anonymous referee for pointing this out.

Table 2 Size of government and the consistency of market beliefs

	(1)	(2)	(3)	(4)	(5)
Const	7.018*** (2.374)	7.216*** (2.477)	8.759*** (2.583)	8.672*** (2.513)	5.322 (4.026)
Alpha	− 1.929*** (0.640)	− 2.052*** (0.723)	− 1.789*** (0.673)	− 2.257*** (0.739)	− 2.189*** (0.662)
IFMMI	− 0.069 (0.400)	− 0.094 (0.418)	0.125 (0.435)	0.225 (0.442)	0.185 (0.357)
ln(GDP p.c.)			− 0.310** (0.144)	− 0.500*** (0.162)	− 0.183 (0.368)
ln(human cap.)				1.359* (0.769)	1.409* (0.762)
Lambda					1.042 (1.050)
Countries	92	85	85	85	85 + 71
R ²	0.249	0.248	0.290	0.313	0.321

Dependent variable: size of government (area 1). Three dummies are included to control for those cases in which all observations for a country are from either between 1989–1999, or 2000–2009, or 2010–2014. *Significant at 10%; **5%; ***1%. Standard errors (in parentheses) are robust

Table 3 Legal system and the consistency of market beliefs

	(1)	(2)	(3)	(4)	(5)
Const.	− 1.002 (1.795)	− 1.524 (1.773)	− 5.570 (1.525)	− 5.603 (1.518)	− 7.607 (3.257)
Alpha	2.735*** (0.593)	2.753*** (0.667)	2.062*** (0.494)	1.884*** (0.544)	1.925*** (0.553)
IFMMI	1.078*** (0.302)	1.162*** (0.298)	0.588* (0.309)	0.627** (0.309)	0.602** (0.290)
ln(GDP p.c.)			0.812*** (0.153)	0.740*** (0.150)	0.929*** (0.298)
human cap.				0.517 (0.668)	0.547 (0.637)
Lambda					0.623 (0.853)
Countries	92	85	85	85	85 + 71
R ²	0.422	0.402	0.632	0.635	0.637

Dependent variable: legal system and property rights (area 2). Three dummies are included to control for those cases in which all observations for a country are from either between 1989–1999, or 2000–2009, or 2010–2014. *Significant at 10%; **5%; ***1%. Standard errors (in parentheses) are robust

that might predict that a country is in the WVS–EVS database? My assumption is that such a country (1) is relatively rich and (2) has a relatively free academic life. Since the World Values Survey is an international cooperation of academics from different social sciences, the more people work in those fields and have the

Table 4 State Economic Modernity (SEM) and the consistency of market beliefs

	(1)	(2)	(3)	(4)	(5)
Const	– 8.021*** (2.989)	– 8.740*** (2.997)	– 14.329*** (2.739)	– 14.275*** (2.741)	– 12.929** (5.333)
Alpha	4.664*** (0.860)	4.806*** (1.043)	3.851*** (0.760)	4.141*** (0.812)	4.114*** (0.933)
IFMMI	1.148** (0.501)	1.256** (0.504)	0.463 (0.557)	0.401 (0.554)	0.418 (0.476)
ln(GDP p.c.)			1.122*** (0.253)	1.240*** (0.227)	1.112** (0.488)
ln(human cap.)				– 0.842 (0.983)	– 0.862 (1.074)
Lambda					– 0.419 (1.402)
Countries	92	85	85	85	85 + 71
R ²	0.431	0.414	0.593	0.596	0.596

Dependent variable: State Economic Modernity (SEM). Three dummies are included to control for those cases in which all observations for a country are from either between 1989–1999, or 2000–2009, or 2010–2014. *Significant at 10%; ** 5%; ***1%. Standard errors (in parentheses) are robust

freedom to join the WVS project the more probable it is, I suppose, that they will do so.

Based on this argument I use two “selection variables”. The first is the same GDP per capita I use in the regressions. The idea behind this is that a richer country will have more means, and more social scientists, to join an international cooperation such as the WVS. The second is the freedom of academic and cultural expression (*v2clacfree*) from the Varieties of Democracy (v-dem) v9 database (Coppedge et al. 2019), which is a measure of the degree to which academic activities are restricted by the government. The choice of these selection variables allows the number of countries in addition to the 85 the baseline regressions are run with to be 71. The Heckman model is therefore run with 85 selected and 71 non-selected countries. The probability of being in the WVS–EVS sample is indeed predicted by these two variables with a 5% statistical significance and the coefficients have the signs as expected. That is, richer countries with a freer academic life are predicted to be in the WVS–EVS project with higher probability.²³ Yet, the coefficient of lambda, the so-called inverse Mills ratio derived from the first stage of the regression, is insignificant at the 5% level statistically in all three tables, indicating that one cannot reject the hypothesis that the selection of countries is unbiased.

The basic result from Table 2 is that the coefficient of *alpha* is negative and statistically significant in each case. The size of the coefficient of *alpha* is about –2,

²³ The coefficients (and their standard errors) are the following: 0.469 (0.099) for ln(GDP p. c.) and 0.228 (0.088) for *v2clacfree*, with a pseudo R² of 0.197.

which predicts that a half-a-unit increase in α ²⁴ is associated with a one-unit increase in the size of government.²⁵ Comparing the results in column 2 with those in columns 3–4 shows that accounting for economic development (by including human capital and GDP) increases this a slightly since the decrease caused by the inclusion of GDP is overcompensated by the increase caused by the inclusion of human capital. Surprisingly, IFMMI does not have a statistically significant coefficient in any case.

Table 3 applies the same specifications for the legal system area. The conclusions are similar but with a positive sign. A higher consistency usually predicts a more secure legal system and property rights even if economic development is accounted for. Economic development, however, again explains a significant portion of the effect of consistency which is in this case even larger than in the case of the size of government. An important difference, as compared to Table 3, is that for the legal system area a free-market mentality also matters, with a positive sign.

A higher consistency of beliefs, as Tables 2 and 3 show, predicts a larger government with a more secure legal system. Given that according to Murphy (2019a), the difference between these two is a measure of State Economic Modernity (SEM), a higher consistency of market beliefs is expected to have an effect on it. This prediction is tested in Table 4. The only difference in Table 4 when compared to Tables 2 and 3 is the dependent variable, which is the SEM index, here defined as the difference between the legal system and the government size area.

As could be expected, the effect of α is positive and economic development seems to be partially responsible for it. Once economic development is accounted for, the statistical significance of the coefficient of free market mentality is gone, but that of the coefficient of α is only reduced somewhat. It seems that the effect of α is not a proxy of the effect of development. It may be a proxy for the effect of culture, though.

6 Is the consistency of market beliefs just a proxy for culture?

One interpretation of the results in Tables 2, 3, and 4 is that a higher market belief consistency is just a reflection of a “better culture” that, among other things, makes the government perform better. In this section I argue that there are theoretical reasons to think that the consistency of beliefs is linked to individualism as a cultural trait, but this link is different from that between individualism and free-market mentality. The reason, I argue, is that consistency is linked only to *some* form of individualism.

My hypothesis on culture and the consistency of market beliefs is based on the idea that the consistency of beliefs reflects a desire to formulate a strong opinion, since being consistent about these matters very probably means having an opinion about things one has not studied or has no experience of. The desire to hold strong

²⁴ Roughly the difference between Japan (0.0589) and the US (0.554).

²⁵ Roughly the difference between the US (6.947) and Spain (5.914).

opinions, however, might reflect an implicit philosophical position, as one can conclude from Hirschman's (1989) making the case that having opinions is a factor of individual welfare, but to what extent this is so depends on the cultural environment. His argument suggests that having strong opinions has a higher subjective payoff in a more individualist culture.

Individualism, however, has different meanings. In the history of social or economic thought, it is usually found that there are at least two individualist traditions. Perhaps the best-known of such arguments²⁶ is that of Hayek (1948) which associates "true" individualism with the Anglo-Saxon (but first of all, Scottish) tradition of philosophy emphasizing a humble approach to human reason and social phenomena. "False" individualism, associated with a strong belief in Reason, characterized mostly the French Enlightenment philosophy.

Hayek (1948, p. 10) identifies "two decisive points" on which the two kinds of individualism depart. The first is concerned with the question of whether it is possible "to make the formation of spontaneous social products intelligible" (ibid.). The second point is concerned with the question of whether "social processes can be made to serve human ends only if they are subjected to the control of individual human reason" (ibid.). Although these are traits of philosophical thinking, Hayek describes them as being a part of the way everyday people think by seeing them as "psychological assumptions" (ibid., p. 13).

Of these two kinds of individualism it is the "false" one that seems to support the holding of strong opinions. The reason is that the more of the "arrogance" of Hayek's (1948) "false" individualism one has, the stronger opinion one will dare to have about things one does not know. The "humility" of Hayek's (1948) "true" individualism allows one to have strong opinions only about things one knows. It seems therefore that western individualism, which is after all measured by the different indexes of culture known in the literature reviewed briefly in Sect. 2, mixes these two kinds of individualism, one of which ("false" individualism) is better at predicting the consistency of market beliefs while the other is better at predicting a free-market mentality.

Observable differences between these two kinds of thinking are (1) the willingness to submit to "the anonymous and seemingly irrational forces of society" (ibid., p. 24), and (2) the acceptance of the importance of institutions between the level of the individual and the government such as the family and other "intermediate formations and associations" (ibid., p. 22).

The conclusion I draw from this discussion of the two types of individualism is that (1) the consistency of market beliefs and free-market mentality are affected by different cultural dimensions, and that (2) their difference lies in their different approach to certain traditional institutions.

In Table 5 I use three well-known sets of cultural measures to predict the consistency of market beliefs (*alpha*) and the averages of individual free-market mentality (IFMMI) with the aim of seeing if *alpha* is indeed predicted by culture and

²⁶ A similar argument is Sowell's (2007) argument about constrained and unconstrained visions. For him, a vision is a "sense of causation" (ibid., p. 6).

is predicted differently than is IFMMI.²⁷ In Panel A of Table 5 the cultural variables that are used as independent variables are from the Schwartz Values Survey (Schwartz 2006, 2008b). Schwartz (2008a, pp. 8–10) differentiates between “three bipolar dimensions of culture”: autonomy (affective and intellectual) versus embeddedness, egalitarianism versus hierarchy, and mastery versus harmony. In Panel A of Table 5 I use the three first principal components created from these three bipolar dimensions whose availability is more limited than that of *alpha*, reducing the sample size²⁸ to 66.

It is only the dimension autonomy–embeddedness that has a significant effect either on *alpha* or on IFMMI, with a better goodness of fit in the case of *alpha*. This dimension is a mix of individualism and the rejection of traditional ties. “In cultures with emphasis on embeddedness”, writes Schwartz (2008a, pp. 8–9), “people are viewed as entities in the collectivity. Meaning in life is expected to come largely through social relationships ... important values ... are social order, respect for tradition, security, and wisdom”, which is to say that this Schwartzian dimension is rather concerned with “false” individualism than with the true one.

In Panel B of Table 5 includes the four dimensions of Hofstede et al. (2010, 2012) as independent variables. Again, the two dimensions, individualism and power distance that seem to be the most important in predicting the variables of interest have much to do with the individualism discussed above. The individualism dimension, according to Hofstede et al. (2010, p. 92, italics deleted), “pertains to societies in which the ties between individuals are loose: everyone is expected to look after him- or herself and his or her immediate family”. “Individualism” in this sense appears to be about the neglect of the “intermediate forms” of interpersonal relations Hayek (1948) associates with false individualism. Power distance is “the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally” (ibid, p. 61, italics deleted). Uncertainty avoidance, which is significant only at the 10% level and only with *alpha* as the dependent variable indicates “the extent to which the members of a culture feel threatened by ambiguous or unknown situations” (ibid, p. 191, italics deleted).

In Panel C of Table 5 the independent cultural variables are those in Tabellini’s (2010) seminal paper.²⁹ Each of the three seems to have something to do with individualism. *Control* is the one I used in Table 1, referring to the control over one’s own life one believes to have. *Obedience* and *respect* refer to those values people think as important to teach their children.³⁰ *Respect* is concerned with tolerance and respect towards others, while *obedience* speaks for itself. The country-level variable reflects the share of those respondents mentioning these values as important to teach to children. It is the IFMMI over which Tabellini’s variables have more explanatory power, not *alpha* as in the other two cases. A

²⁷ To save space the results of a regression are presented in a row, not in a column as usual.

²⁸ See Table 8 for the countries excluded.

²⁹ One of Tabellini’s variables, *trust*, is not used since the theory of this section does not predict a relation between trust and *alpha*.

³⁰ Question no. A035 and A042 in the integrated WVS–EVS database (EVS 2011; WVS 2015).

Table 5 Cultural determinants of inconsistency of market beliefs and free-market mentality

Dep. var.	Const.	aut/emb	hie/eg	mas/har		R ²	Obs.
Panel A: Schwartz's bipolar values as indep. var.							
Alpha	0.181*** (0.023)	0.092*** (0.020)	− 0.009 (0.025)	− 0.022 (0.026)		0.449	66
IFMMI	6.181*** (0.042)	0.120*** (0.029)	− 0.078 (0.040)	0.059 (0.043)		0.345	66
Dep. var.	Const.	pdi	idv	mas	uai	R ²	Obs.
Panel B: Hofstede's dimensions as indep. var.							
Alpha	− 13.709 (13.380)	− 0.002 (0.165)	0.693*** (0.120)	− 0.105 (0.084)	0.148* (0.082)	0.581	60
IFMMI	691.853*** (29.134)	− 0.933** (0.355)	0.060 (0.266)	0.217 (0.244)	− 0.347 (0.208)	0.322	60
Dep. var.	Const.	Control	Obedience	Respect		R ²	Obs.
Panel C: Tabellini's variables as indep. var.							
Alpha	0.171 (0.343)	− 0.049 (0.040)	− 0.652*** (0.160)	0.829* (0.446)		0.251	92
IFMMI	4.210*** (0.448)	0.233*** (0.063)	− 0.948*** (0.204)	1.038** (0.517)		0.306	92

Schwartz's bipolar values: aut/emb, autonomy–embeddedness; hie/eg, hierarchy–egalitarianism; mas/har, mastery–harmony. Hofstede's cultural dimensions: pdi, power distance; idv, individualism; mas, masculinity; uai, uncertainty avoidance. The coefficients of Hofstede's dimensions are multiplied by 100. Tabellini's cultural variables: control, control over the way of life; obedience, obedience as an important quality of children; respect, tolerance and respect for other people. *Significant at 10%; **5%; ***1%. Standard errors (in parentheses) are robust

stronger rejection of fatalism (a higher *control*) does not predict *alpha*, while a rejection of obedience does. Both predict IFMMI, however.

One further lesson one can take from Table 5 is that the more “comprehensive” a cultural variable is, the better it can predict *alpha*. The problem is, that the more comprehensive a cultural variable is, the less convincingly it can be used in a regression to estimate economic freedom with *alpha*. It is because a comprehensive cultural variable might have an influence in so many different ways that it is difficult to believe that it is only through *alpha* and IFMMI that it does, which means that it is difficult to believe that the exclusion restriction also holds. In addition, considering that the regressions in Tables 2, 3, and 4 include variables of economic development as independent variables, and that comprehensive cultural indexes correlate well with economic development, the instruments will also be weak.

Bearing these considerations in mind, in Table 6 I try to instrument *alpha* and IFMMI only for the simplest estimation found in column 1 of Tables 2, 3, and 4. As instruments I use *control* of Table 5 as a proxy for “true” individualism and the

Table 6 Instrumental variables estimates of the effect of alpha and IFMMI

	(1) Second stage	(2)	(3)	(4) First stage	(5)
	Gov	Legal	SEM	Alpha	IFMMI
Const.	8.402* (4.325)	– 6.703 (5.502)	– 15.106* (8.446)	0.541** (0.211)	4.370*** (0.388)
Alpha	– 3.704*** (1.333)	6.840*** (1.523)	10.544*** (2.288)		
IFMMI	– 0.246 (0.717)	1.896** (0.916)	2.142 (1.399)		
Control				– 0.008 (0.030)	0.287*** (0.058)
Religion				– 0.468*** (0.083)	– 0.380*** (0.138)
Countries	92	92	92	92	92
F-test				16.3	14.74
R ²				0.473	0.380

Three dummies are included to control for those cases in which all observations for a country are from either between 1989–1999, or 2000–2009, or 2010–2014. *Significant at 10%; **5%; ***1%. Standard errors (in parentheses) are robust

importance of religion (*religion*) as a (negative) proxy of “false” individualism. The latter variable means the country-level percentage of those saying that religion is important for them.³¹

As expected, *religion* is a better predictor of *alpha* while *control* is a better predictor of IFMMI. The instruments are not weak in the technical sense since the F-test of the excluded instruments on the first-stage regressions are high enough. In the instrumental variable regressions of Table 6 the main message of the simple OLS regressions does not change. There is a significant change when it comes to the change in the size of the coefficients, reflecting the phenomenon called “blow-up” in the econometric literature (Jiang 2017). The conclusion from Tables 5 and 6 is that culture does indeed correlate well with *alpha* but it is very difficult to find any cultural variable that has an effect on the areas economic freedom only through *alpha*.

One can then ask the question of whether *alpha* is just a proxy measure of culture. In this case we would expect the effect of *alpha* to fade away when included together with the cultural measures of Table 5. That is what is checked in Columns 1–3 of Table 7. With the same three country sample as in Table 5 the three sets of cultural variables are now included as possible determinants. Their effects are not detailed, not only because they are not that surprising³² but because the question to be asked is whether the effect of *alpha* has vanished as a result of their inclusion.

³¹ Question no. A006 in the WVS–EVS integrated database (EVS 2011; WVS 2015).

³² These results are available from the author.

Table 7 Robustness: restricted sample and culture as controls

Dep. var.	(1)	(2)	(3)	(4)	(5)	(6)
	SEM	SEM	SEM	Gov.	Legal	SEM
Const.	– 5.024 (3.029)	1.915 (5.434)	– 7.096*** (2.982)	8.818*** (2.653)	– 4.606** (2.039)	– 13.423*** (3.026)
Alpha	3.043*** (1.016)	3.467** (1.745)	3.991*** (0.886)	– 2.270*** (0.788)	2.063*** (0.768)	4.333*** (1.049)
IFMMI	0.696 (0.511)	– 0.111 (0.805)	0.386 (0.712)	0.166 (0.500)	0.785* (0.418)	0.619 (0.726)
Cultural variables	Schwartz	Hofstede	Tabellini			
Countries	66	60	92	52	52	52
R ²	0.704	0.603	0.498	0.326	0.595	0.564

Dependent variable: State Economic Modernity (SEM), size of government (gov.), legal system and property rights (legal). Three dummies are included to control for those cases in which all observations for a country are from either between 1989–1999, or 2000–2009, or 2010–2014. Cultural independent variables: see the notes to Table 5. *Significant at 10%; **5%; ***1%. Standard errors (in parentheses) are robust

The answer is that it does not although it does reduce it as can be seen by comparing Columns 1–3 of Table 7 with Column 1 of Table 4.

As another robustness check Columns 4–6 of Table 7 show the simplest regressions of Tables 2, 3, and 4 on a restricted sample. It is restricted because, first, only those countries are selected which have more than one observation for *alpha*, and second because data on economic freedom areas must also be available. On this much smaller sample³³ the main conclusions from the baseline regressions are confirmed: *alpha* has a negative effect on the size of government and a positive one on the legal system area with a coefficient of about 2 in both cases.

7 Conclusion

There are reasons to believe that people's beliefs about the market economy influence the market institutions and policies they choose through political choice. Accepting the view that market beliefs matter, this paper has asked the question of whether their consistency matters. Consistency has been meant as a cross-individual feature of the distribution within the group making the political choice: whether the stronger support for, or better understanding of, one aspect of the market implies a stronger support for, or a better understanding of, another aspect of it.

If consistency is important then how can we explain the fact that market institutions and policies themselves appear to develop in an “inconsistent” way, i. e.

³³ See Table 8 for the list of countries excluded.

countries with more secure property rights have governments that tax more and redistribute more income? I have shown that under some conditions more consistent beliefs result an equilibrium with more *inconsistent* policies and institutions. Cross country regressions that make use of the World Values Survey – European Values Study data on economic freedom and control for economic development are in line with this prediction: countries with more consistent market beliefs tend to have better protected property rights with a larger government. That is to say that consistency of market beliefs predicts State Economic Modernity or state capacity.

Note that to emphasize the importance of the consistency of market beliefs is not necessarily to deny the one-dimension nature of politics (Rubin 2001). Political ideology might be the means to “map” a multidimensional belief system onto recognizable bundles of offers on the political one-dimensional space (Hinich and Munger 1992). The way different dimensions of beliefs are linked to political ideology may however be culture-dependent and country-specific—at least this is what this paper has proposed, and that the cross-country differences in what I have called the consistency of market beliefs have consequences for economic freedom.

Acknowledgements Open access funding provided by University of Debrecen (DE). I am grateful to Roger Congleton and an anonymous referee for their several constructive suggestions. All the remaining errors are mine.

Funding This paper was supported by the Hungarian National Research, Development, and Innovation Office (Project No.: K-120686).

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article’s Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article’s Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

Appendix

The consistency of beliefs by country and year

See Table 8.

Table 8 Consistency (Cronbach's alpha) by country and year

Country	Year	Alpha	Country	Year	Alpha
Albania ^{c,d,e}	1998	0.315	Mexico	1995	0.062
Algeria ^{c,d,e}	2013	0.275		1996	0.070
Andorra ^{a,b,c,d,e}	2005	0.349		2005	0.066
Argentina	1991	0.306		2012	– 0.136
	1995	0.320	Moldova ^{c,d}	1996	0.299
	2006	0.030		2006	0.185
	2013	0.285	Montenegro ^{b,c,d,e}	1996	0.043
Armenia ^{c,d}	1997	0.229	Morocco ^c	2007	0.284
	2011	– 0.047		2011	0.295
Australia	1995	0.415	Netherlands	1990	0.354
	2005	0.469		2012	0.471
	2012	0.418		1998	0.446
Austria	1990	0.467		2004	0.471
Azerbaijan ^{b,c,d,e}	1997	0.295		2011	0.495
	2011	– 0.182	Nigeria ^d	1990	– 0.049
Bangladesh ^c	1996	0.355		1995	– 0.041
Belarus ^{a,b,c,d,e}	1990	0.254		2011	– 0.327
	1996	0.285	N. Macedonia ^{b,d,e}	1998	0.034
	2011	0.166	Norway	1990	0.426
Belgium	1990	0.409		1996	0.332
Bos. & Herz. ^{b,d,e}	1998	– 0.054		2007	0.319
Brazil	1991	0.398	Pakistan ^e	2012	– 0.441
	2006	0.019	Palestine ^{a,b,c,d,e}	2013	– 0.556
	2014	– 0.027	Peru	1996	0.142
Bulgaria	1991	0.451		2006	0.040
	1997	0.403		2012	– 0.213
	2005	0.375	Philippines	1996	– 0.108
Burkina Faso ^{d,e}	2007	– 0.252		2012	– 0.240
Canada	1990	0.500	Poland	1989	– 0.110
	2006	0.334		1990	0.380
Chile	1990	0.311		1997	0.555
	1996	0.107		2005	0.283
	2006	0.117		2012	0.412
	2011	0.169	Portugal ^e	1990	0.331
China	1990	0.000	Puerto Rico ^{a,b,c,d,e}	1995	0.053
	1995	0.102	Qatar ^{c,d,e}	2010	– 0.238
	2007	0.053	Romania	1993	0.520
	2012	– 0.079		1998	0.285
Colombia	2005	0.050		2005	0.473
	2012	– 0.020		2012	0.147
Croatia ^e	1996	0.235	Russia	1990	0.494
Cyprus ^d	2006	0.226		1995	0.394

Table 8 (continued)

Country	Year	Alpha	Country	Year	Alpha
	2011	− 0.060		2011	0.230
Czech Rep.	1991	0.502	Rwanda ^{c,d}	2007	0.118
	1998	0.475	Rwanda ^{c,d}	2012	− 0.307
Denmark ^e	1990	0.349	Serbia	1996	0.130
Dominican Rep. ^{c,d,e}	1996	− 0.043		2005	0.088
Ecuador ^{c,e}	2013	− 0.053	Singapore ^e	2012	− 0.008
Egypt ^d	2008	− 0.021	Slovakia	1990	0.454
	2013	− 0.069		1991	0.419
Estonia	1990	0.555		1998	0.345
	1996	0.306	Slovenia	1992	0.355
	2011	0.455		1995	0.192
Ethiopia ^{d,e}	2007	0.672		2005	0.256
Finland	1990	0.470		2011	0.300
	1996	0.197	South Africa ^d	1990	0.374
	2005	0.425		1996	0.215
France ^e	1990	0.512		2006	0.047
Georgia ^{b,d,e}	1996	0.085		2013	− 0.344
	2009	− 0.052	South Korea	1990	0.361
	2014	− 0.075		1996	− 0.002
Germany	1990	0.521		2005	− 0.072
	1997	0.281		2010	0.055
	2006	0.325	Spain	1990	0.256
	2013	0.238		1995	0.106
Ghana ^d	2007	0.215		2007	− 0.097
	2012	0.193		2011	0.221
Hong Kong ^e	2013	0.085	Sweden	1990	0.500
Hungary	1991	0.371		1996	0.487
	1998	0.278		2006	0.519
	2009	0.406		2011	0.515
Iceland ^{c,d,e}	1990	0.498	Switzerland	1996	0.399
India	1990	0.251		2007	0.363
	1995	0.209	Taiwan	1994	0.265
	2006	0.090		2006	0.116
	2014	− 0.834		2012	0.074
Indonesia ^c	2006	− 0.082	Thailand	2007	− 0.197
Iran ^e	2007	− 0.035		2013	− 0.215
Iraq ^{a,b,c,d,e}	2012	− 0.459	Trin. & Tob. ^c	2006	− 0.096
Ireland ^e	1990	0.407		2011	0.098
Italy	1990	0.352	Tunisia ^{c,d,e}	2013	− 0.240
	2005	0.436	Turkey	1990	0.393
Japan	1990	0.194		1996	− 0.158
	1995	0.011		2007	− 0.156

Table 8 (continued)

Country	Year	Alpha	Country	Year	Alpha
	2005	− 0.020		2011	− 0.156
	2010	0.051	Ukraine ^d	1996	0.376
Jordan ^d	2007	− 0.287		2006	0.126
	2014	− 0.037		2011	0.262
Kazakhstan ^{c,d,e}	2011	0.003	United Kingdom ^e	1990	0.512
Kuwait ^{c,d,e}	2014	− 0.452	United States	1990	0.595
Kyrgyzstan ^{c,d,e}	2011	− 0.027		1995	0.481
Latvia	1990	0.430		2006	0.543
	1996	0.352		2011	0.597
Lebanon ^{b,c,d,e}	2013	− 0.801	Uruguay ^c	1996	0.330
Libya ^{b,c,d,e}	2014	− 0.172		2006	0.168
Lithuania ^c	1990	0.363		2011	− 0.002
	1997	0.366	Uzbekistan ^{a,b,c,d,e}	2011	0.078
Malaysia	2006	− 0.279	Venezuela ^e	1996	0.066
Mali ^{c,d,e}	2007	− 0.268	Vietnam ^{c,e}	2006	0.216
	2012	− 0.055	Yemen ^{d,e}	2014	− 0.174
Malta ^{c,e}	1991	0.251	Zambia ^{c,d,e}	2007	− 0.205
Mexico	1990	0.376	Zimbabwe ^{d,e}	2012	0.121

^aExcluded from the 92-country sample of Tables 2, 3, 4, 5, 6 and 7

^bExcluded from the 85-country sample of Tables 2, 3 and 4.

^cExcluded from the 66-country sample of Tables 5 and 7.

^dExcluded from the 60-country sample of Tables 5 and 7.

^eExcluded from the 52-country sample of Table 7

Restrictions on γ_i

The utility function in Eq. (1) is required to satisfy two conditions. First, any move away from the ideal point must reduce utility. Second, an inconsistent move from the ideal point should not reduce utility as much as a consistent one does, but it cannot increase utility above that of the ideal point. In the main text this second condition was referred to as “total compensation is excluded”. Supposing that $x_1 - x_i \equiv \Delta_x > 0$, $y_1 - y_i \equiv \Delta_y > 0$, $y_2 - y_i \equiv -\Delta_y > 0$, these two conditions break down to the inequalities

$$U_i(x_i, y_i) > U_i(x_1, y_2) > U_i(x_1, y_1) \quad (11)$$

The right hand inequality of (11) is the same as

$$U_i(x_1, y_2) - U_i(x_1, y_1) = 2\gamma_i \Delta_x \Delta_y > 0, \quad (12)$$

while the left-hand inequality is the same as

$$U_i(x_i, y_i) - U_i(x_1, y_2) = (\Delta_x - \Delta_y)^2 + (1 - \gamma_i) \Delta_x \Delta_y > 0. \quad (13)$$

Clearly, both Eqs. (12) and (13) are satisfied if $0 < \gamma_i < 1$, as is supposed in Sect. 4.

Table 9 Logistic regressions with “don’t know” answers

	(1) Property	(2) Responsibility	(3) Competition	(4) Wealth creation
Property		1.014 (0.020)	0.885*** (0.013)	1.001 (0.009)
Responsibility	0.943*** (0.012)		0.913*** (0.010)	0.967*** (0.008)
Competition	0.980** (0.01)	0.971 (0.023)		1.015* (1.710)
Wealth creation	1.003 (0.013)	0.979 (0.015)	0.965*** (0.011)	
Obs.	240,702	218,842	226,708	319,571
Countries	82	75	78	82
Pseudo R^2	0.079	0.071	0.104	0.087

Dependent variable: dummy for a “don’t know” answer to the question indicated at the column head.
 *Significant at 10%; **5%; ***1%. Standard errors (in parentheses) are robust and clustered by country.
 Wave and country dummies are included

Testing the stubbornness assumption

The stubbornness assumption of Sect. 4 was that in the utility function of the voter [Eq. (1)], γ_i depends on x_i and y_i in a negative way. Those with a freer ideological bliss point are supposed to be more stubborn, that is, less willing to accept compensation. The following simple test of this assumption is based on the WVS–EVS database from which I extract the data on *alpha* and IFMMI in the main text.

The test makes use of the fact that it is possible to give a “don’t know” answer to any one of the four questions, with the numerical answers given for which I measured free market mentality and consistency in Sect. 5. In the regression of Table 9 the dependent variable is the binary variable of whether or not the answer of an individual respondent to a certain question is “don’t know” or not. The assumption behind this approach is that those who give a numerical answer to one of the questions but say “don’t know” to another one are less confident about their opinion and are therefore easier to convince to accept the opinion(s) of others. Those who are more likely to say “don’t know” are less stubborn.

The idea is then to run regressions with the independent variable being the dummy variable whose value is one if the answer is “don’t know” and with the dependent variables being the numerical answers given for the other three questions. The stubbornness hypothesis then predicts that a respondent who has a high preference for economic freedom on three dimensions is less likely to say “don’t know” when asked about the fourth one. Table 9 shows the results of the logistic regressions that were run to test this prediction. The regressions include country dummies and wave dummies as additional independent variables.³⁴

³⁴ The number of countries is reduced by the fact that some country samples do not include any “don’t know” answers.

More precisely, for the model of Sect. 4 to work, there are two assumptions whose validity may be checked with the logistic regressions of Table 9. One is that the odds ratios of the regressions should be lower than one, which shows that higher-numbered answers for the other three questions predict a lower probability of a “don’t know” answer for the fourth one. The other is that there should be a dominant dimension, which is to say that a “don’t know” for some of the questions is expected to be related more strongly to the other answers while others are only expected to be loosely so.

The results in Table 9 support the stubbornness assumption. First, the odds ratios, when they are statistically significant at 5% at least, are less than one. The only one that is close to being an exception is the effect of the answer to the competition question on saying “don’t know” to the wealth creation question. According to this puzzling result, agreeing more with the proposition that “competition is good” makes the respondent more likely to say that s/he “doesn’t know” if wealth creation is possible. On average however, it is the other way around: a stronger preference for one dimension of free markets makes it less probable for the respondent to say “don’t know” to a question about another dimension.

Second, *responsibility* is the key dimension. A higher mark for *responsibility* will decrease the probability of a “don’t know” answer for all three other questions. A higher mark for *property*, *competition*, and *wealth creation* decreases the probability of a “don’t know” for only one of the other three questions.

Proof of the proposition in Sect. 4

With the definitions:

$$\sigma_x^2 = \frac{1}{n} \sum_{i=1}^n x_i^2, \quad \sigma_{xy} = \frac{1}{n} \sum_{i=1}^n x_i y_i, \quad \sigma_y^2 = \frac{1}{n} \sum_{i=1}^n y_i^2 \quad (14)$$

Eq. (2) implies that

$$\sigma_{yx} = -\delta_x \sigma_x^2 - \delta_y \sigma_{xy}, \quad (15)$$

$$\sigma_{xy} = -\delta_x \sigma_{xy} - \delta_y \sigma_y^2. \quad (16)$$

Equations (9) and (10) then become:

$$x^* = \frac{1}{1 - \bar{\gamma}^2} \left(\bar{\gamma} \delta_x \frac{\sigma_x}{\sigma_y} - \delta_y \frac{\sigma_y}{\sigma_x} \right) + \frac{1}{1 - \bar{\gamma}^2} (\bar{\gamma} \delta_y - \delta_x) \rho_{xy}, \quad (17)$$

$$y^* = \frac{1}{1 - \bar{\gamma}^2} \left(\bar{\gamma} \delta_y \frac{\sigma_y}{\sigma_x} - \delta_x \frac{\sigma_x}{\sigma_y} \right) + \frac{1}{1 - \bar{\gamma}^2} (\bar{\gamma} \delta_x - \delta_y) \rho_{xy}, \quad (18)$$

where $\rho_{xy} = \sigma_{xy} / \sigma_x \sigma_y$. Therefore

$$\frac{\partial x^*}{\partial \rho_{xy}} = \frac{1}{1 - \bar{\gamma}^2} (\bar{\gamma} \delta_y - \delta_x), \quad (19)$$

$$\frac{\partial y^*}{\partial \rho_{xy}} = \frac{1}{1 - \bar{\gamma}^2} (\bar{\gamma} \delta_x - \delta_y), \quad (20)$$

which implies that

$$\frac{\partial x^*}{\partial \rho_{xy}} + \frac{\partial y^*}{\partial \rho_{xy}} = -\frac{\delta_x + \delta_y}{1 + \bar{\gamma}} < 0. \quad (21)$$

Equation (21) means that if $\partial x^*/\partial \rho_{xy} > 0$, then $\partial y^*/\partial \rho_{xy} < 0$ and vice versa. That is, if $\bar{\gamma} \delta_y - \delta_x > 0$ then $\partial x^*/\partial \rho_{xy} > 0$ and $\partial y^*/\partial \rho_{xy} < 0$, and if $\bar{\gamma} \delta_x - \delta_y > 0$ then $\partial x^*/\partial \rho_{xy} < 0$ and $\partial y^*/\partial \rho_{xy} > 0$.

Summary statistics

See Table 10.

Table 10 Summary statistics of the variables used in the regressions

Variable	Mean	Std. dev.	Min	Max	Countries
Gov	6.175	1.346	2.965	8.730	85
Legal	5.850	1.503	2.383	8.813	85
SEM	-0.325	2.355	-5.778	4.965	85
Alpha	0.163	0.249	-0.453	0.672	85
IFMMI	6.159	0.443	5.218	7.517	85
ln(GDP p. c.)	9.337	1.061	6.640	11.685	85
ln(human cap.)	0.940	0.255	0.128	1.275	85
d90	0.212	0.411	0	1	85
d2000	0.082	0.277	0	1	85
d2010	0.141	0.350	0	1	85
pdi	58.967	20.685	11	100	60
idv	45.517	24.215	8	91	60
mas	49.183	20.180	5	100	60
uai	65.583	22.283	8	99	60
au/emb	0.052	1.573	-3.517	3.036	66
hie/eg	0.004	1.287	-2.733	3.064	66
mas/har	-0.062	1.208	-2.028	2.697	66
Obedience	0.386	0.161	0.061	0.778	92
Respect	0.673	0.096	0.361	0.881	92
Control	6.865	0.633	5.579	8.135	92
Religion	0.695	0.249	0.127	0.998	92

References

- Adams, J. F. (2019). Spatial voting models of party competition in two dimensions. In R. D. Congleton, B. Grofman, & S. Voigt (Eds.), *The Oxford handbook of public choice* (Vol. 1, pp. 187–207). Oxford: Oxford University Press.
- Alesina, A., & Giuliano, P. (2015). Culture and institutions. *Journal of Economic Literature*, 53(4), 898–944. <https://doi.org/10.1257/jel.53.4.898>.
- Becker, G. S., & Mulligan, C. B. (2016). Is voting rational or instrumental? In J. Hall (Ed.), *Explorations in public sector economics* (pp. 1–11). Cham: Springer. https://doi.org/10.1007/978-3-319-47828-9_1.
- Beugelsdijk, S., & Maseland, R. (2010). *Culture in economics: History, methodological reflections and contemporary applications*. Cambridge: Cambridge University Press.
- Bjørnskov, C., & Paldam, M. (2012). The spirits of capitalism and socialism. *Public Choice*, 150(3–4), 469–498. <https://doi.org/10.1007/s11127-010-9711-9>.
- Bjørnskov, C., & Rode, M. (2018). Crisis, ideology, and interventionist policy ratchets. *Political Studies*, 67, 815–833. <https://doi.org/10.1177/0032321718807858>.
- Bologna, J., & Hall, J. C. (2014). Economic freedom research: Some comments and suggestions. In *The annual proceedings of the wealth and well-being of nations* (Vol. VI, pp. 123–135). Beloit: Beloit College Press.
- Brennan, G., & Lomasky, L. (1993). *Democracy and decision: The pure theory of electoral preference*. Cambridge: Cambridge University Press.
- Caplan, B. (2007). *The myth of the rational voter*. Princeton: Princeton University Press.
- Caplan, B., & Stringham, E. (2005). Mises, bastiat, public opinion, and public choice. *Review of Political Economy*, 17(1), 79–105. <https://doi.org/10.1080/0953825042000313825>.
- Clark, J. R., & Lee, D. R. (2015). Freedom as a public good. In R. J. Cebula, J. C. Hall, F. G. Mixon Jr. & J. E. Payne (Eds.), *Economic behavior, economic freedom, and entrepreneurship* (pp. 88–101). Cheltenham: Edward Elgar.
- Congleton, R. D. (1991). Ideological conviction and persuasion in the rent-seeking society. *Journal of Public Economics*, 44(1), 65–86. [https://doi.org/10.1016/0047-2727\(91\)90057-9](https://doi.org/10.1016/0047-2727(91)90057-9).
- Congleton, R. D. (2001). Rational ignorance, rational voter expectations, and public policy: A discrete informational foundation for fiscal illusion. *Public Choice*, 107(1/2), 35–64. <https://doi.org/10.1023/a:1010337412291>.
- Congleton, R. D. (2019). Behavioral economics and the Virginia school of political economy: Overlaps and complementarities. *Public Choice*. <https://doi.org/10.1007/s11127-019-00679-3>. (Online first).
- Coppedge, M., Gerring, J., Knutsen, C. H., Lindberg, S. I., Teorell, J., Altman, D., et al. (2019). *V-Dem [Country-Year/Country-Date] Dataset v9*. Gothenburg: Varieties of Democracy (V-Dem) Institute. <https://doi.org/10.23696/vdemcy19>.
- Czeglédi, P., & Newland, C. (2018a). How is the pro-capitalist mentality globally distributed? *Economic Affairs*, 38(2), 240–256. <https://doi.org/10.1111/ecaf.12285>.
- Czeglédi, P., & Newland, C. (2018b). Measuring global support for free markets. In J. Gwartney, R. Lawson, J. Hall, & R. Murphy (Eds.), *Economic freedom of the world 2018 annual report* (pp. 1990–2014). Fraser Institute: Vancouver, BC.
- Denzau, A. T., & North, D. C. (1994). Shared mental models: Ideologies and institutions. *Kyklos*, 47(1), 3–31. <https://doi.org/10.1111/j.1467-6435.1994.tb02246.x>.
- DeVellis, R. F. (2003). *Scale development: Theory and applications* (2nd ed.). Thousand Oaks, CA: Sage Publications Inc.
- Downs, A. (1957). *An economic theory of democracy*. New York: Harper & Row Publishers.
- EVS. (2011). European values study longitudinal data file 1981–2008 (EVS 1981–2008). GESIS Data Archive, Cologne, Germany, ZA4804 Data File Version 2.0.0 (2011-12-30). <https://doi.org/10.4232/1.11005>.
- Feenstra, R. C., Inklaar, R., & Timmer, M. P. (2015). The next generation of the Penn World Table. *American Economic Review*, 105(10), 3150–3182. <https://doi.org/10.1257/aer.20130954>.
- Grubel, H. (2015). *Determinants of economic freedom: Theory and empirical evidence*. Tech. rep., Vancouver, BC: Fraser Institute. Retrieved January 9, 2019 from <https://www.fraserinstitute.org/sites/default/files/determinants-of-economic-freedom.pdf>.
- Guiso, L., Sapienza, P., & Zingales, L. (2006). Does culture affect economic outcomes? *Journal of Economic Perspectives*, 20(2), 23–48. <https://doi.org/10.1257/jep.20.2.23>.

- Gwartney, J., Lawson, R., Hall, J., & Murphy, R. (Eds.) (2018). *Economic freedom of the world 2018 annual report*. Vancouver, BC: Fraser Institute. Retrieved September 4, 2019 from <https://www.fraserinstitute.org/studies/economic-freedom>.
- Hayek, F. Av. (1948). Individualism: True and false. *Individualism and economic order* (pp. 1–32). Chicago, IL: The University of Chicago Press.
- Heckman, J. J. (1979). Sample selection bias as a specification error. *Econometrica*, 47(1), 153–161. <https://doi.org/10.2307/1912352>.
- Hinich, M. J., & Munger, M. C. (1992). A spatial theory of ideology. *Journal of Theoretical Politics*, 4(1), 5–30. <https://doi.org/10.1177/0951692892004001001>.
- Hirschman, A. O. (1989). Having opinions—One of the elements of well-being? *American Economic Review*, 79(2), 75–79.
- Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). *Cultures and organizations: Software of the mind* (3rd ed.). New York: McGraw-Hill Education.
- Hofstede, G., Hofstede, G. J., & Minkov, M. (2012). *Dimension data matrix*. Retrieved May 26, 2019 from <http://geerthofstede.nl/dimension-data-matrix>.
- Inglehart, R., Haerpfer, C., Moreno, A., Welzel, C., Kizilova, K., Diez-Medrano, J., et al. (Eds.) (2014a). World values survey: Round five—Country-pooled datafile version. Madrid: JD Systems Institute. Retrieved June 9, 2017 from <http://www.worldvaluessurvey.org/WVSDocumentationWV5.jsp>.
- Inglehart, R., Haerpfer, C., Moreno, A., Welzel, C., Kizilova, K., Diez-Medrano, J., et al. (Eds.) (2014b). World values survey: Round six—Country-pooled datafile version. Madrid: JD Systems Institute. Retrieved June 9, 2017 from <http://www.worldvaluessurvey.org/WVSDocumentationWV6.jsp>.
- Jiang, W. (2017). Have instrumental variables brought us closer to the truth. *The Review of Corporate Finance Studies*, 6(2), 127–140. <https://doi.org/10.1093/rcfs/cfx015>.
- Jäger, K. (2017). Economic freedom in the early twenty-first century: Government ideology still matters. *Kyklos*, 70(2), 256–277. <https://doi.org/10.1111/kykl.12137>.
- Kaspar, W., Streit, M. E., & Boettke, P. J. (2012). *Institutional economics: Property, competition, and policies*. Cheltenham: Edward Elgar.
- Lawson, R., Murphy, R., & Powell, B. (2018). The determinants of economic freedom: A survey. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3266641>.
- Ledyard, J. O. (1984). The pure theory of large two-candidate elections. *Public Choice*, 44(1), 7–41. <https://doi.org/10.1007/bf00124816>.
- McLaughlin, P. A., Smith, A. C., & Sobel, R. S. (2019). Bootleggers, baptists, and the risks of rent seeking. *Constitutional Political Economy*, 30(2), 211–234. <https://doi.org/10.1007/s10602-019-09278-2>.
- Mises, L. (1951). *Socialism: An economic and sociological analysis*. New Haven, CT: Yale University Press.
- Mokyr, J. (2016). *A culture of growth: Origins of the modern economy*. Princeton, NJ: Princeton University Press.
- Mueller, D. C. (2003). *Public choice III*. New York, NY: Cambridge University Press.
- Murphy, R. H. (2018). The perils of buying social capital locally. *Journal of Private Enterprise*, 33(2), 67–81.
- Murphy, R. H. (2019a). The State Economic Modernity Index: An index of state building, state size and scope, and state economic power. *Economics of Governance*, 20(1), 73–101. <https://doi.org/10.1007/s10101-018-00220-0>.
- Murphy, R. H. (2019b). The long-run effect of government ideology on economic freedom. *Economic Affairs*, 39(1), 101–114. <https://doi.org/10.1111/ecaf.12327>.
- Murphy, R. H. (2019c). The soft stuff of institutional development: Culture, cohesion, and economic institutions. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3341821>.
- Newland, C. (2018). Is support for capitalism declining around the world? A free-market mentality index, 1990–2012. *Independent Review*, 22(4), 569–583.
- Olson, M. (1996). Distinguished lecture on economics in government: Big bills left on the sidewalk: Why some nations are rich, and others poor. *Journal of Economic Perspectives*, 10(2), 3–24. <https://doi.org/10.1257/jep.10.2.3>.
- Ott, J. (2018). Measuring economic freedom: Better without size of government. *Social Indicators Research*, 135(2), 479–498. <https://doi.org/10.1007/s11205-016-1508-x>.
- Paldam, M. (2003). Economic freedom and the success of the Asian tigers: An essay on controversy. *European Journal of Political Economy*, 19(3), 453–477. [https://doi.org/10.1016/s0176-2680\(03\)00012-0](https://doi.org/10.1016/s0176-2680(03)00012-0).

- Paldam, M., & Gundlach, E. (2008). Two views on institutions and development: The grand transition versus the primacy of institutions. *Kyklos*, 61(1), 65–100. <https://doi.org/10.1111/1/j.1467-6435.2008.00393.x>.
- Ritter, N. L. (2010). *Understanding a widely misunderstood statistic: Cronbach's α* . Paper presented at the annual meeting of the Southwest Educational Research Association, New Orleans, February 18.
- Rubin, P. H. (2001). Ideology. In W. F. Shughart II & L. Razzolini (Eds.), *The Elgar companion to public choice* (pp. 328–336). Cheltenham: Edward Elgar. <https://doi.org/10.4337/9781843763017.00027>.
- Rubin, P. H. (2019). *The capitalism paradox: How cooperation enables free market competition*. Nashville: Bombardier Books, PostHill Press.
- Schwartz, S. H. (2006). A theory of cultural value orientations: Explication and applications. *Comparative Sociology*, 5(2–3), 137–182. <https://doi.org/10.1163/156913306778667357>.
- Schwartz, S. H. (2008a). *Cultural value orientations: Nature and implications of national differences*. Moscow: State University-Higher School of Economics Press.
- Schwartz, S. H. (2008b). The 7 Schwartz cultural value orientation scores for 80 countries. <https://doi.org/10.13140/RG.2.1.3313.3040>. https://www.researchgate.net/publication/304715744_The_7_Schwartz_cultural_value_orientation_scores_for_80_countries.
- Smith, V. L. (2003). Constructivist and ecological rationality in economics. *American Economic Review*, 93(3), 465–508. <https://doi.org/10.1257/000282803322156954>.
- Sowell, T. (2007). *A conflict of visions: Ideological origins of political struggles* (revised ed.). New York, NY: Basic Books.
- Tabellini, G. (2010). Culture and institutions: Economic development in the regions of Europe. *Journal of the European Economic Association*, 8(4), 677–716. <https://doi.org/10.1111/j.1542-4774.2010.tb00537.x>.
- Trizano-Hermosilla, I., & Alvarado, J. M. (2016). Best alternatives to Cronbach's alpha reliability in realistic conditions: Congeneric and asymmetrical measurements. *Frontiers in Psychology*, 7(Article 769), 1–8. <https://doi.org/10.3389/fpsyg.2016.00769>.
- Vanberg, V., & Buchanan, J. M. (1989). Interests and theories in constitutional choice. *Journal of Theoretical Politics*, 1(1), 49–62. <https://doi.org/10.1177/0951692889001001004>.
- Voigt, S. (2018). How to measure informal institutions. *Journal of Institutional Economics*, 14(1), 1–22. <https://doi.org/10.1017/s1744137417000248>.
- Williamson, C. R. (2009). Informal institutions rule: Institutional arrangements and economic performance. *Public Choice*, 139(3–4), 371–387. <https://doi.org/10.1007/s11127-009-9399-x>.
- Williamson, C. R., & Coyne, L. R. (2014). Culture and freedom. In J. C. Hall (Ed.), *The annual proceedings of the wealth and well-being of nations* (Vol. 2013–2014, pp. 83–104). Beloit: Beloit College Press.
- Williamson, C. R., & Kerekes, C. B. (2011). Securing private property: Formal versus informal institutions. *The Journal of Law and Economics*, 54(3), 537–572. <https://doi.org/10.1086/658493>.
- Williamson, C. R., & Mathers, R. L. (2011). Economic freedom, culture, and growth. *Public Choice*, 148(3–4), 313–335. <https://doi.org/10.1007/s11127-010-9656-z>.
- Wittman, D. (1989). Why democracies produce efficient results. *Journal of Political Economy*, 97(6), 1395–1424. <https://doi.org/10.1086/261660>.
- Wohlgemuth, M. (2005). Schumpeterian political economy and downsian public choice: Alternative economic theories of democracy. In A. Marciano & J. M. Josselin (Eds.), *Law and the state: A political economy approach* (pp. 21–57). Cheltenham: Edward Elgar. <https://doi.org/10.4337/9781845426798.00008>.
- WVS. (2015). World value survey 1981–2014 longitudinal aggregate v.20150418, 2015. World Values Survey Association, aggregate File Producer: JDSystems Data Archive, Madrid, Spain.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.