

## Media Freedom, Political Knowledge, and Participation

Peter T. Leeson

**A**lexis de Tocqueville ([1835–1840] 1988, p. 517) once remarked, “Only a newspaper can put the same thought at the same time before a thousand readers.” In the twenty-first century, a similar claim holds true for television, radio, and the Internet, which provide information to millions of viewers and listeners across the globe. Given the importance of the media, governments may seek to control or influence the flow of media-provided information reaching their citizens. This control can be direct, such as when states monopolize media ownership in their nations, or indirect, such as when they exert financial pressure on private media outlets to cover news in a certain way (Leeson and Coyne, 2005).

This paper examines the relationship between media freedom from government control and citizens’ political knowledge, political participation, and voter turnout. To explore these connections, I examine media freedom and citizens’ political knowledge in 13 central and eastern European countries with data from Freedom House’s *Freedom of the Press* report and the European Commission’s Candidate Countries Eurobarometer survey. Next, I consider media freedom and citizens’ political participation in 60 countries using data from the World Values Survey. Finally, I investigate media freedom and voter turnout in these same 60 or so countries with data from the International Institute for Democracy and Electoral Assistance. I find that where government owns a larger share of media outlets and infrastructure, regulates the media industry more, and does more to control the content of news, citizens are more politically ignorant and apathetic. Where the media is less regulated and there is greater private ownership in the media industry, citizens are more politically knowledgeable and active.

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Of course, any attempts to specify the effects of media freedom will raise econometric difficulties. The patterns presented in this paper hold true even after controlling for a number of factors, including income, age, education, and democracy/autocracy, but doubtless other factors could be proposed. Moreover, media freedom is not an exogenous factor randomly distributed across countries. Instead, media freedom reflects underlying social, legal, political, economic, and even cultural factors, and in turn also helps to shape those factors. Much work remains to be done in sorting out these issues of causality, perhaps by figuring out appropriate instrumental variables. The empirical patterns presented in this paper should therefore be interpreted with appropriate caution.

The findings in this paper complement other recent research by economists on the effects of media freedom. For example, Djankov, McLiesh, Nenova, and Shleifer (2003) find that private media ownership is associated with improved social outcomes; in contrast, where the media is state owned, citizens lead poorer, unhealthier, and shorter lives. The findings in my paper suggest a specific channel connecting media freedom and economic development. In countries where government interferes with the media, individuals know less about basic political issues and are less politically involved. Politically ignorant and apathetic individuals do not know enough about political happenings or participate enough politically to monitor or punish effectively the activities of self-interested politicians. When politicians are free from accountability to voters, they are more likely to pursue privately beneficial policies, which in turn lead to lower development.

Although this paper is the first to examine the relationship between media freedom and political knowledge, participation, and voter turnout, other recent research has considered some of these linkages from other angles. One body of research has discussed the role of media-provided information in informing the electorate (Coyné and Leeson, 2004; Stromberg, 2004; Besley and Burgess, 2002; Besley and Prat, 2006; Mueller 1992; Sen, 1984, 1999). For instance, Snyder and Stromberg (2004) find that where voters are better politically informed as a result of more media coverage, politicians are more responsive to their wants. Again, de Tocqueville (1835–1840, p. 518) seems to have anticipated the issues here when he wrote: “A newspaper is not only able to suggest a common plan to many men; it provides them with the means of carrying out in common the plans that they have thought of for themselves.” Another strand of work considers the relationship between television and voting. Gentzkow (2006), for example, provides an especially interesting examination of television consumption’s impact on voter turnout. Similarly, Althaus and Trautman (2004) investigate the impact of television market size on voter turnout. Other research examines the relationship between press freedom and corruption. For instance, Ahrend (2002) and Brunetti and Weder (2003) find that higher press freedom is associated with lower corruption.

## Media Freedom and Political Knowledge

The recent transition experience of the postsocialist world provides an excellent ground to examine the connection between media freedom and political knowledge. Since 1991, the countries of central and eastern Europe have moved in different directions with respect to government's relationship to the media. Some, such as Poland, have liberalized substantial portions of their economies, including the media, which used to be in the state's hands. Others, such as Romania, have liberalized comparatively little. In these places the media remains largely under government control. These divergent paths have created interesting variation for investigating the relationship between media freedom and citizens' political knowledge.

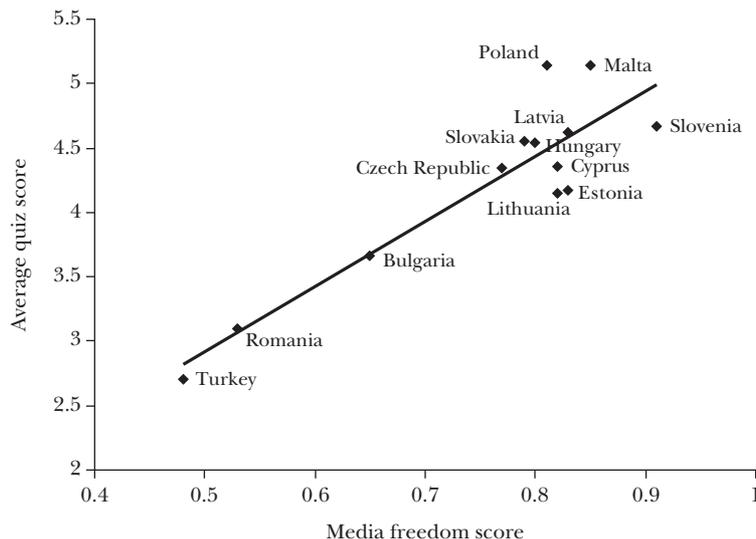
The Candidate Countries Eurobarometer (2004) survey provides important information about the political knowledge of central and eastern Europeans. In October and November 2003, this survey quizzed more than 12,000 citizens on nine basic political facts of the European Union (EU) in the following EU-candidate countries: Bulgaria, Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia, and Turkey. EU-candidate countries are nations seeking membership in the European Union that, upon the European Commission's recommendation, advance to official candidacy.

The complete list of true-or-false questions administered in these countries is as follows (correct answer in parentheses): 1) The EU is made of 15 states (True); 2) The European Community was created after World War I (False); 3) The European flag is bright blue with yellow stars (True); 4) There are 15 stars on the European flag (False); 5) Headquarters of the EU are in Brussels, Strasbourg, and Luxembourg (True); 6) Members of the European Parliament are directly elected by the citizens of the EU (True); 7) There is a President of the EU directly elected by all the citizens (False); 8) The EU has its own anthem (True); 9) There are no borders between the EU (True).

Possible membership in the European Union is important for these countries. Thus, if media freedom is connected to citizens' political knowledge, questions about the European Union are a good place to look. In addition, although pan-European issues are somewhat different from purely local ones, they play a significant role in shaping policies at the local level, too. Measuring citizens' knowledge about basic political facts of the European Union in EU-candidate countries therefore measures an important part of their political knowledge and likely proxies for knowledge about more purely local political issues that cannot be directly measured through the Eurobarometer quiz. In addition, a significant advantage of European Union questions is that the correct answers are identical for all respondents, regardless of country.

Figure 1 depicts the raw relationship between media freedom and political knowledge in these countries. It uses media freedom data from Freedom House's

Figure 1

**Media Freedom and Political Knowledge**

Sources: Freedom House (2004) and Eurobarometer (2004).

(2004) international *Freedom of the Press* report and political knowledge data from the Eurobarometer (2004) survey to plot countries' media freedom in 2003 against their citizens' average scores on these nine questions. The relationship is strong and positive. A freer media is associated with politically more knowledgeable citizens.<sup>1</sup>

To investigate this relationship further, I use ordinary least squares regressions. My dependent variable is individuals' scores on the nine-question EU political quiz. Since the quiz contains nine questions, scores range from zero (no questions answered correctly) to nine (all questions answered correctly). All questions have a true-or-false format. Only citizens age 15 and older took the political quiz. Respondents who answered "Don't know" to a question were scored as having answered this question incorrectly. Those who refused to answer a question were dropped from the dataset, creating a total of 12,006 observations. The sample size for each country is roughly equal (about 1,000) with the exception of Malta and Cyprus, which have 500 each.

<sup>1</sup> An interesting question here, explored in this symposium in the paper by Gentzkow and Shapiro, as well as in Sutter (2004), Shleifer and Mullainathan (2005), and Gentzkow and Shapiro (2006), is the extent to which market-driven media may lead to certain news biases. For the sort of basic factual questions presented here, such biases are likely to be minimal. Interestingly, however, Prat and Stromberg (2005) find that in Sweden the political knowledge of individuals who consumed commercial TV news grew more in response to the introduction of commercial television than that of individuals who only consumed public television. DellaVigna and Kaplan (2006) find that voters are sophisticated and filter out commercially biased news in political decision making.

My key independent variable is Freedom House's (2004) media freedom score for each country in 2003. Freedom House assigns points to countries on the basis of three, equally-weighted categories related to media's independence from government. Together, these categories create a composite score of media freedom, which I have rescaled to range from zero (completely unfree) to one (completely free). The three categories this index includes are: 1) legal environment, which looks at laws, statutes, constitutional provisions, and regulations that enable or restrict the media's ability to operate freely in a country; 2) political environment, which evaluates the degree of political control over the content of news media in each country (such as editorial independence, official or unofficial censorship, harassment or attacks against journalists); and 3) economic environment, which includes the structure of media ownership, media-related infrastructure, its concentration, the impact of corruption or bribery on news media content, and the selective withholding or bestowal of subsidies or other sources of financial revenue on some media outlets by the state. The media this index considers include TV, radio, newspaper, and the Internet.

Romania provides a good example of how government can use these channels to suppress media freedom. For instance, many Romanian media outlets owe back taxes to the government, putting them under pressure to bias their coverage if they wish to remain in business. Other outlets rely predominantly on the state for advertising revenue to stay afloat. The Romanian government also regulates the media through licensure and has historically controlled important media-related inputs, such as distribution networks for newspapers.

To account for individual characteristics that might affect quiz scores, I include a number of control variables. The first three control variables in my regression are respondents' income, age, and education level. Data for these variables are from the Eurobarometer (2004) survey. To control for the impact of a country's average income on individual quiz scores, I also include each country's gross national income per capita in 2000, using data from World Development Indicators (World Bank, 2004).

Finally, I want to control for institutional factors that may contribute to how an individual performs on the political quiz, such as the how democratic/authoritarian the government is in each country and the quantity of resources that each government devotes to education for its citizens. For this purpose, I use data on the extent of democracy/autocracy in each country for 2000 from the Polity IV Project (2003). The "Polity" variable ranges from -10, or complete autocracy, to +10, or complete democracy, and measures the presence or absence of political institutions and procedures through which citizens can express effective preferences about alternative policies and leaders.

I also include data on countries' public expenditures on education as a percentage of gross domestic product from the World Development Indicators

(World Bank, 2004). These data are for 2003 or the closest available year when data for 2003 are unavailable.<sup>2</sup>

Table 1 presents the results of this analysis. I find a large, positive, and highly significant association between media freedom and political knowledge. Where the media is less free, citizens are less politically knowledgeable. Column 1 presents the unadjusted correlation from Figure 1. Falling from the highest level of media freedom in the sample to the lowest is associated with a 42 percent increase in political ignorance. Stated differently, moving from the freest media in the sample to the least free is associated with a 0.96 standard deviation fall in political knowledge.

This relationship is similar when I include controls in column 2 of Table 1. After controlling for respondent income, age, and education, how democratic/authoritarian each government is (the “Polity” variable), average income in each country, and how much each government spends on public education, falling from the country with the freest media in the sample to the country with the least free media is associated with a 37 percent increase in political ignorance. This represents a 0.83 standard deviation decline in political knowledge. In different terms, going from the highest level of media freedom in the sample to the lowest means dropping from a quiz score average of  $(4.56/9 \approx) 51$  percent correct to a quiz score average of  $(2.86/9 \approx) 32$  percent correct.<sup>3</sup>

The other significant variables in column 2 have the expected signs. For example, higher individual income and more education are associated with higher quiz scores. Younger quiz takers also score significantly better. This pattern may arise because they have a greater interest in EU-related issues, since EU membership might affect their futures more strongly than those of older quiz takers. The coefficient on “Public expenditures on education” is negative, but small and insignificant, as is that for “gross national income per capita.” Alone, the variables “Public expenditures on education” and “GNI per capita” are found to be positively related to quiz score. However, they seem to be capturing part of the effect of the media freedom; including the variable “Media freedom” together with

<sup>2</sup> For a detailed list of all variables used in the regressions in this paper and their sources, see on-line Appendix 2 to this paper, available at (<http://www.ejep.org>). There, you will also find Appendix 1, which contains a number of regressions that show that the results presented in this paper are not especially sensitive to alternative specifications or alternative data sources.

<sup>3</sup> Although all countries in my sample were EU candidates at the time the political quiz was administered, only one of them, Turkey, is not yet a full member. It is possible that citizens in Turkey expected the low likelihood of their nation becoming an EU member when the quiz was administered in 2003 and so were rationally more ignorant of basic EU political facts. Thus, although in Figure 1 Turkey has the lowest quiz score and lowest media freedom, perhaps Turkey’s low quiz score is attributable to the relative unimportance of information about the European Union for its citizens given the perceived unlikelihood of gaining membership rather than to low media freedom. To check if this is the case, I reran the regression in column 2 excluding Turkey from the sample. The coefficient on “Media freedom” remains positive, a similar size, and significant. If the three countries in my sample with the lowest media freedom and quiz scores are excluded—Turkey, Romania, and Bulgaria—the coefficient on “Media freedom” remains positive and grows larger, but becomes insignificant. Since here I am excluding nearly a quarter of my observations, this result is not surprising.

*Table 1*  
**Media Freedom and Political Knowledge**  
*(dependent variable is the score on the political quiz)*

	1	2
Media freedom	5.35*** (0.45)	4.86*** (0.65)
Income		0.15*** (0.01)
GNI per capita		-0.01 (0.37)
Age		-0.08** (0.03)
Education		0.05*** (0.01)
Polity		0.09 (0.06)
Public expenditure on education		-0.01 (0.12)
$R^2$	0.09	0.17
Observations	12,006	8,323

*Notes:* “Polity” is an index of democracy/autocracy with higher scores indicating greater openness. Regressions are ordinary least squares (intercepts not reported). Robust standard errors clustered by country are in parentheses. For detailed variable descriptions see online Appendix 2 at (<http://www.e-jep.org>). Malta was not included in the Polity IV dataset, therefore, in this table, Malta is only included in column 1.

\*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10 percent levels, respectively.

“Public expenditures on education” and “GNI per capita” makes the latter two variables insignificant.

While these results point to an important relationship between media freedom and political knowledge, it is important to exercise caution when interpreting them. They rely only on a single-cross section and may not capture a number of important variables that might also contribute to individuals’ quiz performance; and without instrumental variables, they cannot establish causality. Nevertheless, the strong relationship found here suggests that media freedom is likely an important factor influencing citizens’ political knowledge.

## Media Freedom and Political Participation

I search for additional support for the channel connecting media freedom and citizens’ political knowledge by exploring the relationship between media freedom and

political participation. The reason I look here for support is straightforward: A sizeable literature confirms that where citizens are less politically knowledgeable, they are less likely to be politically active. Where they are more knowledgeable, they participate more (for a recent example, see Prat and Stromberg, 2005, and the earlier papers cited there). This pattern makes intuitive sense. Where political knowledge is low—for instance, because of low media freedom—the value of political participation is also low. With inadequate political knowledge, citizens cannot effectively monitor and punish self-serving politicians. In such an environment, political participation is mostly cost with little benefit. The result should be low political activeness. If low media freedom is meaningfully associated with political ignorance, it should therefore also be associated with political apathy.

To see if this pattern holds, I look at four measures of political participation: an individual's stated willingness to sign petitions, to attend lawful demonstrations, to join unofficial strikes, and to occupy buildings in protest (or the individual's stated history of having done these things). These data are from the World Values Survey (2005), which questioned nearly 90,000 respondents age 18 and over from 65 countries about their level of political involvement between 1999 and 2002. I eliminate countries for which there is no measure of media freedom, yielding a sample of more than 80,000 respondents from 61 countries.<sup>4</sup>

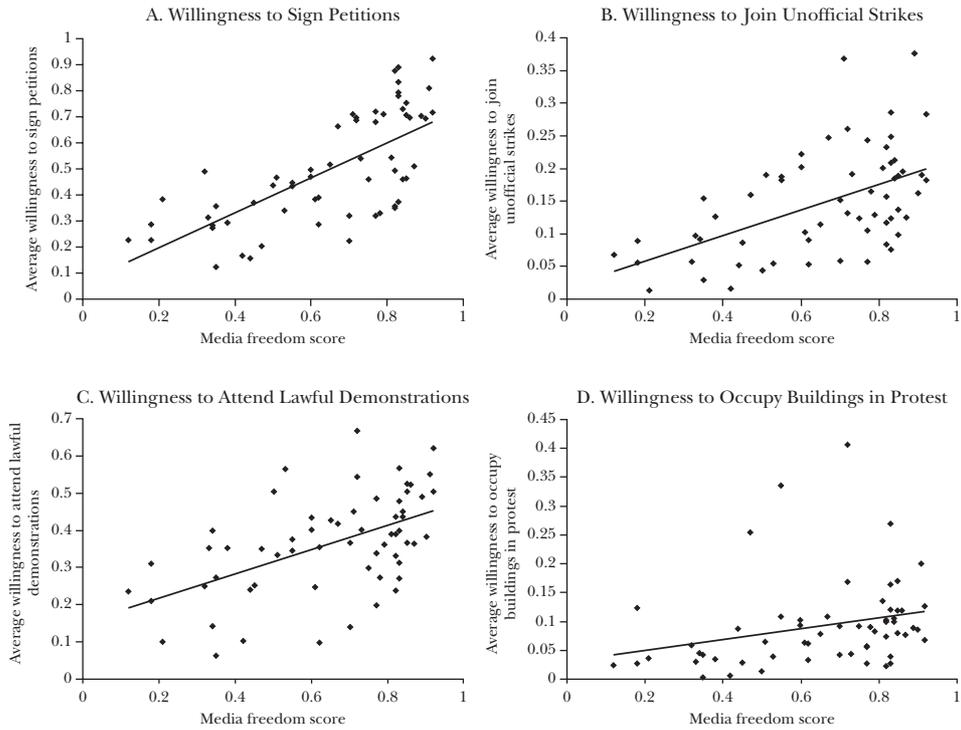
Figures 2a–d depict the raw relationship between media freedom and political participation in each country using individuals' average willingness to engage in each of the political activities indicated above. For all measures of political participation, the relationship is clearly positive. A freer media is associated with a substantially greater willingness to sign petitions, attend lawful demonstrations, join unofficial strikes, and occupy buildings in protest.<sup>5</sup>

To further investigate the relationship between media freedom and political participation along these dimensions, I consider several ordinary least squares regressions. My dependent variable is individuals' willingness to participate in one of the four political activities described above. This variable is an index I have rescaled to range from zero to one. Zero means a respondent "would never do" the political activity in question; 0.5 means the respondent "might do" the activity; 1 means the respondent "has done" the political activity.

<sup>4</sup> These countries are: Albania, Algeria, Argentina, Austria, Bangladesh, Belgium, Bosnia, Bulgaria, Belarus, Canada, Chile, Croatia, Czech Republic, Denmark, Egypt, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, India, Indonesia, Ireland, Israel, Italy, Japan, Jordan, Korea, Latvia, Lithuania, Luxembourg, Malta, Mexico, Montenegro, the Netherlands, Nigeria, Pakistan, Peru, the Philippines, Poland, Portugal, Romania, Russia, Serbia, Singapore, Slovakia, Slovenia, South Africa, Spain, Sweden, Tanzania, Turkey, Uganda, Ukraine, the United Kingdom, the United States, Venezuela, Vietnam, and Zimbabwe. The World Values Survey was administered to approximately 1,000 respondents in each country with the exception of South Africa, Egypt, and Turkey, where, respectively, 3,000, 3,000, and 3,401 respondents were surveyed.

<sup>5</sup> Media freedom may matter along other dimensions of accountability too. Van Belle, Rioux, and Potter (2004) examine the ability of an independent media to compel nonelected policy officials to serve the public's interest. Dyck, Volchkova, and Zingales (2006) consider how a free media improves the accuracy of media-provided information in the context of corporate governance.

Figure 2

**Media Freedom and Various Types of Political Participation**

Sources: Freedom House (2003) and World Values Survey (2005).

The data for these variables are from the 1999–2002 wave of the World Values Survey (2005).

My key independent variable is again Freedom House's (2003) measure of media freedom in each country, here for 2002. I also control for average income in each country using data on gross national income per capita in 2000 from the World Development Indicators (World Bank, 2004). Again, I control for an individual's income, age, and education using data from the World Values Survey (2005). Similarly, I also include data from Polity IV (Polity IV Project, 2003), which measures how democratic/authoritarian government is in each country in 2000.

Table 2 presents the results for political participation. I find a consistently sizeable, positive, and highly significant relationship between media freedom and these measures of political activeness. After controlling for the factors discussed above, these results become somewhat smaller and less significant. However, they remain sizeable, and in all cases but one, remain significant at the 10 percent level or better. Where the media is less free, citizens are less politically active.

Consider, for example, the relationship between media freedom and a citizen's willingness to sign petitions. After controlling for individual-level characteristics and

Table 2  
**Media Freedom and Political Participation**

	<i>Sign petitions</i>		<i>Attend lawful demonstrations</i>		<i>Join unofficial strikes</i>		<i>Occupy buildings</i>	
Media freedom	0.68*** (0.09)	0.31** (0.13)	0.37*** (0.07)	0.20* (0.11)	0.21*** (0.03)	0.12** (0.05)	0.12*** (0.03)	0.08 (0.05)
Income		0.01*** (0.003)		0.005 (0.003)		0.002 (0.002)		0.002 (0.002)
GNI per capita		0.11*** (0.02)		0.03 (0.02)		0.02 (0.01)		0.02 (0.01)
Age		-0.002 (0.007)		-0.009 (0.007)		-0.03*** (0.004)		-0.03*** (0.006)
Education		0.03*** (0.004)		0.03*** (0.003)		0.01*** (0.002)		0.005** (0.002)
Polity		0.001 (0.004)		0.004 (0.004)		0.002 (0.002)		0.001 (0.002)
R <sup>2</sup>	0.13	0.24	0.05	0.10	0.03	0.06	0.01	0.03
Observations	81,564	66,812	81,679	66,948	78,737	64,516	77,462	63,313

Notes: Dependent variables are shown in the top row: “Sign petitions,” “Attend lawful demonstrations,” “Join unofficial strikes,” and “Occupy buildings.” “Polity” is an index of democracy/autocracy with higher scores indicating greater openness. Regressions are ordinary least squares (intercepts not reported). Robust standard errors clustered by country are in parentheses. For detailed variable descriptions see online Appendix 2 at (<http://www.e-jep.org>).

\*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10 percent levels, respectively.

country-level factors that might affect a citizen’s willingness to sign petitions, moving from the country with the freest media in the sample to the one with the least media freedom is associated with a 54 percent fall in citizens’ willingness to sign petitions  $(0.46 - 0.21)/0.46$ ). In other words, going from the freest media in the sample to the least free is associated with a 0.61 standard deviation drop in political activeness along this dimension. The other measures of political participation yield similar decreases in participation with decreases in media freedom.

The other variables in Table 2 have the expected signs, though only education is significant across the board. Younger and more-educated citizens are more politically active. Higher individual income, gross national income per capita, and democracy (“Polity”) are also associated with more political participation, though insignificantly.

Of course, like the results discussed above, these too are only suggestive. A government that suppresses the media may also suppress other forms of political liberty. Controlling for democracy/autocracy should help to address this, but the simple procedure used here cannot establish causality. Further, a government that suppresses the media may generate “displaced political activity,” as citizens seek alternative ways of expressing themselves outside of those considered here. My regressions do not address these issues, so it is important to bear these limitations in mind when interpreting the results.

## Media Freedom and Voter Turnout

Since voting is another component of political activeness along with those discussed in the previous section (though arguably more important), if lower media freedom is associated with reduced political knowledge, we should also expect to observe lower voter turnout where the media is less free. Politically ignorant individuals know less about important political issues, find it more difficult to become interested or active in issues they know little or nothing about, and have less incentive to vote since they are less likely to effect change through voting in the first place. The relationship between media freedom and political knowledge or political participation should therefore parallel the relationship between media freedom and voter turnout. If low media freedom is meaningfully associated with political ignorance and low political participation, we should find lower voter turnout where the media is less free and vice versa.

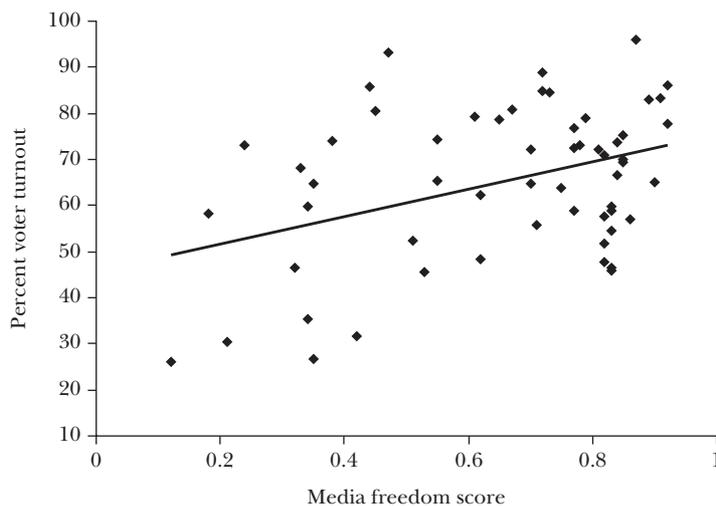
To investigate this pattern, I use the International Institute for Democracy and Electoral Assistance's (IIDEA) data on voter turnout across countries. These data measure voter turnout as the number of votes cast in each country's most recent parliamentary election for which data are available (usually 2000), divided by the population of voting age. I look at the same countries surveyed by the World Values Survey on political participation and drop observations for which there are no media freedom data, yielding a sample of 59 countries.<sup>6</sup>

Figure 3 depicts the raw relationship between media freedom and voter turnout across countries. The relationship is the same as the one between media freedom and political knowledge, and media freedom and political participation. According to the raw data, a freer media is associated with higher voter turnout.

To investigate this relationship more closely, I again use ordinary least squares regressions. My dependent variable is voter turnout in each country. My key independent variable remains Freedom House's (2003) media freedom score for each country in 2002. My control variables include gross national income per capita and average years of education for each country in 2000. These data are from World Development Indicators (World Bank, 2004) and the Barro–Lee (2000) dataset, "International Data on Educational Attainment: Updates and Implications," respectively. Finally, it is important to control for whether or not a country has an active compulsory voting law, which I do with data from the International Institute for Democracy and Electoral Assistance. Compulsory voting laws require citizens to vote in national elections. These laws and their enforcement vary across countries. For example, in some countries, citizens are required to vote only if they register, but registration is not mandatory and the punishment for not voting is only a nominal fine. In other nations the law is taken much more seriously. In Peru, for instance, voters must carry a card for two months following an election to prove they have voted and may be denied access to public services if they do not.

<sup>6</sup> These countries are the same as those listed in footnote 4 with three deletions—Montenegro, Serbia and Vietnam—and one addition—Iran.

Figure 3

**Media Freedom and Voter Turnout**

Sources: Freedom House (2003) and International Institute for Democracy and Electoral Assistance (2005).

Table 3 presents the results of these regressions. The relationship between media freedom and voter turnout is consistent with my findings for the relationship between media freedom, political knowledge, and participation. It is large, positive, and highly significant, even after controlling for income, education, and compulsory voting laws. Where the media is less free, citizens vote less. After accounting for these other factors, moving from the country with the freest media in the sample to the one with the least media freedom is associated with falling from approximately 77 percent voter turnout to approximately 38 percent voter turnout. Stated differently, within the sample, going from the country with the most free media to the least free is associated with a 2.41 standard deviation reduction in voter turnout.

Here, none of the coefficients on the control variables are significant, including compulsory voting, which is positive but insignificant. In column 3, when I re-estimate the relationship between media freedom and voter turnout excluding countries with compulsory voting laws, the results are essentially unchanged. This finding suggests that many compulsory voting laws are weak or poorly enforced. Education's coefficient is negative but insignificant, both with and without countries with compulsory voting laws. It is uncertain what accounts for this, though it is possible that more-educated citizens have a higher opportunity cost of voting and so vote less.

Again, it is important to keep in mind that this simple empirical strategy cannot establish causality and does not account for unobserved factors that may be influencing my results. Nevertheless, a casual look at the countries in my sample with the most and least media freedom, and their corresponding rates of voter

Table 3  
Media Freedom and Voter Turnout

	1	2	3
Media freedom	26.51** (11.00)	49.41*** (15.44)	37.09** (17.93)
Compulsory voting		5.90 (5.08)	
GNI per capita		-1.00 (2.23)	0.78 (2.48)
Education		-1.56 (1.23)	-1.60 (1.23)
R <sup>2</sup>	0.10	0.26	0.19
Observations	59	52	40

Notes: The dependent variable is voter turnout. Regressions are ordinary least squares (intercepts not reported). Robust standard errors are in parentheses. For detailed variable descriptions, see online Appendix 2 at (<http://www.e-jep.org>).

\*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10 percent levels, respectively.

turnout, supports the intuition behind the interpretation offered above. The three countries with the least free media in my sample, Zimbabwe, Egypt, and Iran, have voter turnout rates of 26 percent, 30.4 percent, and 73.1 percent, respectively. In contrast, the three countries with the freest media in my sample, Iceland, Sweden, and Finland, have voter turnout rates of 86.2, 77.7, and 83.1 percent, respectively. These examples suggest that a freer media may have the power to make a real difference in citizens' incentive to vote.

## Conclusion

The evidence in this paper shows that low media freedom is strongly associated with poor political knowledge, low political participation, and low voter turnout. The reverse is true for countries with higher media freedom. The results have been presented here in their most straightforward and unvarnished form. However, they are robust to sample, specification, and alternative measures of media freedom, as shown in regression tables appearing in an on-line Appendix to this paper (Appendix 1) available with the paper at (<http://www.e-jep.org>).

For instance, for the regressions that consider political knowledge, I also try controlling for whether or not individuals have ever heard of the European Union, the EU parliament, and how much attention they pay to EU-related news. Additionally, I include controls for how much television, newspaper, and radio individ-

uals consume. However, more media freedom remains significantly associated with higher political knowledge and vice versa.

I also use alternative measures of citizens' political knowledge. For example, I try using whether or not respondents have heard of the European Union or the EU parliament as dependent variables and find a similar pattern. Using how much media-provided news citizens consume as a dependent variable also supports my findings. With the exception of television, where the media is less free and therefore media-provided information has lower value to citizens, they consume less of it.

I apply a similar sensitivity analysis to the regressions that look at political participation and voter turnout. For instance, I try controlling for the extent to which citizens follow politics in the news. I also check to see if some particular region of the world is driving my results. In both cases, the pattern is similar. Where the media is freer, citizens participate politically and vote more. Where the media is less free, the reverse is true.

Finally, for all of the regressions, I try using different measures of media freedom. Specifically, I try the Reporters Sans Frontieres' (2002, 2003) measure of media freedom and Shleifer and Treisman's (2005) measure of "journalist suppression." For both measures, my results are similar.

As always, it would be preferable to have data for additional time periods and countries. Since my analysis relies on only a single cross-section, it would be overhasty to interpret its results as definitively causal. Still, the consistency and robustness of the findings across political knowledge, participation, and voter turnout suggests that these results are telling us a story that is likely to hold true, even if the magnitudes of my coefficients will likely be revisited in future research. Specifically, where the state controls the media, citizens tend to be politically ignorant and apathetic. In turn, politically ignorant and apathetic citizens are not politically knowledgeable or active enough to effectively monitor or punish the activities of self-interested politicians.

■ *I thank Tim Besley, Robin Burgess, Chris Coyne, James Hines, Jesse Shapiro, Andrei Shleifer, Russell Sobel, Jeremy Stein, Bob Subrick, Timothy Taylor, and an anonymous reader for indispensable comments and suggestions. I also thank Simeon Djankov, Caralee McLiesh, Tatiana Nenova, and Andrei Shleifer for generously providing me with data on state ownership of television and newspapers. I was the F. A. Hayek Fellow at the London School of Economics at the time of this research and also wish to thank the STICERD Center for its generous support. This paper is a substantially revised version of an earlier paper entitled, "Ignorant and Apathetic: The Effect of Media Freedom on Political Knowledge and Participation."*

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## **Appendix 1**

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### **Sensitivity Analysis**

This appendix performs sensitivity analyses for the regressions in Tables 1–3. Table A1.1 considers the relationship between media freedom and political knowledge, this time adding additional controls for 1) whether or not the respondent has ever heard of the EU, 2) whether or not the respondent has ever heard of the European parliament, 3) how much television, radio, and daily paper news the respondent consumes; and 4) how much attention the respondent says he or she pays to EU-related news.

Table A1.2 uses whether or not an individual has ever heard of the EU and whether that person has ever heard of the European parliament as dependent variables.

In Table A1.3, I examine the relationship between media freedom and the amount of media-provided news individuals consume from TV, radio, and daily newspapers, using both the Freedom House and Reporters Sans Frontieres media freedom measures.

Table A1.4 performs sensitivity analyses for the regressions relating to political participation. They include a variable that measures the extent to which an individual reports that he or she follows politics in the news.

In Table A1.5, I check to see if my results for political participation and voter turnout are driven by a particular region, using regional dummies for North America, South America, Europe, Africa, and Asia.

Table A1.6 reruns the main regressions from Tables 1–3 using alternative measures of media freedom. I use the Reporters Sans Frontieres measure and the journalist suppression measure created by Shleifer and Treisman (2005). Unlike the Freedom House and Reporters Sans Frontiers measures of media freedom, “Journalist suppression” measures how unfree the media is in a nation. Thus, a negative sign on the coefficient of interest in these regressions would be consistent with my findings using the other two measures of media freedom.

*Table A1.1*  
**Sensitivity Analysis for the Relationship between  
 Media Freedom and Political Knowledge**

	1	2
Media freedom (FH)	4.39*** (0.61)	
Media freedom (RSF)		3.39** (0.57)
TV news consumption	0.26* (0.14)	0.30* (0.14)
Daily paper news consumption	0.51*** (0.11)	0.53*** (0.12)
Radio news consumption	0.16*** (0.04)	0.17*** (0.05)
Attention to EU news	0.58*** (0.05)	0.57*** (0.04)
Heard of EU	0.62** (0.23)	0.71** (0.23)
Heard of European parliament	1.30*** (0.09)	1.32*** (0.09)
Income	0.08*** (0.01)	0.08*** (0.01)
GNI per capita	-0.24 (0.34)	-0.19 (0.43)
Age	-0.11*** (0.03)	-0.13*** (0.03)
Education	0.03*** (0.01)	0.03*** (0.01)
Polity	0.12** (0.05)	0.10 (0.06)
Public expenditure on education	-0.02 (0.11)	0.30** (0.13)
$R^2$	0.29	0.29
Observations	8,014	8,014

*Notes:* The dependent variable is the political quiz score. "FH" is Freedom House; "RSF" is Reporters Sans Frontières. Regressions are ordinary least squares (intercepts not reported). Robust standard errors, clustered by country, are in parentheses. For detailed variable descriptions see Appendix 2.

\*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10 percent levels, respectively.

Table A1.2

**Relationship between Media Freedom and Political Knowledge with “Heard of EU” or “Heard of EU Parliament” as Dependent Variable**

	<i>Heard of EU</i>		<i>Heard of European Parliament</i>	
Media freedom (FH)	0.04** (0.02)		0.46*** (0.09)	
Media freedom (RSF)		-0.003 (0.02)		0.20*** (0.07)
Income	0.002** (0.001)	0.001** (0.001)	0.02*** (0.002)	0.02*** (0.003)
GNI per capita	0.007 (0.006)	-0.001 (0.008)	0.11** (0.05)	0.10 (0.06)
Age	-0.002** (0.001)	-0.002** (0.001)	-0.01** (0.01)	-0.01** (0.01)
Education	0.001** (0.000)	0.001*** (0.000)	0.01*** (0.001)	0.01** (0.006)
Polity	0.001 (0.001)	0.002 (0.001)	-0.004 (0.007)	-0.004 (0.007)
Public expenditure on education	-0.003* (0.001)	0.003 (0.003)	-0.04*** (0.01)	-0.001 (0.01)
Observations	8,380	8,380	8,239	8,239
$R^2$	0.01	0.01	0.06	0.05

Notes: “FH” is Freedom House; “RSF” is Reporters Sans Frontieres. Regressions are ordinary least squares (intercepts not reported). Robust standard errors, clustered by country, in parentheses. For detailed variable descriptions, see Appendix 2.

\*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10 percent levels, respectively.

Table A1.3

**The Impact of Media Freedom on Media-Provided News Consumption**

	<i>TV news consumption</i>		<i>Daily paper news consumption</i>		<i>Radio news consumption</i>	
Media freedom (FH)	-0.08 (0.09)		0.65** (0.25)		0.98*** (0.14)	
Media freedom (RSF)		-0.24*** (0.04)		0.43* (0.23)		0.83*** (0.08)
Income	0.01** (0.003)	0.009** (0.003)	0.03*** (0.004)	0.03*** (0.004)	0.007*** (0.002)	0.008*** (0.002)
GNI per capita	-0.13*** (0.03)	-0.16*** (0.02)	0.05 (0.10)	0.04 (0.09)	-0.06 (0.06)	-0.04 (0.06)
Age	0.05*** (0.01)	0.05*** (0.01)	0.02*** (0.01)	0.02*** (0.01)	0.05*** (0.01)	0.04*** (0.01)
Education	0.002** (0.001)	0.003** (0.001)	0.007*** (0.001)	0.007*** (0.001)	0.003* (0.001)	0.002 (0.001)
Polity	-0.004 (0.005)	0.001 (0.003)	-0.02* (0.01)	-0.02* (0.01)	-0.01* (0.01)	-0.02** (0.01)
Public expenditure on education	0.04*** (0.01)	0.05*** (0.01)	-0.02 (0.04)	0.03 (0.03)	-0.001 (0.02)	0.07*** (0.01)
Observations	8,409	8,409	8,405	8,405	8,406	8,406
$R^2$	0.06	0.06	0.11	0.10	0.11	0.11

*Notes:* Dependent variables are television news consumption, radio news consumption, and daily paper news consumption. “FH” is Freedom House; “RSF” is Reporters Sans Frontieres. Regressions are ordinary least squares (intercepts not reported). Robust standard errors, clustered by country, are in parentheses. For detailed variable descriptions, see Appendix 2.

\*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10 percent levels, respectively.

Table A1.4

**Sensitivity Analysis for the Relationship between Media Freedom and Political Participation**

	<i>Media freedom (FH)</i>	<i>Media freedom (RSF)</i>
Sign petitions	0.33** (0.14)	0.41*** (0.11)
Attend lawful demonstrations	0.19* (0.10)	0.26** (0.10)
Join unofficial strikes	0.12** (0.06)	0.15*** (0.06)
Occupy buildings	0.09* (0.05)	0.14* (0.07)

*Notes:* Dependent variables shown in left column. “FH” is Freedom House; “RSF” is Reporters Sans Frontieres. Regressions are ordinary least squares (intercepts not reported). Robust standard errors, clustered by country, are in parentheses. Variables included but not reported: “Follow politics in the news,” income, GNI per capita, age, education, and “Polity.” For detailed variable descriptions, see Appendix 2.

\*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10 percent levels, respectively.

Table A1.5

**Relationship between Media Freedom and Political Participation/Voter Turnout, with Regional Dummies**

	<i>Media freedom (FH)</i>	<i>Media freedom (RSF)</i>
Sign petitions	0.23* (0.12)	0.19 (0.15)
Attend lawful demonstrations	0.12 (0.13)	0.06 (0.16)
Join unofficial strikes	0.12** (0.06)	0.20** (0.09)
Occupy buildings	0.05 (0.06)	0.16 (0.11)
Voter turnout	44.05*** (16.22)	53.48* (30.14)

*Notes:* Dependent variables in left column. “FH” is Freedom House; “RSF” is Reporters Sans Frontieres. Regressions are ordinary least squares (intercepts not reported). Robust standard errors, clustered by country, are reported in parentheses. Variables included but not reported: For “Sign petitions,” “Attend lawful demonstrations,” “Join unofficial strikes,” and “Occupy buildings”: income, GNI per capita, age, education, “Polity,” European continent dummy, African continent dummy, North American continent dummy, South American continent dummy, and Asian dummy. For voter turnout: GNI per capita, education, compulsory voting, European continent dummy, African continent dummy, North American continent dummy, South American continent dummy, and Asian dummy. All dummies are equal to one if a country is in that region and zero otherwise. For detailed variable descriptions, see Appendix 2. \*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10 percent levels, respectively.

Table A1.6

**Sensitivity Analysis Using Alternative Measures of Media Freedom**

	<i>Reporters Sans Frontieres'</i> <i>measure of media freedom</i>	<i>Journalist suppression</i>
Quiz score	3.52*** (0.71)	-0.73*** (0.10)
Sign petitions	0.31** (0.12)	0.01 (0.02)
Attend lawful demonstrations	0.19 (0.12)	-0.04*** (0.01)
Join unofficial strikes	0.14** (0.06)	-0.01 (0.01)
Occupy buildings	0.19** (0.09)	-0.001 (0.001)
Voter turnout	48.82* (24.95)	-1.40 (4.23)

*Notes:* Uses Reporters Sans Frontieres' (2002, 2003) measure of media freedom and Shleifer and Treisman's (2005) measure of "journalist suppression." (See main text for reference). Dependent variables in left column. Regressions are ordinary least squares (intercepts not reported). Robust standard errors, clustered by country, are reported in parentheses. Variables included but not reported: For "Quiz score," using "Journalist suppression"—income, GNI per capita, age, and education. For "Quiz score," using Reporters Sans Frontieres' measure of media freedom—income, GNI per capita, age, and education, "Polity," and public expenditure on education. For "Sign petitions," "Attend lawful demonstrations," "Join unofficial strikes," and "Occupy buildings": income, GNI per capita, age, education, and "Polity." For "Voter turnout": GNI per capita, years of education, and compulsory voting. For detailed variable descriptions, see Appendix 2.

\*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10 percent levels, respectively.

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## Appendix 2

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### Descriptions of Variables

*Table A2*

#### Descriptions of Variables

<i>Variable</i>	<i>Description</i>
<b>Age</b>	
For political knowledge:	Age group of respondent scaled from 1–4 where 1 = 15–24 yrs, 2 = 25–39 yrs, 3 = 40–54 yrs, 4 = 55+ yrs, 2003. Source: Eurobarometer (2004).
For political participation:	Age group of respondent scaled from 1–3 where 1 = 15–29 yrs, 2 = 30–49 yrs, 3 = 50+ yrs, 1999–2002. Source: World Values Survey (2005).
<b>Attend lawful demonstrations</b>	Index of respondent’s willingness to attend lawful demonstrations, rescaled from 0 to 1 so that 0 = “would never do,” 0.5 = “might do,” and 1 = “have done,” 1999–2002. Source: World Values Survey (2005).
<b>Attention to EU news</b>	Self-reported degree to which respondent pays attention to news related to the EU. Scaled from 1 to 3 where 1 = “no attention at all,” 2 = “a little attention” and 3 = “a lot of attention,” 2003. Source: Eurobarometer (2004).
<b>Polity</b>	Index of democracy/autocracy, 2000 (or closest available year). A –10 to +10 scale constructed by subtracting the degree of political institution closedness (autocracy score) from the degree of political institution openness (democracy score). Higher scores indicate greater openness. Source: Polity IV Project (2003).
<b>Compulsory voting</b>	A binary variable that is equal to 1 if a country had and enforced a law compelling its citizens to vote in the most recent parliamentary election and is equal to zero otherwise. Source: International Institute for Democracy and Electoral Assistance (2005).
<b>Daily paper news consumption</b>	Frequency with which respondent reads the news in daily papers, rescaled from 0 to 1 where 1 = “every day,” 0.75 = “several times a week,” 0.5 = “once or twice a week,” and 0 = “less often,” 2003. Source: Eurobarometer (2004).
<b>Education</b>	
For political knowledge:	Respondent’s age when s/he stopped full-time education, 2003. Source: Eurobarometer (2004).
For political participation:	Scale of educational attainment from 1–8 where a higher score means a greater level of attainment, 1999–2002. Source: World Values Survey (2005).
For voter turnout:	Average number of years of primary through post-secondary schooling for citizens aged 15 and over in 2000, except for Estonia, Latvia, and Lithuania, which are for 1990. Source: Barro and Lee (2000).

Table A2—continued

<i>Variable</i>	<i>Description</i>
<b>Follow politics in the news</b>	Frequency with which respondent follows politics on television, the radio, or in daily papers rescaled from 0 to 1 where 1 = “every day,” 0.75 = “several times a week,” 0.5 = “once or twice a week,” and 0 = “less often,” 1999–2002. Source: World Values Survey (2005).
<b>GNI per capita</b>	Gross national income per capita in tens of thousands of \$US, 2000. Source: World Development Indicators (World Bank, 2004).
<b>Heard of EU</b>	A binary variable that is equal to 1 if a respondent has heard of the EU, 2003. Source: Eurobarometer (2004).
<b>Heard of European parliament</b>	A binary variable that is equal to 1 if a respondent has heard of the European parliament, 2003. Source: Eurobarometer (2004).
<b>Income</b>	
For political knowledge:	Self-reported income decile of respondent where 1 is the lowest income decile and 10 is the highest, 2003. Source: Eurobarometer (2004).
For political participation:	Same as above only for 1999–2002. Source: World Values Survey (2005).
<b>Join unofficial strikes</b>	Index of respondent’s willingness to join unofficial strikes rescaled from 0 to 1 so that 0 = “would never do,” 0.5 = “might do,” and 1 = “have done,” 1999–2002. Source: World Values Survey (2005).
<b>Journalist suppression</b>	Total number of cases of state censorship, “suppression by law,” and imprisonment of journalists for the period 1999–2000 according to the International Press Institute, divided by the total number of daily newspapers as reported by UNESCO, rescaled from 1 to 2. Source: Shleifer and Treisman (2005).
<b>Media freedom (FH)</b>	
For political knowledge:	Freedom House index of media freedom, 2003. Each country is rated in three areas of potential state influence over the media: legal environment, political influences and economic pressures, to determine an overall score. Score rescaled from 0 to 1 where a higher score means more freedom. Source: Freedom House (2004).
For political participation and voter turnout:	Same as above only for 2002. Source: Freedom House (2003).
<b>Media freedom (RSF)</b>	
For political knowledge:	Reporters Sans Frontieres index of media freedom, 2003. Scores are composed by asking journalists, researchers, and legal experts to answer 50 questions on a range of press freedom violations, such as murders or arrests of journalists, censorship, pressure, state monopolies in various fields, punishment of press law offences, and regulation of the media, to determine an overall score. Score rescaled from 0 to 1 where a higher score means more freedom. Source: Reporters Sans Frontieres (2003).
For political participation and voter turnout:	Same as above only for 2002. Source: Reporters Sans Frontieres (2002).

Table A2—continued

<i>Variable</i>	<i>Description</i>
<b>Occupy buildings</b>	Index of respondent's willingness to occupy buildings or factories in protest rescaled from 0 to 1 so that 0 = "would never do," 0.5 = "might do," and 1 = "have done," 1999–2002. Source: World Values Survey (2005).
<b>Public expenditure on education</b>	Government expenditure on education, including subsidies to private education at the primary, secondary, and tertiary levels, as a percentage of GDP, 2003. Source: World Development Indicators (World Bank, 2004).
<b>Quiz score</b>	Number of correctly answered true-or-false questions about basic EU-related political facts (out of nine), 2003. Quiz administered to citizens 15+ yrs old. Source: Eurobarometer (2004).
<b>Radio news consumption</b>	Frequency with which respondent listens to the news on the radio, rescaled from 0 to 1 where 1 = "every day," 0.75 = "several times a week," 0.5 = "once or twice a week," and 0 = "less often," 2003. Source: Eurobarometer (2004).
<b>Sign petitions</b>	Index of respondent's willingness to sign petitions rescaled from 0 to 1 so that 0 = "would never do," 0.5 = "might do," and 1 = "have done," 1999–2002. Source: World Values Survey (2005).
<b>TV news consumption</b>	Frequency with which respondent watches the news on television, rescaled from 0 to 1 where 1 = "every day," 0.75 = "several times a week," 0.5 = "once or twice a week," and 0 = "less often," 2003. Source: Eurobarometer (2004).
<b>Voter turnout</b>	The total number of votes in the most recent parliamentary election (usually 2000) divided by the population of voting age. Source: International Institute for Democracy and Electoral Assistance (2005).