Shadow Economy and Political Participation in the United States

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Amerika Birleşik Devletleri'nde Kayıt Dışı Ekonomi ve Politik Katılım

Abstract

The empirical evidence presented in this study indicates a negative relationship between the size of the shadow economy and political participation. Based on panel data from 50 states for four election cycles between 2001 and 2008, regression results show that in the United States, both voter turnout rate and political contributions decline as the shadow economy grows. Specifically, when the size of the shadow economy increased across election cycles and between states by 1%, the voter turnout rate declined by 6.6% (P<0.01), and political contributions went down by 11.2% (P<0.01).

Keywords : Shadow Economy, Political Participation, Voter Turnout, Political Contributions, United States.

JEL Classification Codes : C23, K42, P16.

Öz

Bu çalışmada sunulan ampirik kanıtlar, kayıt dışı ekonominin büyüklüğü ile politik katılım arasında negatif bir ilişki olduğunu göstermektedir. 2001 ile 2008 arasındaki dört seçim dönemi için 50 eyaletten alınan panel verilerine dayanan regresyon sonuçları, ABD'de kayıt dışı ekonomi büyüdükçe hem seçmen katılım oranının hem de siyasi katkıların azaldığını gösteriyor: seçim dönemleri boyunca eyaletler arasında kayıt dışı ekonominin boyutu %1 arttığında, seçmen katılım oranı %6,6 (P<0,01) ve siyasi katkılar %11,2 (P<0,01) azalmaktadır.

Anahtar Sözcükler : Kayıt Dışı Ekonomi, Siyasi Katılım, Seçmen Katılımı, Siyasi Katkılar, Amerika Birleşik Devletleri.

1. Introduction

American citizens can participate in the democratic process in two significant ways: voting and making *political contributions*. There are some serious concerns for the health of American democracy stemming from both processes. Despite recent increases in voter turnout, the United States has one of the lowest voter turnout rates in national elections compared to its counterparts (Desilver, 2014; Powell, 1986).

In the U.S., election campaigns are mostly privately funded. Unless a candidate is very wealthy, they finance their campaigns through political contributions from their political supporters. Accordingly, an American citizen also participates in the political process by contributing to the candidate of their choice. The motivation behind contributions varies. Some do it to buy influence (investment), and some simply to help their preferred candidate (consumption) (Ansolabehere et al., 2003; Lake, 2015; Tripathi et al., 2002)[1]. In the U.S., political contributions are very unevenly distributed among different income groups. As is reported by Boatright & Malbin (2005), "… According to American National Election Studies (ANES) data, 19% of the wealthiest 5% of Americans said they made contributions in 2000, compared to only 1% of the least wealthy 15% of Americans (Sapiro, Rosenstone, and the National Election Studies, 2001). Campaign contributors are disproportionately White, college-educated, white-collar, and Republican" (p. 790).

There is an extensive and growing literature on both voter turnout and political contributions. This body of work examines a diverse set of factors' effects on participatory political processes. For instance, Popan & Hinojosa (2017) examined psychological variables; Leighley & Nagler (2016) and Martinez i Coma & Nai (2017) ethnic diversity; Potochnick & Stegmaier (2020) citizenship status; Bhatti (2017) education type; Sundström & Stockemer (2015) corruption perceptions; Driskell, Embry & Lyon, (2008) religious beliefs; and Schelker & Schneiter (2017) monetary incentives[2]. This exploratory study investigates the possible impact of yet another factor on political participation: the shadow economy. Our study examines the possible impact of the size of the shadow economy on voter turnout rates as well as political contributions in 50 states (of the U.S.) during four election cycles between 2001 and 2008. We hypothesize that as the shadow economy grows in a state, (1) voter turnout will decrease and (2) political contributions will diminish. These claims stem from the reasoning that those who have engaged in activities in the shadow economy wish to stay unnoticed, unrecognized, and off the radar.

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[1] *Although it is true that not all political contributions are necessarily related to lobbying, e.g., one may contribute to a political campaign for pure ideological reasons, Ansolabehere et al. show that a considerable amount is indeed connected: "Groups that have both a lobbyist and a PAC account for 70% of all interest group expenditures and 86% of all PAC contributions" (2002: 131).*

[2] *For comprehensive meta-analyses of aggregate research on voter turnout, see (Geys, 2006; Stockemer, 2017); individual-level research, (Smets & van Ham, 2013); national and sub-national, (Geys, 2006); and democracies and non-democracies, (Martinez i Coma, 2016). For an overview of political contributions, see (Stratmann, 2005).*

2. The Shadow Economy

The shadow economy, also known as the informal economy, is a group of economic activities undertaken in a way that escapes detection by public officials (Wiseman, 2013). The above definition encapsulates the essence of the shadow economy, and it is also used when estimating the size of the shadow economy. People operate solely in the shadow economy for a litany of reasons, but most of the relevant literature lists excessive regulations and tax structure as the two main factors contributing to the size of the shadow economy (Enste & Schneider 2000; Buehn & Schneider 2012). Excessive regulation incentivizes people to work in the shadow economy for two reasons. First, laws that regulate businesses particularly burden the employee (Kus, 2010). In the United States, laws regulate a 40-hour workweek, limiting employees' opportunities to gain additional income for extra work.

Additionally, rigid definitions of what constitutes full-time and part-time workers might lead a business to limit the hiring of full-time employees. Second, regulations might prevent a person from entering the workforce. The most common measure cited in the literature is minimum wage laws (Pommerehne & Schneider, 1985). Minimum wage laws are a tax on unskilled labour. Some businesses may decide that hiring a person is not worth the state's minimum wage law, meaning a large number of Americans cannot access the job market (Gokcekus & Tower, 2003). However, recently, Blanton and Peksen (2019) provided arguments and evidence to support the claim that labour regulations are negatively related to the shadow economy.

Even if a person has the capacity to work in a formal sector, they might still prefer to work in the shadow economy because of the tax burden (Adom et al., 2016): A high tax burden that punishes high wages has been empirically linked to a robust shadow economy. By participating in the shadow economy, a person does not have to pay taxes on income or will pay significantly less than they would if they operated solely in the formal economy. Once again, a person makes a cost-benefit analysis; do the rewards of paying no taxes outweigh the chance of getting caught and charged for tax evasion?

2.1. Voting and the Shadow Economy

When people operate in the shadow economy, they face a disincentive to take risks that could expose their operation. To avoid exposure, they limit their social network and prefer an individualistic work environment (Darbi & Knott, 2016: 409). For a majority of the people operating in the shadow economy, their social network is limited to family members. The lack of an expansive social network curtails a person's information supply (Lim, 2008). People with a limited social network and sparse access to information are considered to have a low supply of social capital (Putnam, 2000). Social capital is related to how a person views and trusts their government (Meagher, 2011). People operating in the shadow economy have lower trust in their government and institutions.

Additionally, if a person remains in the shadow economy for a long time, they might start to feel disenfranchised and unrepresented by the government. This feeling leads to habitus, which is embodied dispositions of a group which effect how a group views the world (Darbi & Knott, 2016: 402). Groups of people, in this case, people operating in the shadow economy, feeling discouraged, might forgo voting because, in their eyes, their votes do not matter (Parenti, 1977). This phenomenon was documented in Nigeria, as the people operating in the shadow economy lost faith in their political institutions and transitioned to a mindset that the shadow economy was the only option for their future (Meagher, 2011). This represents one possible explanation for why a large shadow economy would be related to a low voter turnout.

There is some evidence that a mandatory voting policy can subdue this tendency. When studying the relationship between the informal economy and political activism in Costa Rica, Davis et al. found that there was no negative relationship between operating in the shadow economy and political participation (Davis et al., 1999). However, voter turnout in Costa Rica among those operating in the shadow economy is an outlier. Voting in Costa Rica is mandatory, and those who do not vote face punishment. In the United States, voting is optional, and there is no punishment for not voting. Thus, while the Costa Rica model helps document voter turnout among people operating in the shadow economy, it is not directly comparable to the American system.

Another finding from the Davis et al. study is that people operating in the shadow economy does not engage in political meetings or go to political campaign rallies (Davis et al., 1999: 50). These findings are significant because it highlights that the people operating in the shadow economy are disconnected from the mobilization aspects of politics. Political meetings and campaign rallies are driving factors in recruiting people to participate in the political process. By not participating in political activities, people in the shadow economy are less likely to be contacted by political officials. If a person is never asked to participate, then it is likely that person will not voluntarily perform the act (Leighley, 1995; Leighley, 1996). Therefore, so far, we have presented two plausible explanations for why people in the shadow economy do not vote in elections. The first possibility is that people operating in the shadow economy might have lost faith in their civic institution. Thus, they believe that voting has no impact on their current situation. The second possibility is that the shadow economy does not put people on the radar of political parties or organizers who are the main agents in mobilizing voters.

These two explanations lead to our first hypothesis: As the shadow economy increases, the percentage of people voting decreases.

2.2. Political Contributions and the Shadow Economy

Political contributions are distinct from voting for two reasons. Contributions require an exchange of money and have to be disclosed. Therefore, when compared to voting, contributions make up a small part of the political process. Furthermore, only 10% of

Americans make a political contribution (Grant & Rudolph, 2002). Most of the existing literature focuses on the relationship between political contributions and corruption and/or political influence (Gokcekus & Sonan, 2017; Stockemer et al., 2013; Souraf, 1992). However, there has not been an attempt to examine the connection between the shadow economy and the rate of political contributions. Below we provide a plausible explanation for why participating in the shadow economy is a disincentive for making political contributions.

Political contributions require a solicitation and some form of human interaction (Souraf, 1992). As explained earlier, people who partake in the shadow economy avoid making public gestures that would risk their business arrangements. Individuals working in the shadow economy are unlikely to be on political call-lists or members of political activist groups who are targeted by political candidates for contributions (McClurg, 2003). Similar to the idea of political mobilization, if a solicitation for a contribution is not made, then there is a high probability that a person will not contribute. Therefore, one reason why a large shadow economy could lead to lower rates of political contributions is the lack of political candidates' solicitation.

In making a political contribution, the contributor must overcome two barriers: information costs and financial resources (Grant & Rudolph, 2002). Obtaining information for contribution purposes is challenging. Even well-seasoned political activists are affected by information costs (Brady, 1999). Political information is likely to come from a family network for people who operate in the shadow economy. A family-based social network limits the opportunity for the introduction of new knowledge. Robert Putnam argues that family bonds are less conducive to a person's political growth (Putnam, 2000). Without the proper information, people are less likely to make a political contribution to a campaign.

The second cost of political contributions, financial resources, is directly related to the shadow economy. People operating in the shadow economy have more access to disposable income because they are participating in some form of tax evasion. Therefore, people in the shadow economy should be able to overcome the financial resource burden. However, political contributions represent a liability. All fifty states require disclosure of political donations over $200. La Raja found that disclosure laws deterred people from making a political contribution (La Raja, 2014). Disclosure laws act as a further deterrent for people operating in the shadow economy. A person operating in the shadow economy risks an IRS audit by disclosing a donation. A key principle for people operating in the shadow economy is to stay in the shadows, and if an action risk exposing their practice, then the benefits need to outweigh the risks significantly. A single political contribution is likely not enough to gain influence with a politician, and therefore people operating in the shadow economy are likely to refrain from making a political contribution.

Hence, we put forward our second hypothesis that the larger a shadow economy, the smaller the political contributions.

Additionally, since political contributions carry a risk of punishment, we derive a third hypothesis: the effect of the shadow economy on political contributions will be larger than the effect on political participation, i.e., voting.

3. Model, Variables, Data

To test our hypotheses, we estimate the following two models[3]:

$$\ln (Political\ contributions_{it}) = \beta_0 + \beta_1 Shadow\ economy_{it} + \sum_{j=2}^{k} \beta_j X_{j_{it}} + v_{it} \qquad (1)$$

$$Voter\ turnout_{it} = \alpha_0 + \alpha_1 Shadow\ economy_{it} + \sum_{j=2}^{k} \alpha_j X_{j_{it}} + u_{it} \qquad (2)$$

ln is the natural logarithm operator. *Political contributions* are the total per capita contributions in constant 2009 dollars; *i* stands for state i, i=Alabama, Alaska, …, , Wyoming; and *t* stands for a two-year election cycle between 2001 and 2008, t= 2001-2002, 2003-2004, …, 2007-2008[4]. In the U.S., by law, candidates running for office are required to report the political contributions that they receive to the Federal Election Committee. Reporting is done for each election cycle of two years[5].

Shadow economy is the size of the shadow economy as a percent of the state's GDP. We borrow shadow economy estimates from Wiseman (2013). Wiseman (2013) follows the general approach in Buehn & Schneider (2012) and estimates the size of the shadow economy using the multiple indicators multiple causes (MIMIC) method for each U.S. state[6]. The *voter turnout* is defined as the ratio of the number of votes to the voting-eligible population (VEP) in each state during each election cycle[7]. The VEP excludes ineligible voters from the denominator and has been used in most state-level studies of voter turnout (McDonald, 2002; Heidbreder & Holbrook, 2010).

We decided to use two sets of control variables to capture the effects of each state's different demographic and geographical characteristics. We included additional relevant variables, i.e., X_js, in the right-hand side of the equation. In particular, to capture demographics, we included the level of income in state i at time t, *ln(GDP per capita*

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[3] *Similar models are utilized by Dreher & Schneider (2010) and Gokcekus & Sonan (2017) to examine the relationship between shadow economy and corruption, and political contributions and corruption, respectively.*

[4] *We chose four election cycles between 2001 and 2008 due to data availability: 2001-2002 was the earliest election cycle for which political contributions data were available at the opensecrets.org; and Wiseman (2013) provides the estimates of the shadow economy for 50 US states over the period 1997-2008.*

[5] *Total political contributions include PAC and individual contributions to federal candidates, PACs, parties and outside spending groups. For details, see <http://www.opensecrets.org/bigpicture/statetotals.php?cycle=2000>, (Accessed on 1/3/2018).*

[6] *The MIMIC method is a system of equations containing the potential causes of the shadow economy and the indicators of the shadow economy occurring. The sum of the equation is then compared to the GDP of each state and the size of the shadow economy is estimated.*

[7] *For details, see Michael McDonald's web page, Unites States Elections Project <http://www.electproject.org/home/voter-turnout/voter-turnout-data>, (Accessed on 1/3/2018).*

income), in constant 2009 dollars; the ethnic composition, *Black %*, *Hispanic %* of the
population; the age composition, *Age (65+) %*; gender composition, *Female %*; educational
attainment, *College %*; and party affiliation, *Democrat %*. We included Midwest, Northeast,
and West to capture regional differences[8]. Finally, we added *u* and *v* in Equation 1 and 2,
respectively, as a well-behaving random error term.

Before we go any further, let's reiterate our three hypotheses in terms of the
coefficients in Equation 1 and Equation 2:

H_1: $\beta_1 < 0$,

H_2: $\alpha_1 < 0$, and

H_3: $\beta_1 < \alpha_1$.

Table 1 provides summary statistics for four election cycles between 2001 and 2008.
As summarized in column 1, in the U.S. during the 2001-2008 period, the average size of
the shadow economy was 8.0% of GDP; and it was taking values between 6.1% (Oregon,
2007-2008 election cycle) and 10.0% (Mississippi, 2001-2002 election cycle). In the same
time period, the average annual political contributions for each state were $5.73; lowest
$1.59 (Vermont, 2001-2002 election cycle) and highest $19.86 (Virginia, 2007-2008
election cycle); and there was a 22% increase in average per capita political contributions
from the 2001-2002 to 2007-2008 election cycle[9]. Finally, the average voter turnout rate was
53%, from a range of values between 29% (Virginia 2001-2002, and Mississippi 2005-2006
election cycle) and 78% (Minnesota, 2003-2004 election cycle). Figure 1 and Figure 2 depict
the negative relationship between shadow economy and turnout rate and political
contributions in 50 states in the 2001-2008 period, respectively.

4. Empirical Results

Having 50 states in our sample for four election cycles, we run three sets of
regressions, OLS, robust, and random-effects models by utilizing the panel data with 191
observations -in certain years, for some states, there are a few missing observations.

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[8] *The default region is South-Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland,
Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.
Midwest-Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South
Dakota, and Wisconsin; Northeast-Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York,
Pennsylvania, Rhode Island, Vermont; and West-Alaska, Arizona, California, Colorado, Hawaii, Idaho,
Montana, New Mexico, Oregon, Utah, Nevada, Washington, Wyoming. These are regional divisions used by the
US Census Bureau.*

[9] *Political contributions as well as GDP numbers are in constant dollars; in converting nominal values to real
values, we utilize Gross Domestic Product: Implicit Price Deflator, Index 2009=100.*

First, as a benchmark, the OLS and robust regression results for the political contributions model, Equation (1) are presented in Table 2 column (1) and column (2)[10]. The OLS estimate is -5.951, and the robust estimate is -7.436 for the shadow economy variable. That is to say, (1) the relationship between shadow economy and political contributions are negative, and (2) since the dependent variable is in natural logarithms and the independent variable is in percentage, the estimated coefficient of -7.436 ($P<0.05$) indicates that when the share of the shadow economy in a state (as a percent of GDP) goes up by 1, per capita, political contributions also go down by 7.4%.

The estimation results also indicate that among demographic characteristics of a state, ln (GDP per capita income) plays a significant role in that state: There is a significant positive relationship between per capita income and political contributions. Moreover, the Midwest regional dummy has a statistically significant, negative effect on political contributions.

The OLS and robust regression results for the voter turnout model, Equation (2) are presented in Table 3 column (1) and column (2). Both OLS and robust regression estimates yield very similar and statistically significant estimated coefficients for the shadow economy variable: -6.594 and -6.934, respectively. That is to say, (1) the relationship between shadow economy and voter turnout is negative too, and (2) since both dependent and independent variables are in percentages, the estimated coefficient of -6.934 ($P<0.01$) indicates that when the share of the shadow economy in a state (as a percent of GDP) goes up by 1, voter turnout also goes down by 6.9 percent.

The estimation results also indicate that among demographic characteristics of a state, Age (65+), College %, and Hispanic % play a significant role in that state: There is a significant positive relationship between voter turnout and the first two variables; and a negative relationship between voter turnover and Hispanic %.

4.1. Random Effects Model

Although the 50 states are subject to the same federal laws and regulations regarding political contributions and voting rights, we believe that differences across states may have some influence on political participation. At the same time, we would like to include the time-invariant variables, e.g., geography as well as race, gender, and age composition of states in the model[11]. Accordingly, we rewrite equations (1) and (2) as in the following:

$$\ln(\textit{Political contributions}_{it}) = \beta_0 + \beta_1 \textit{Shadow economy}_{it} + \sum_{j=2}^{k} \beta_j X_{j_{it}} + v_i + e_{it} \quad (3)$$

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[10] *We utilized the robust regression command in Stata, rreg, to take into account the presence of outliers or influential observations.*

[11] *In the fixed effect models time invariant variables are absorbed by the intercept. Therefore, we choose random effect model over fixed effect model. For details of panel data estimations, see Wooldridge, 2010.*

$$Voter\ turnout_{it} = \alpha_0 + \alpha_1 Shadow\ economy_{it} + \sum_{j=2}^{k} \alpha_j X_{j_{it}} + u_i + \epsilon_{it} \qquad (4)$$

Before going any further, we first test the null hypothesis that var $(v_i) = 0$ in equation (3) and var $(u_i) = 0$ in equation (4). In other words, for each model, variance across the states is zero. This means there is no significant difference across states (i.e., no panel effect). To do so, we ran a Breusch and Pagan Lagrangian multiplier test for random effects. Since $\chi^2(11) = 123.15$ (P<0.01) for equation (3) and $\chi^2(11) = 74.38$ (P<0.01) for equation (4), we reject the null hypotheses and conclude that random effects are appropriate both for the voter turnout and political contributions models. This is evidence that there are significant differences across states; therefore, running a simple OLS regression is not appropriate. Accordingly, in columns (4) of Tables 2 and 3, we present the results of the random-effects models. Four main findings emerge. First, and most importantly, there is a statistically significant, negative relationship between shadow economy and voter turnout: when the size of the shadow economy increases across election cycles and between states by one percent, voter turnout rate declines by 6.6% (P<0.01). Similarly, there is a negative relationship between the shadow economy and political contributions: when the size of the shadow economy increases by one percent, political contributions go down by 11.2% (P<0.01). Second, the relationship between GDPs per capita and political contributions is positive; the estimated coefficient of 1.129 (P<0.01). Third, demographic variables Age (65+) and College % are positive and Hispanic % have a negative statistically significant effect on voter turnout rate. Fourth, only the states in the Midwest region, as a geographical area, have statistically significant less few political contributions than the states in the Southern region.

Finally, regarding our third hypothesis, since the two-sample *t-statistic* is 13.75 (P<0.01), there is a statistically significant difference between the shadow economy's effect on political contributions and voting: the shadow economy negatively affects political contributions more significantly than it does voter turnouts.

5. Concluding Remarks

In this exploratory study, we provide concerning evidence related to the shadow economy: regression results indicate that there is a negative relationship between the shadow economy and the two main ways Americans can participate in their democracy. When the size of the shadow economy changes across election cycles and between states by one percent, voter turnout rate declines by 6.6% (P<0.01), and political contributions go down by 11.2% (P<0.01).

Our findings are preliminary and should be used by future scholars to study this issue more in-depth. Future scholars can conduct interviews and case studies for different populations and time intervals to uncover why participating in the shadow economy correlates with low participation rates. Additionally, further studies can examine certain policies enacted in an election year and its effect on the shadow economy and political participation. The shadow economy is a multidisciplinary issue; scholars in the fields of

politics, economics, psychology, sociology, and anthropology can use our findings and make a significant contribution to their field of study.

These results indicate that the shadow economy's harmful effect is not strictly seen in economic life but also in the political scene. Scholars should start to consider the size of the shadow economy when reviewing America's political system. Without specific policies that target the shadow economy, policymakers can only mitigate the current problems with voter turnout. By reinvigorating people's trust in the government and reaching out to people who have been in the shadow economy, policymakers can start to improve and rebuild trust in civic institutions and bring people out of the shadows. Thus, the shadow economy is more than an economic problem, it also encompasses political participation and government and institutional trust.

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Appendix

Table: 1
Summary Statistics and Data Sources (For 4 Election Cycles between 2001 and 2008)

Variable	Mean	Std. Dev.	Min.	Max.	Source
Per capita political contributions	$ 5.74	$ 3.05	$ 1.59	$ 19.86	Center for Responsive Politics
Voter turnout	53%	12%	29%	78%	Unites States Election Project
Shadow economy (% GDP)	8.02	0.79	6.14	9.99	Wiseman (2013)
GDP per capita	$ 45,441	$ 8,151	$ 29,056	$ 68,314	U.S. Department of Commerce, Bureau of Economic Analyses
Black %	10%	9%	0%	37%	U.S. Department of Commerce, Census Bureau
Hispanic %	11%	10%	0%	45%	U.S. Department of Commerce, Census Bureau
Female %	49%	1%	48%	50%	U.S. Department of Commerce, Census Bureau
Age (65+) %	14%	2%	8%	18%	U.S. Department of Commerce, Census Bureau
Democrat %	48%	7%	25%	66%	Gallup
College graduate %	27%	5%	18%	39%	U.S. Department of Commerce, Census Bureau

Figure: 1
Shadow Economy Versus Turnout Rate In 50 States: Pooled Data, 2001-2008
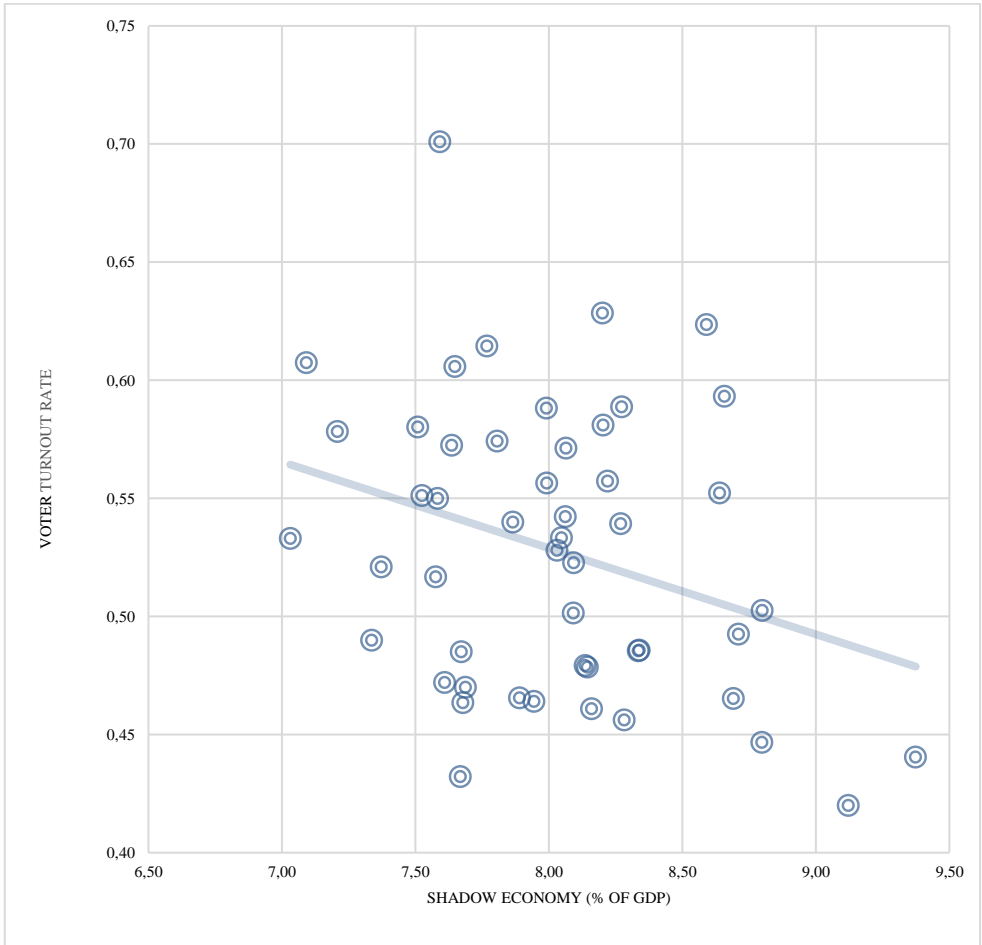
Figure: 2
**Shadow Economy Versus Political Contributions In 50 States: Pooled Data, 2001-
2008**
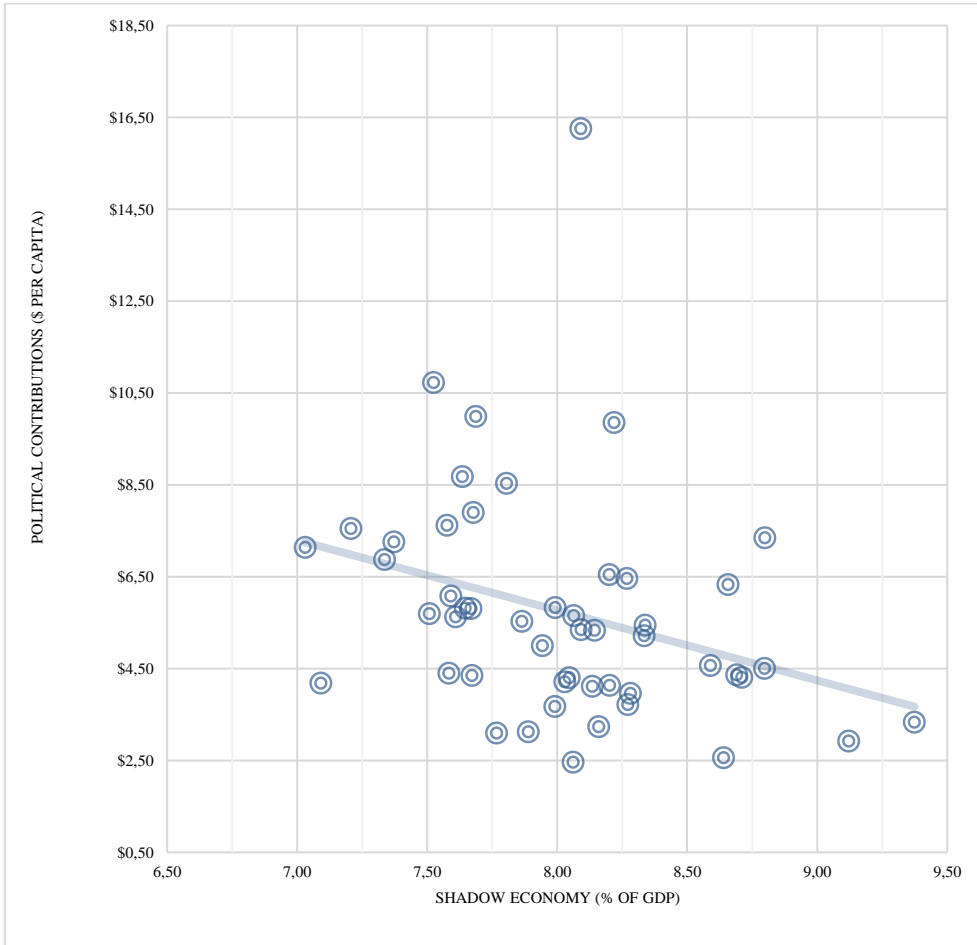
Table: 2
Regression Results (Dependent Variable: ln(per capita political contributions))

	(1)	(2)	(3)
	OLS	Robust	Random effects
Shadow Economy	-5.951	-7.436	-11.161
	(4.43)*	(4.6)**	(4.41)***
ln(GDP per capita)	1.489	1.434	1.315
	(0.27)***	(0.28)***	(0.32)***
Black %	0.106	0.283	0.128
	(0.479)	(0.50)	(0.61)
Hispanic %	0.502	0.343	0.52
	(0.31)**	(0.32)	(0.39)*
Female %	-0.952	1.643	-1.221
	(5.47)	(5.67)	(6.89)
Age (65+) %	2.001	1.360	1.845
	(2.04)	(2.12)	(2.54)
College %	0.012	0.010	0.012
	(0.01)	(0.01)	(0.01)
Democrat %	0.007	0.009	0.006
	(0.01)*	(0.01)**	(0.01)
West	-0.212	-0.190	-0.217
	(0.12)**	(0.12)*	(0.15)
Northeast	-0.217	-0.167	-0.192
	(0.12)**	(0.12)*	(0.15)*
Midwest	-0.282	-0.278	-0.281
	(0.09)***	(0.10)***	(0.12)***
Constant	-14.200	-14.711	-11.717
	(4.07)***	(4.22)***	(4.98)***
No. of Obs.	191	191	191
R²	0.49	0.47	0.48
F-statistic	15.54	14.22	123.15

*Standard errors are reported in parentheses. Significance level: * = P<0.10, ** = P<0.05, *** = P<0.01.*

Table: 3
Regression Results (Dependent Variable: Voter Turnout Rate)

	(1)	(2)	(3)
	OLS	Robust	Random effects
Shadow Economy	-6.594	-6.934	-6.594
	(1.28)***	(1.38)***	(1.28)***
ln(GDP per capita)	-0.046	-0.049	-0.046
	(0.08)	(0.08)	(0.08)
Black %	-0.123	-0.125	-0.123
	(0.14)	(0.15)	(0.14)
Hispanic %	-0.242	-0.245	-0.242
	(0.09)***	(0.10)***	(0.09)***
Female %	0.935	0.958	0.935
	(1.58)	(1.70)	(1.58)
Age (65+) %	1.197	1.170	1.197
	(0.59)**	(0.63)**	(0.59)**
College %	0.004	0.004	0.004
	(0.002)**	(0.003)**	(0.002)**
Democrat %	0.0001	-0.000	0.000
	(0.001)	(0.002)	(0.001)
West	0.012	0.009	0.013
	(0.03)	(0.04)	(0.03)
Northeast	-0.007	-0.009	-0.007
	(0.03)	(0.04)	(0.03)
Midwest	0.032	0.030	0.032
	(0.03)	(0.03)	(0.03)
Constant	0.852	0.898	0.852
	(1.18)	(1.27)	(1.18)
No. of Obs.	191	191	191
R²	0.29	0.27	0.29
F-statistic	6.76	6.10	74.38

*Standard errors are reported in parentheses. Significance level: * = P<0.10, ** = P<0.05, *** = P<0.01.*

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