

Voting Together: Economic Adversity and Voter Turnout in Supervised Elections

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Abstract

In industrial democracies, the effect of economic adversity on voter turnout is hypothesized to be of two types: a mobilizer for change, or a catalyst for withdrawal. Here, I outline and empirically test the possibility of a third strand of adversity influence in supervised elections as an “affirming mobilizer”. I hypothesize that, in supervised elections, with patterns of communal voting and lack of viable electoral alternatives, economic adversity can mobilize voters to support the status quo, and that the mobilizing impact is more evident in larger polls. To detect such an effect, I use panels of socioeconomic and electoral data on the regional level from presidential and parliamentary elections in Russia and Iran to show that economic adversity is linked with higher turnout levels in presidential elections, but not in parliamentary polls. The results invite more attention to regularities of electoral mobilization in supervised elections and their logic. *Word count: 9970*

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Economic Adversity and Collective Voting in Supervised Elections

What is the effect of economic adversity on voter turnout in autocracies? (Rosenstone 1982) first formulated this question in the context of industrial democracies, and maintained that the effects, if any, should be of two types: *withdrawal* or *mobilization for change*. He found the former effect to be empirically salient. The ensuing studies of the same question, in the comparative context, found economic malaise to influence voter turnout in developed and developing economies in diverging directions: the withdrawal effect was attributed to developed economies, while in developing countries economic adversity was found to be a mobilizer for changing the status quo (Radcliff 1992). Others, in the context of Eastern European elections of the early 1990s, have found economic adversity to induce electoral withdrawal (Pacek 1994, Pacek and Radcliff 1995).¹ The existing scholarship on the economic adversity–voter turnout nexus has traditionally taken economic hardship to have a depressing effect on voting,² which is in line with the notion that the poor in industrial democracies vote less often (Kasara and Suryanarayan 2015). Only recently the well-established notion of economic adversity as voter depressant has become suspect (Arceneaux 2003). For example, (Burden and Wichowsky 2014) test the same nexus and find economic adversity to mobilize American voters. The turnout in supervised elections, however, are expected to be negatively affected by economic difficulties, for two main reasons: first, political machines in charge of delivering votes (Rundlett and Svolik 2016) seem to be less effective, and second, the individual voter, in the absence of resources, pays a higher individual cost for engaging in the act of voting (Rosenstone 1982). Fittingly, in the scant literature on the effect of

¹More recent studies on the patterns of voting in nascent democracies and hybrid regimes of Eastern Europe do not detect a strong mobilizing effect in the time of economic difficulty (Pacek, Pop-Eleches, and Tucker 2009, Kostadinova 2009).

²See (Burden and Wichowsky 2014) and references therein

economic adversity on voter turnout under electoral supervision, the results do not manifest a strong indication of discontent as a mobilizing factor (Pacek, Pop-Eleches, and Tucker 2009). The possibility of economic adversity being a mobilizer for engaging in the supervised electoral apparatus seems to be far fetched.

In this paper, I examine the very same possibility, that economic hardship can act as a motivation for affirming the status quo in supervised elections. I show that a simple logic for *communal voting* in supervised elections demonstrates the possibility of such a process. The same logic predicts the effects to be more salient in larger elections. The effect is induced by two distinct extrinsic and intrinsic communal utilities, and these two groups correspond to the effect of political machines and one's desire to conformity, respectively. I use two panels of supervised elections in Russia ($N = 581$) on the regional level, from 2000 to 2012, and Iran (total $N = 2156$) on the district level (parliamentary elections), and province level (presidential), from 1992 to 2016 to test the predictions of the communal logic of voting under supervision. Using a variety of panel data methods, I demonstrate that in larger polls, economic adversity, in the form of unemployment can induce turnout, and while the effect of political machines in the process is significant, not all the effect can be solely attributed to political machines. Overall, the positive effect of unemployment on voter turnout is significant and pervasive in the data pertaining to presidential elections in Russia and Iran. The effects are indicative of an effect particular to supervised elections which had not been detected and formulated before in electoral studies.

It is a known fact that welfare concerns are a major motivation for voting in developing countries (Radcliff 1992). In inconsequential elections under autocracy, however, it is unlikely that hope for change would motivate participation. The *individual* calculus of voting, in particular, does not predict a net mobilizing effect: costs of voting increase with economic difficulty, but hardship also makes voters more vulnerable to schemes of clientelism and voter intimidation (Stokes 2005, Frye, Reuter, and Szakonyi 2014). The balance between the two conflicting factors in the individual calculus, is contingent upon the *communal* utility

of voting. In addition to individual considerations for engaging with the political system, communal effects induce participation and defection in supervised elections (Hale and Colton 2017). In this paper, I argue that the communal rewards of electoral participation are dependent on the size and nature of the poll, and such dependence can induce an increase or decrease depending on the type of supervised elections. For example, communal utility increases with the size of the participating group, hence national elections are more likely to activate such effects compared to the local ones, such as those for entry to the parliament. That fact divides presidential and parliamentary elections in relation to economic adversity. Wherever the communal effects of voting are not as pronounced, the logic of voter turnout resembles the expected pattern: decreasing electoral participation in the time of difficulty and the likely punishment of hegemonic authorities in the polls.³ Contrasting regional-level panels from supervised elections in Russia and Iran, I show that economic adversity in the form of *unemployment* induces *more* participation in presidential elections, while the same factor depresses turnout in the *Duma* and *Majlis* elections. The motivating effect of unemployment on the electorate is robust and significant in a variety of models.⁴ Under electoral supervision, this mobilizing effect is distinct from voter mobilization for change in functional democracies: it does not involve a real possibility for change, it is a manifest of

³In such situations, in functional democracies, economic voting patterns take hold, see (Duch 2002).

⁴A number of survey studies in the context of Russian supervised elections, have revived the very same question, that is the possibility of economic adversity acting not as a means of depressing the vote, but “mobilizing” it. (Hale and Colton 2017) use the results of a longitudinal survey study between 2008 and 2012 on defections from United Russia, the Russian hegemonic party in power, but do not detect a discernible effect similar to “rallying around the flag” among respondents of the survey they employ. In the context of the American democracy, international crises have been linked to an increase in the popularity ratings of the U.S. presidents (Baum 2002, Mueller 1970). In comparison, in the context of supervised elections, with their lack of viable alternatives, voter turnout often does not serve a purpose better than being an opinion poll on the approval rate of the authorities; that motivates an appraisal of the rallying around the flag effect in supervised elections, particularly those involving a single authority figure in large scale national polls.

yielding to peer pressure and subscribing to power in the time of difficulty.

The communal mechanisms can be of two types: first, the unemployed voters can become increasingly reliant on their communal network for sustenance, and hence can become more susceptible to the wants of the absolute majority, secondly, the voters at the time of difficulty and economic need, can experience a receding personal threshold for engaging in collective voting because of their increasing behavioral need for group affirmation (Hale and Colton 2017). Both of these effects, motivate higher participation in a phenomenon that is more akin to *collective voting* instead of an ideally individual decision.⁵

In the following, I discuss a minimal framework for the voter mobilization effect of economic adversity, and put the implications of the logic into the test using panels that combine Russian and Iranian electoral data on the regional level with relevant socioeconomic indicators. The results demonstrate a robust and significant relation between economic adversity and voter turnout in the presidential elections. This relation does not exist in the data from the parliamentary elections in the two countries. For example, in Russia, voters (and dysfunctional political machines) happen to penalize Putin’s party, United Russia, in the hard times, but only in the Duma elections. The effects of economic adversity on participation in the parliamentary elections, show the hallmarks of common wisdom in the existing studies of voter turnout, i.e. withdrawal in the face of economic adversity (Pacek 1994), and are in line with the predictions of the economic voting literature (Lewis-Beck and Stegmaier 2008),⁶ but presidential election statistics, in contrast, demonstrate mobilization in the time of difficulty.

The contributions of this study to the existing body of literature on voter turnout under supervision on one hand, and the existing work on the adversity–turnout nexus on the

⁵For a survey experiment on the effects of social pressure on voter turnout in the context of the American democracy see (Gerber, Green, and Larimer 2008). It is likely that social compulsion plays an amplified role in autocracies.

⁶albeit induced by a different process, outlined in the following.

other, is in three main forms: first, by proposing a minimal logic for communal voting under authoritarianism, versatile and verifiable hypotheses are derived that are applicable to all parliamentary and presidential elections under supervision, second, using regional statistics, we have added a novel empirical dimension to the existing work on adversity–turnout nexus in supervised elections which is main based on country-year data. Finally, by arguing for a conformity bias on the side of the electorate, we have added a verifiable conceptual component to the literature mainly occupied with the role of clientelism, manipulation and fraud on the side of the authorities.

Instead of focussing on the elite dynamics and durability of the authority apparatus ([Bueno de Mesquita et al. 2003](#), [Svolik 2012](#)), this study examines the understudied logic of electoral participation in such hybrid regimes. It outlines a minimal logic and a simple and versatile test for measuring the effect of economic difficulty on voter turnout. The results suggest that economic hardship in hybrid regimes can empower autocrats and weaken local governance. The findings have implications for trade and sanctions policy in relation to turnout in supervised elections.

Related Work

Studying the socioeconomic determinants of voter turnout in hybrid regimes and the contrast between authoritarian and democratic political elements therein can help to better understand the ideal democratic procedure itself. Common wisdom maintains that in functional democracies the poor, the undereducated and the unemployed vote less often ([Lijphart 1997](#)), and along the same lines, economic adversity forces voters to tend to personal, not public and political matters ([Radcliff 1992](#)). Those most likely to benefit from change withdraw from democratic politics. Under electoral supervision, however, most results on social class and voting point to the opposite direction: the undereducated and the poor have been shown to be more likely to vote in supervised elections in countries such as Zimbabwe ([Croke et al. 2016](#))

and Egypt (Blaydes 2006). In the context of functional democracies, only recently the established connection between economic adversity and turnout has been challenged. For example, economic hardship indicators, including unemployment, were found to motivate voter mobilization in the U.S. (Burden and Wichowsky 2014). The main takeaway from the literature challenging the established view, is that wherever welfare policies are deficient, constituents are more likely to be alarmed to vote in the face of economic adversity. This is a pattern that persists in studies covering international statistics (Kasara and Suryanarayan 2015), as well as those comparing voter turnout in developed and developing countries (Radcliff 1992). Faced with lower welfare accommodations and weaker safety nets, the electorate are more likely to respond to hardship with more participation, while those in advanced economies turn to their own personal matters instead. Such studies predict that, in the face of inadequate welfare assurances, constituents should turn out for change. Now it is unlikely that in hybrid regimes such as Russia and Iran, higher voter turnout in the face of economic adversity is only a sign of hope for changing the incumbents, as the low probability of policy change is common knowledge. There should exist a more nuanced explanation.

One of the main differences between fully democratic and mixed regimes is the consequential interference of political machines to encourage participation or punish abstaining from voting (Rundlett and Svolik 2016, Stokes et al. 2013, Larreguy, Marshall, and Querubin 2016, Frye, Reuter, and Szakonyi 2014). If the presence of voters at the polls is mainly dictated by political machines, then inefficiency of authoritarian agents on the local level should aggravate the withdrawal effect on the side of the electorate. More importantly, in Russia in particular, the vote share of the dominant party in power, *United Russia*, is shown to increase with the rates of voter turnout (Rundlett and Svolik 2016). Therefore, any heightened tendency to vote would not be for change, it is more likely to validate the dominant political power. Lopsided elections are not more than opinion polls on the popularity of the apparent winner.

The previously neglected communal component of voting under supervision and its sin-

gular electoral logic have recently become a topic of scholarly interest (see (Hale and Colton 2017)), and the distinction between the logic of participation in presidential and parliamentary elections have been recognized (Pacek, Pop-Eleches, and Tucker 2009). The current study speaks directly to the findings in the two aforementioned papers. Using a communal logic of voting, this paper embarks on describing the logic underlying the distinction between national and local level elections and voter participation in each category under electoral supervision.

When there is an active role for the state and the state economy in mobilizing the electorate, in addition to the constituents' preferences, the mobilizing capacity and regional efficiency of machine politics need to be taken into account. When the spectrum of political choice is limited, participation in politics is promoted with means other than personal preference.⁷ In the context of hybrid regimes, there are two strands of scholarship, one that examines the question of voting in supervised elections in the framework of authoritarian politics, examples include (Blaydes 2010) and (Croke et al. 2016).⁸ Supervised electoral institutions are often portrayed as efficient tools for coopting the elite, and distributing rents (Boix and Svolik 2013). Along the same lines, legislatures and elections under electoral supervision can ameliorate autocracy's credibility problem (Myerson 2008).⁹ The other group, which is more focussed on the electoral politics of Eastern Europe and the developing world democracies, studies the question in a framework similar to the study of turnout

⁷See (Huntington and Nelson 1976) and a recent treatment (Simpser 2014). For the case of functional democracies, there is a wealth of literature on the determinants of voter turnout, see (Blais 2006) for a survey of the literature, (Cox 2015), (Brady, Verba, and Schlozman 1995), for expositions in industrial democracies. Examples of scholarship on the logic of turnout and models of voting are (Herrera, Morelli, and Nunnari 2016) and (Aldrich 1993).

⁸For studies of the utility of institutions under authoritarianism see (Magaloni 2006), (Brownlee 2007), (Levitsky and Way 2010), (Gandhi 2008), (Svolik 2012), (Lindberg 2009), (Gandhi and Lust-Okar 2009), (Gandhi and Przeworski 2007), (Wright 2008).

⁹On supervised elections, see (Levitsky and Way 2002), (Brownlee 2007), (Huntington and Nelson 1976).

in industrial democracies, examples of this strand include (Pacek, Pop-Eleches, and Tucker 2009, Pacek 1994, Pacek and Radcliff 1995, Radcliff 1992, Lewis-Beck and Stegmaier 2008). (Pacek and Radcliff 1995) and (Radcliff 1992) both show an increase in turnout during economic downturns in democracies of developing countries and an opposite effect in the developed ones.¹⁰ Economic voting in democracies, i.e. reinstatement of the incumbent in favorable economic conditions, and rejecting the incumbent at the polls at the time of economic adversity, is recognized as a significant determinant of voting.¹¹ The counterpart studies of supervised elections are focussed on the working of political machine and induced networks of clientelism.¹²

In supervised elections a combination of state intervention in the votes, and the decisions on the side of the electorate shape the turnout, and economic adversity affects efficiency of political machines as well as the tendency of the electorate to vote. Studies of voter turnout in supervised elections complement the two main axes of electoral supervision literature mainly focussed on leader transition dynamics, and detection of fraud and manipulation.

It is expected that the constituents' social connections play an important role in their decision to take part in supervised elections (Hale and Colton 2017). In functional democracies too, there is evidence on the importance of peer pressure and social compulsion in

¹⁰The results in (Pacek and Radcliff 1995) involve data from presidential elections.

¹¹See (Lewis-Beck and Stegmaier 2000), (Nadeau, Lewis-Beck, and Belanger 2012), for notes on the change in the incumbent's vote share as a function of national economic conditions, particularly the sociotropic ones see (Nadeau, Lewis-Beck, and Belanger 2012), (Duch 2002), (Burkhart and Lewis-Beck 1994). The vote share of the incumbent is shown to be directly linked to improving prospects of the economy, and vice versa. Existing studies of economic voting in new democracies, do emphasize the role of economic voting in favor of the incumbent (Duch 2002), (Tucker 2006).

¹²On importance of vote buying in supervised elections for bolstering turnout, see (Mares and Young 2016), (Blaydes 2006), (Stokes 2005). For studies on vote manipulation dynamics see (Simpser 2012), also (Kostadinova 2003) and (Blaydes 2006). The constituents' perception of corruption among the elite can mobilize voters (Kostadinova 2009). Brokers and local agents are needed to enact voter mobilization (Larreguy, Marshall, and Querubin 2016), (Rundlett and Svolik 2016).

voting (Gerber, Green, and Larimer 2008). I argue that such communal effects are the most pronounced when the affirmation of authority is on the national scale; in contrast, choosing a local candidate in regional elections does not induce as much social utility.

Political Machines, Poll Size and Collective Voting in Supervised Elections

Electoral supervisory is defined as a dominant mode of governance in which the parts of the polity impose severe limitation on electoral competition in two distinct ways: by limiting the spectrum of possible electoral choices, and by enacting electoral manipulation during and after the polls.¹³

The decision to take part in elections is contingent upon the net balance between the utility from choosing one candidate over the others, and the costs of voting. In the context of a minimal rational choice theoretic model of voting (Riker and Ordeshook 1968) the calculus of a rational voter, i , is based on the total utility,

$$U_i = p_i B_i - C_i + \alpha_i D_i, \quad (1)$$

where p_i is the probability that i 's vote is pivotal, B_i is the perceived differential benefit from choosing the candidate over others, C_i cost of voting for i , and D_i is communal, psychological, or other cognitive and civic utilities which are not only a function of i , but include elements from other members of the electorate. $0 \leq \alpha_i \leq 1$ represents the level of i 's reliance on communal utility when one decides to vote. When one is short of individual resources, particularly at the time of socioeconomic duress, α grows. D_i captures both extrinsic and intrinsic utilities of voting in the communal context. The communal

¹³Under such a definition, elections can be competitive, but only in the limited political space sanctioned by the authorities.

utility term, D_i can be divided to intrinsic and extrinsic utility parts $D_i = D_{i,int} + D_{i,ext}$ (Gerber, Green, and Larimer 2008), where $D_{i,int}$ contains personal utility components such as psychological satisfaction from taking part in the collective act, and $D_{i,ext}$ represents utility gained from others as a response to one's participation.

The model applied to supervised elections with only one viable alternative, the above equation is simplified to

$$U_i = -C_i + \alpha_i(D_{i,int} + D_{i,ext}), \quad (2)$$

as both B_i and p_i are close to zero, there is not much chance of change, and the probability of being pivotal is nil. The decision to vote is reduced to an estimation of communal gains for voting versus personal costs of taking part. In addition to peer pressure and inducement (Gerber, Green, and Larimer 2008), in supervised elections, $D_{i,ext}$, the extrinsic part of communal utility is also a product of rewards and punishments posed by political machines of patronage. Individuals at the risk of unemployment and poverty are more likely to be swayed by the offers and the admonishment of patronage and clientelism networks. Hence, at the time of economic difficulty clientelistic networks of patronage are expected to perform more efficiently, but only if they themselves are not weakened by the crisis:

Adversity & Political Machines Hypothesis: If local economies are sustained at the time of crisis, economic adversity activates political machines and increases voter turnout (H1).

H1 is derived using an argument based on the *extrinsic* part of the communal utility in equation (2).

The level of communal utility is also a function of one's socioeconomic network. Both intrinsic and extrinsic components of communal utility of voting for individual i are increasing in the size of i 's community N_i . Personal satisfaction from joining the community increases with the size of group, as one is a part of a larger community who have made the same decision

before. This affirmation is of particular importance at the time of social and political duress. The second component, i.e. the potential economic and social gain in one's personal network, also grows as the group itself expands. If one is rewarded in the community based on their participation in the collective act, a decision already made by a majority of the others, then the returns from the act grows more significant with the size of the precedent group. The resources of the precedent group only accrues with its size. Therefore,

$$U_i = -C_i + \alpha_i(f_i(N_0) + g_i(N_i)), \quad (3)$$

where both f_i and g_i are increasing with N . For U_i being larger than zero,

$$(N_0, N_i) \succ (N_0^*, N_i^*),$$

for a pair of thresholds, (N_0^*, N_i^*) , on the size of the perceived intrinsically defined group, and one's actual extrinsic social network. For a given individual, the size of the perceived N_0 for intrinsic utility can be different from the size of one's personal network, and is dependent on the size of the poll i engages in. For example when voting in favor of the hegemonic candidate in the presidential elections, one joins a community of the size of a nation, while he or she votes in a parliamentary election, the size of that community N_0 is more akin to the size of a district. For the extrinsic component g_i , however, the size of the community is the same between the two polls. From the above, it follows that voting in local (with N_{0l}) and national (with N_{0n}) supervised elections yield different utility values. The size of i 's social support network N_i is fixed, but as for the size of the polls, $N_{0n} > N_{0l}$, and utility of voting for a national figure authority and joining N_{0n} other voters is higher than the local variant. The difference between the utilities,

$$U_{i,n} - U_{i,l} = \alpha_i(f_i(N_{0n}) - f_i(N_{0l})), \quad (4)$$

becomes more pronounced as the reliance on one's community induced utility (measured by α_i) grows. If economic hardship, in the forms of poverty and unemployment, force higher levels of individual reliance on the community based utilities,¹⁴ then the effect of economic adversity on the number of decisions to participate in supervised elections should differ significantly between national and local elections.

From the above it follows that

Adversity & Mobilization Hypothesis: Economic adversity motivates voter turnout in national supervised elections, but not in local elections (H2).

H2 is based on an argument involving the *intrinsic* part of the communal utility in equation (2).

As such, an electoral *rallying around the flag* effect is de facto for joining the authorities' vote base. The vote share of the hegemonic candidate or party should not decrease when adversity mobilizes the voters, in fact it should increase the party's base. Pursuant to the above logic, in addition to voter turnout levels, the vote share of dominant party at the time of adversity does not decrease, mainly as a result of the aforementioned increase in turnout. If there is an effect at all, it should be towards the entrenchment of the incumbent via mobilizing the vote.

Adversity & Entrenchment Hypothesis: When voters are mobilized by economic adversity, the vote share of the incumbent hegemonic authority increases (H3).

Argument for H3 involves effects predicted by both H1 and H2.

Communal voting induced by economic malaise is pronounced in larger polls. The size distinction between parliamentary and presidential elections under supervision provides a

¹⁴Note that such reliance can be induced by dependence on one's *extrinsic* communal utilities, but the difference in (4) does not depend on the size of the local community N_i .

testing ground for the above hypotheses.¹⁵ To verify the salience of economic adversity as a mobilizer in large supervised elections, in the next section I employ election data from presidential and parliamentary elections in Russia and Iran. The results demonstrate a stark contrast between the effects of economic hardship on voter turnout in the two categories.

Data Description

To examine the relation between economic adversity and turnout in supervised elections, I use regional statistics from parliamentary and presidential elections in Russia and Iran. The Russian panel dataset contains electoral data from the Duma and presidential polls since 2000, on the regional level.¹⁶ The Iranian panel includes presidential and parliamentary elections since 1992, on the province level.¹⁷

Russia is a natural candidate for testing the dynamics of communal voting in the time of economic hardship because of its established mechanisms of voting enforcement in the workplace and its entrenched network of regional functionaries ([Reuter and Robertson 2012](#)) for turning out the vote. With its international status and its occasional antagonism with the EU and the U.S., its electoral politics often combines elements from international politics and domestic political issues. Russian electoral experience is deeply influenced by a history

¹⁵In the Russian context, the theoretical distinction between communal effects in local and national elections confirms the singularity of presidential elections vis a vis the Duma elections reported in ([Pacek, Pop-Eleches, and Tucker 2009](#)).

¹⁶The number of units used in the study, $N = 83$, for 4 presidential elections and 3 parliamentary ones since 2000, total $N = 581$. The data on the regional level is available at ([Russian Central Election Commission 2017](#)), [at this link](#).

¹⁷The number of units (provinces) in the Iran panel dataset is $N = 31$, for 7 presidential elections, and 7 parliamentary poll since 1992, total $N = 434$. The district-level data on the parliamentary elections 1992-2016 is from election summary reports for the Islamic Republic members of the parliament ([Majlis Public Relations Office 1992-2016](#)). The presidential elections data is from Iran Data Portal, the returns are on the province level ([Iran's Presidential Elections 2017](#)).

of economic mobilization and turnout in the workplace (Frye, Reuter, and Szakonyi 2014), hence the focality of the economy provides a fertile ground for testing the influence of economic factors on electoral turnout under supervision. The period in the study covers the era Putin was in office as the President and Prime Minister. During this time, the new machine politics in Russia was firmly put in place against the background of one dominant state party, *United Russia* (Treisman 2009).¹⁸ This time period includes presidential elections won by Putin in 2000, 2004 and 2012 and Medvedev in 2008. Parliamentary elections in this period were held in 2003, 2007 and 2011, and were dominated by United Russia. In the majority of these elections, Communist Party was a distant second to United Russia, and acted as a safe opposition in addition to a host of smaller parties such as *LDPR*, *A Just Russia*, *Yabloko* and others. The main parameters of interest in the study is the number of ballots cast during the election day in each region in any given year, as well as the votes cast for the main two parties.¹⁹

Electoral politics in the Islamic Republic, in the absence of active conventional party mobilization, heavily relies on local connections to motivate potential voters. The Islamic Republic’s political scene, particularly since 1997, is defined by challenges put to the elected and unelected conservatives (*principlists*) by the *reformist* forces inside the state apparatus. After a period of economic liberalization in the mid 1990s, Khatami’s election in 1997 was the first and one of the most significant challenge to the role of conservatives inside the

¹⁸(Treisman 2009) is available at [this link](#).

¹⁹Whenever a specific party’s vote (either *United Russia* or Communist Party) is included, it is either the number of votes for the party list, or the number of votes for the presidential candidate from the given party. Note that in 2003 and 2016 Duma’s elections included voting based on both party lists (on the regional level) and single-member constituencies. For a study on the first decade of post-communist elections in Russia and East Europe see (Tucker 2002), on subnational appointments of governors (Reuter and Robertson 2012), centralization of power in Russia after 2000 (Beazer 2015), summary of elections in Russia, (Treisman 2009) ([link](#)) and (Reisinger and Moraski 2017), on competition and conception of fairness in contemporary Russian elections (Rose and Mishler 2009), and (Gorokhovskaia 2016).

Islamic Republic. Economic campaigning propelled Ahmadinejad in 2005, and constitutes a major part of the current president (Rouhani)’s agenda. On the local level, candidates mobilize voters using clientelistic patterns of public goods provision (Mahdavi 2015). Iranian elections, particularly the national ones, are marked with voter mobilization through inducing competition between sanctioned candidates on two sides of the limited political spectrum.²⁰ The presidential elections included in the dataset were held in 1993, 1997, 2001, 2005 (two rounds), 2009, and 2013, with Rafsanjani, Khatami (two terms), Ahmadinejad (two terms) and Rouhani as elected presidents. The parliament (*Majlis*) elections include those held in 1992, 1996, 2000, 2004, 2008, 2012 and 2016. Other than two periods in 2000 and 2016, the conservatives (*principlists*) held the majority in the *Majlis*.

The main parameter of interest in Iran’s parliamentary and presidential elections data is the number of votes cast in each district (for parliamentary elections), or each province (for presidential polls).²¹

Similar to (Burden and Wichowsky 2014), I use *unemployment* as the measure of economic adversity for individual voters. To account for the capacity of local political machines (Rundlett and Svolik 2016), the level of Gross Regional Product (GRP)²² is included as a proxy for the capability of local organizers. Distribution of the workforce among the agricultural, manufacturing, resources, and service sectors, and the percentage of agricultural, manufacturing, and resources sectors’ production as a part of total GRP, are also included to account for the importance of workforce mobilization processes (Frye, Reuter, and Szakonyi

²⁰More competitive elections induce higher turnout rates in functional democracies (Blais and Dobrzynska 1998). The same logic can be applied to bipolar elections in the limited political space of supervised elections.

²¹According to the Iranian electoral code, candidates winning most of the votes should also pass a certain threshold (25% for parliamentary and 50% for presidential elections). If that does not happen, elections are extended to a run-off with twice the number of needed elected officials involved. In the dataset the parliamentary polls are differentiated based on the round (1,2). Second round in Iranian presidential elections has only occurred once in 2005, between Rafsanjani and Ahmadinejad.

²²extracted from the periodical “Regions of Russia” (Federal Bureau of Government Statistics 2002-2016)

2014). These controls were combined with regional data on urbanization, percentage of the workforce with higher education, total population, and the dependent variable, i.e. turnout levels, all on the regional level.²³ Using the resulting panel of 83 regions’ data in seven Russian elections, ($N = 581$), and panels of 7 parliamentary and 7 presidential elections in Iran on the district and province levels, I examine the link between economic discontent and voter mobilization.²⁴

It is important to note that using turnout statistics from governmental sources does not impede the conclusions in the study. The “turnout” as it is announced by the authorities, is partly formed by both the functions of the political machines in the process of voting, and the decisions of individual voters. This study was concerned with the decisions of individuals, as well as the operations by the authorities for compelling them to vote, or to manipulate their decision process. Both of these processes ultimately involve an individual decision. Fraud mechanisms outside this decisional realm, such as ballot stuffing and changing the final tallies, albeit important in detecting abnormalities, are not frequent enough to change the overall conclusions.²⁵ When there are patterns of authoritarian manipulation, it is more likely they are in the form of compulsion and inducement of the electorate to vote, not crude

²³Source of the regional data was ([Federal Bureau of Government Statistics 2002-2016](#)). The proxy for turnout is calculated by dividing the total number of votes on the total population.

²⁴For the Iranian parliamentary elections panel, the district level variables, are transcribed by the author from the national census results conducted in 1996, 2006 and 2011, $N = 1939$. Controls for the Iranian presidential elections panel, all on the province level, are from ([Mahdavi 2015](#)), $N = 217$.

²⁵For example, for the Russia presidential elections data from the year 2012, the number of precincts with severe abnormalities in voting reports is approximately 2 to 5 percent of the total number of precincts, see ([Rundlett and Svolik 2016](#)), supplementary material, Figure A.13 and Figure A.19, where the authors provide an estimate of the number of electoral precincts with irregularities in their vote number reports. In the dataset used in this study, the only region-year turnout datapoint clearly out of bounds was Chechnya in 2003 Duma elections, where the turnout proxy was clearly above 100 percent, it was excluded from the analysis. A histogram summary of important variables are included in the appendix.

measures such as manipulation of the final numbers or ballot stuffing.²⁶

The possibility of a systematic campaign of *deflated* unemployment statistics only strengthens the argument. As they demonstrate that unemployment is more widespread than it is portrayed, and its effects are even more significant than those found here.

Methods and Results

The aforementioned hypotheses on the role of economic adversity in voter mobilization and authoritarian entrenchment maintain that under electoral supervision, economic adversity induces voter turnout in larger national elections rather than local elections, and that when voters are mobilized by discontent, the vote share of the hegemonic authority increases, not the opposite. Furthermore, if a regional index of economic activity, such as gross regional product, maintains growth while individuals experience economic adversity such as unemployment, it becomes easier to implement patterns of patronage and compel economically vulnerable voters.

To test the hypotheses, in the following I use a series of panel regressions to measure the influence of economic adversity, in the form of *unemployment*, on a measure of *voter turnout* in two distinct sets of presidential and parliamentary elections in Russia and Iran. I show that similar patterns of turnout mobilization in the time of economic difficulty and increasing unemployment exist in both countries, and that these effects can not be solely ascribed to the functioning of political machines. Between the two countries, as expected, Russia demonstrates a more salient mobilizational role for political machines.²⁷

I have used fixed effects based on geographical units: regions in Russia, and electoral

²⁶Furthermore, if there are systematic discrepancies in voter turnout in a specific region, or a given year, they are accounted for with fixed effects in panel regressions. Fixed effect estimations capture the importance of temporal variations while doing away with confounders linked to specific regions.

²⁷The results are robust to a number of checks, including ecological inference, details are discussed in the next section.

districts and provinces in Iran. Wherever necessary I have used first difference and difference in difference models to minimize unit bias and account for patterns of temporal change in each unit. “Year” fixed effects are also included.²⁸ For panel regressions, robust standard errors are reported.

Table (1) includes the first set of panel regressions on the Russian elections data. Levels of turnout are regressed over *unemployment* as a measure of economic adversity, *log (Gross Regional Product(GRP))*²⁹ and a number of control variables. These are log of population, the rate of urban population, the rate of employees with higher education, and percentage of workforce in manufacturing and resources sectors, the percentage of gross regional production value in each of these sectors as a share of total GRP, and finally the percentage change in resource sector production value share since 2000.³⁰

The main observations in Table (1) is the contrast between the effects of unemployment on turnout in the Duma and presidential elections in Russia. Turnout increases with unemployment in presidential elections. The same relation is negative for the Duma elections. Both fixed effects and first difference models³¹ show the same contrast, and the effect is significant in both models on the 1 and 5 percent levels. There are multiple indications to the effect that ex-urban and agricultural areas are more prone to voting in Russian elections.

Table (1) about here

Another noteworthy relation in Table (1) is the positive effect of gross regional product

²⁸The appendix includes variations without “Year” fixed effects.

²⁹in current prices

³⁰Throughout the study I have chosen fixed effects models over random effects to account for changes in each unit, for example the changes in turnout as the result of changes in unemployment. Random effect models would fail to capture such variations. Therefore, the results of the Hausman test, for a choice between random and fixed effects models, are not definitive here.

³¹First difference models replace $value(T)-value(T-1)$ for $value(T)$ in panel regression fits. I have used them to account for unit fixed effects and bias based on geographical units.

(GRP) on rates of turnout in presidential elections in both models (fixed effects and first differences). In line with hypothesis 1. GRP can account for the strength of political machines, and their ability for getting out the vote. These networks are effectively linked to the level of regional wealth in presidential elections, but not in the Duma ones. To take stock, regional amenities are important to voter mobilization in presidential elections, and increasing unemployment motivates turnout in line with hypothesis 2. This is a relation that is existent only for the national, but not local elections. The potential interaction between levels of GRP and levels of unemployment in inducing turnout is the subject of the next set of regressions in Table (2).

In Table (2), the effect of GRP and unemployment on the voter turnout in Russian elections are probed further by including an interaction term between the two, and a lag of the dependent variable. All the models are fixed effect models with year fixed effects included. Interestingly enough, while the role of unemployment is significant on the 5% level, *GRP* only becomes influential when it interacts with *unemployment*. The most plausible explanation is that unemployment activates GRP as a mobilizer for votes. The local amenities become influential in turnout when there is economic need on the side of the electorate. These results affirm both H1 and H2.

Table (2) about here

Table (3) contains the results of a difference in difference strategy where changes in turnout are regressed over the control variables and changes in the levels of two variable of interest: unemployment and GRP. Again, a similarly positive and significant relation exists between the interaction of unemployment and GRP, and turnout. Increases in unemployment are linked to increases in turnout in presidential elections, when GRP also increases. This observation emphasizes the role of political machines in targeting unemployment as a catalyst for enlisting in patterns of patronage. The change in GRP itself, does not show a coherent relation with turnout in Table (3). In model (2) in Table (3), changes in GRP are negatively related to turnout, this means a decrease in the capacity of local political machines, combined

with an unfavorable individual calculus of voting, decreases turnout. The role of existing political machines is important and realized when the electorate are in need.

Table (3) about here

So far, the contrast between presidential and parliamentary elections in Russia has given evidence for H2, and the importance of local resources in relation to unemployment in their relation to turnout supports H1. One important caveat is the role of extrinsic communal utilities vis a vis intrinsic ones (see equation (2)). Table (3) shows that change in unemployment influences turnout in relation to levels of GRP, that is an evidence for the salience of extrinsic utilities.

To test the verity of H3, Table (4) includes the results of fixed effect panel regressions on the components of the vote for the Russian hegemonic party *United Russia*, and a insider opposition party, i.e. the Communist Party, in Russian supervised elections.³² The results are differentiated between the presidential and parliamentary elections. A number of notable observations can be made. Interestingly enough, higher turnout rates, do not increase the vote share of United Russia in the Duma elections, but as expected, they increase the vote share of United Russia, the hegemonic party, i.e. Putin and Medvedev, in presidential elections. When turnout increases, the vote share of United Russia (UR) increases, but to test the validity of Hypothesis 3, it is required to check the role of unemployment on such an increase in UR votes. It is already established (from tables (1) and (2)) that unemployment does increase turnout, but only in presidential elections.

Table (4) about here

Finally, similar to economic voting predictions, United Russia bears a toll in the Duma elections when unemployment levels are high. This effect does not exist in the presidential

³²Year fixed effects are included.

elections.³³

Tables (5) and (6) present the results of pooled OLS regressions on the Iranian data with dummies for provinces and districts, respectively, included.³⁴ The results in Table (5) show that, similar to the Russian case, increase in unemployment increases the turnout in Iranian presidential elections, but unlike the Russian case, the interaction term between unemployment and GRP does not show a positive effect on the turnout. In other words, according to model (2) in Table (5), unlike the Russian counterparts, Iranian political machines can not take advantage of increasing unemployment levels for turning out the voters. Nevertheless, the role of unemployment as a mobilizer here is noteworthy. It is likely that the communal utilities motivating the Iranian voters are more intrinsic than extrinsic, as the interaction between GRP and unemployment does not promote higher turnout, but unemployment itself does motivate the voters. Such intrinsic communal utilities are less pronounced in local elections compared to the national polls. In line with H2, the results in Table (6) show that unemployment influences smaller elections in the opposite direction: it discourages turnout, and the effects are significant.³⁵

Tables (5) and (6) about here

To summarize, the results in tables (1) to (6) show a robust, positive and significant

³³From the results in table (4) it is evident that the Communist Party's vote share is reduced when turnout rates are high, and they are strongly represented in rural areas. Where the resource sector (including oil and gas industries) has flourished, Communist Party has suffered.

³⁴There are two reasons I have opted for OLS regression with fixed effects dummies. First, the Iranian province divisions have changed since 1992-93, and building a panel for presidential elections poses difficulties, second, for the *Majlis* elections, at times there are a variety of polls for a given district-year. For example, some elections result in a second round of runoff, and it is pertinent to keep both polls in the dataset instead of collapsing them into one. The control variables in Table (5) are lagged.

³⁵In general, an incumbent winner is linked with depressed turnout in the polls. This can be attributed to lower levels of competition. The resource sector workforce shows positive links with voter turnout in line with findings in (Mahdavi 2015).

relation between unemployment and voter turnout in national-level competitive supervised elections in Russia and Iran (H2). This phenomenon, in the Russian case, was shown to be closely connected to the levels of local amenities, and activated by it (H1). The results did not detect such a mobilizing effect in local elections to the *Duma* or the *Majlis*. The direction of the votes mobilized by economic adversity (H3) is the subject of the following discussion. Through examining the role of unemployment in increasing the votes of *United Russia* one can discern if the result of economic adversity is engagement with authority, or withdrawal from it. Increases in turnout were shown to be strongly linked to more support for the hegemonic authorities.

Discussion: Economic Adversity, Communal Voting & Turnout in Supervised Elections

The results of the previous section suggest that there is a robust, significant and positive relation between unemployment and voter turnout in national polls under electoral supervision in Russia and Iran. This effect exists only in national elections, and is absent in parliamentary polls. The counterintuitive picture that has emerged from the results of the previous section, is of electoral systems in which the local levels of prosperity and individual levels of discontent and adversity work hand in hand to increase the levels of voter participation in supervised elections.³⁶ The ready explanation is that political machines that enjoy local affluence are at the best position to exploit the needs of those in economic distress, hence the positive and strong relation between an unemployment–GRP interaction term and the levels of turnout in tables (2) and (3). In the minimal theoretical framework I discussed

³⁶I ranked Russian regions based on a sum of ranks in GRP and unemployment (with highest rank being 83). On the decreasing order of $GRP + unemployment\ rank$ the first 15 ones on the list are: Irkutsk, Dagestan, Sakhalin, Yakutia, Kemerovo, Chelyabinsk, Perm, Bashkortan, Sverdlovsk, Tomsk, Primorsky, Khanty-Mansiysk, Rostov, Krasnodar, Omsk.

in the theory section above, gaining from voting via political machines, can be categorized under a communal effect of *extrinsic* utility. The immediate question to ask is: can this increase in turnout be solely attributed to the communal effect of political machines, or are there intrinsic communal utilities from joining the majority in voting, and as a consequence, from supporting the status quo? The first step to do so is to confirm that the individuals who are unemployed are more likely than employed ones to vote, and that the aggregate level results translate to individual level ones. To confirm such a relation, I used the tools available for ecological inference (King 1997, Imai, Lu, and Strauss 2011) to compare the levels of the unemployed who vote to the levels of the employed who do so. The results are included in the table below. The estimated levels of voting among the unemployed is 0.65, and this value is at least 2σ above the same estimate for the employed 0.55 (the standard deviation of $B_{unemp.}$ is 0.04). The unemployed do vote more than the employed.³⁷

	mean	sd
$B_{unemp.}$	0.6534	0.0444
$B_{emp.}$	0.5532	0.0039

Ecological inference, estimates of aggregate quantities

In the next step, the relation between political machines and the unemployed in connection to turnout and voting for the hegemonic party is of interest. In the Russian electoral data, GRP and unemployment interaction increased turnout, and increased turnout bolstered the support for the authorities.³⁸ If possible, it is important to disentangle the effect of political machines from the role of intrinsic communal utility that increases with the size of the turnout.

It is plausible to assume that the only way the covariates in Table (4) can change the level of electoral support for United Russia, is through changing the turnout levels first. Using that concept, and three endogenous variables of turnout levels, GRP, and unemployment,

³⁷A graphical representation of the estimation components is included in the appendix.

³⁸In the Iranian data, it was evident that GRP did not interact with unemployment in the same direction.

I used an instrumental variable (IV) design to gauge the role of turnout level, GRP, and unemployment on the levels of support for the hegemonic party. The results help resolve the dilemma of the effect of economic adversity on the rates of support for the hegemonic authorities in supervised elections (Hypothesis 3). Instrumenting covariates in Table (4), I checked the connection between turnout, GRP and Unemployment, and support for United Russia in Table (7). Turnout levels cause a positive shift in rates of support for United Russia, when GRP and unemployment are parts of instruments in the design. This effect can be described using a logic of intrinsic communal utility: the utility of joining the authorities grows with the size of the supporting group. The proxy for extrinsic communal utility, i.e. gross regional product, when included with turnout in the second stage of the 2SLS estimator does not show significance. As expected, this means that the instruments are unlikely to change the support for UR through GRP per se. However, unemployment variable in the second stage of the estimator shows a highly significant and positive relation to the variable of interest, i.e. support for UR.

Table (7) about here

The above point to the fact that, while political machines play an important role in organizing voter turnout in the face of economic adversity, their functioning (here represented by a proxy variable, GRP) does not fully explain the increase of turnout and support for the hegemonic authority at the time of economic difficulty. Part of the effect is a product of an increasing rate of “intrinsic communal utility” that is more salient in larger polls, such as presidential elections. For example, the results of the parliamentary polls in relation to unemployment in Iran show a withdrawal effect similar to what was detected here in the context of the Duma elections.

One can apply the above logic to the pattern observed in Table (4): in the face of economic adversity, turnout in smaller elections decreases, accompanied with a decrease in the support for the hegemonic party. In other words, this is *not* an example of economic voting, the incumbent party does not suffer setbacks in parliamentary elections because

more voters turn out to vote against it, but it loses votes because smaller polls do not attract enough number of voters to activate the intrinsic utility process.

Conclusion

In addition to *voter withdrawal* and *mobilization*, this study proposed a third class of processes through which economic adversity influences voter turnout in supervised elections. I argued that there is a possibility of a boost in voter turnout as the result of economic difficulty, and outlined a minimal logic for such an effect. This process is particular to elections under supervision. Instead of trying to unseat the incumbents in the time of difficulty, the voters turn out to affirm the authorities. Such mobilization of votes in the face of economic adversity is distinct from the two effects of *withdrawal* and *mobilization for change* ascribed to economic discontent in functional democracies. It was argued that communal patterns of voting in supervised elections induce *authority-affirming mobilization* at the times of economic adversity. History of the twentieth century is replete with anecdotal examples.

A number of hypotheses derived from the logic were tested in the context of the empirics from the Russian supervised elections after 2000 and the Iranian version after 1992. The detection of a robust and positive link between unemployment and affirming turnout levels in presidential elections in Russia and Iran, motivates further studies of such phenomena in hybrid regimes. It emphasizes characteristics of mixed regimes that are not fully reducible to those of pure authoritarianism or ideal democracy.

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Table 1

<i>Dependent variable: Turnout level, region and year fixed effects</i>				
	Pres. Fixed Eff.	Duma Fixed Eff.	Pres. First Diff.	Duma First Diff.
	(1)	(2)	(3)	(4)
log(Population)	−4.338 (3.451)	−4.214 (4.294)	−2.999 (3.656)	−3.105 (2.338)
log(GRP)	4.448* (2.155)	−3.203 (6.175)	6.922* (2.875)	−7.530 (6.200)
Urban pop. %	0.005 (0.279)	−0.814* (0.396)	−0.094 (0.334)	−0.761 (0.398)
Higher ed. empl.	0.055 (0.121)	−0.133 (0.157)	0.039 (0.118)	−0.178 (0.166)
Manufac. % workforce	0.249 (0.221)	−0.274 (0.184)	0.181 (0.232)	−0.466* (0.219)
Resources % workforce	−0.035 (0.391)	0.086 (0.528)	−0.133 (0.366)	−0.186 (0.398)
Agric. output % GRP	0.219* (0.103)	0.249 (0.202)	0.264** (0.091)	0.229 (0.187)
Manufac. output % GRP	−0.078 (0.050)	−0.014 (0.049)	−0.103* (0.049)	−0.050 (0.051)
Unemployment	0.133* (0.067)	−0.511* (0.218)	0.157** (0.052)	−0.631** (0.235)
ΔRes. output since 00	−0.031 (0.076)	0.0003 (0.128)	−0.106 (0.116)	−0.005 (0.111)
Constant			−6.028** (2.101)	−4.914* (1.926)
Observations	330	247	247	164
R ²	0.296	0.307	0.349	0.320
Adjusted R ²	0.010	−0.122	0.315	0.266
F Statistic	7.575** (df = 13; 234)	5.599** (df = 12; 152)	10.443** (df = 12; 234)	5.927** (df = 12; 151)

Note:

*p<0.05; **p<0.01

Table 2

<i>Dependent variable: Turnout level, presidential elections, year and region fixed effects</i>					
	(1)	(2)	(3)	(4)	(5)
lag(Turnout level))	0.108*	0.105*	0.102*		
	(0.049)	(0.049)	(0.049)		
log(Population)	-4.149	-3.666	-2.374	-3.964	-4.452
	(3.616)	(3.559)	(3.538)	(3.320)	(3.344)
log(GRP)	4.299	4.897	1.067	2.833	2.662
	(2.274)	(2.706)	(1.970)	(2.426)	(2.434)
Urban pop. %	0.040	0.043			0.074
	(0.285)	(0.255)			(0.279)
Higher ed. emp.	0.050				0.059
	(0.114)				(0.107)
Manufac. % workforce	0.251		0.317		0.224
	(0.217)		(0.231)		(0.218)
Resources. % workforce	-0.074		0.178		-0.068
	(0.357)		(0.255)		(0.387)
Agric. output % GRP	0.233*	0.244*		0.233*	0.221*
	(0.103)	(0.103)		(0.106)	(0.103)
Manufac. output % GRP	-0.078	-0.078		-0.083*	-0.084
	(0.048)	(0.041)		(0.039)	(0.049)
Unemployment	0.140*	0.138	0.157*	-0.966	-0.938
	(0.068)	(0.071)	(0.079)	(0.594)	(0.566)
Δ Res. output since 00	-0.030	-0.049			-0.0002
	(0.081)	(0.093)			(0.075)
log(GRP):Unempl.				0.090*	0.088*
				(0.046)	(0.044)
Observations	328	328	328	330	330
R ²	0.318	0.309	0.260	0.309	0.317
Adjusted R ²	0.034	0.035	-0.025	0.045	0.036
F Statistic	7.685** (df = 14; 231)	9.519** (df = 11; 234)	9.214** (df = 9; 236)	11.841** (df = 9; 238)	7.731** (df = 14; 233)

Note:

*p<0.05; **p<0.01

Table 3

<i>Dependent variable: ΔTurnout, presidential (1) (2), Duma (3) (4), year & region FE</i>				
	Δ Turnout=Turnout- lag(Turnout)			
	(1)	(2)	(3)	(4)
log(Population)	-2.903 (6.640)	-4.318 (5.910)	-2.220 (2.515)	-1.325 (2.811)
log(GRP)	1.690 (5.135)		6.452 (4.813)	
Δ log(GRP)		-3.187* (1.439)		2.219 (3.470)
Urban pop. %	0.314 (0.475)	0.464 (0.466)	-0.742 (0.425)	-0.827* (0.395)
Higher ed. emp.	0.077 (0.163)	0.030 (0.172)	-0.092 (0.172)	-0.116 (0.172)
Manufac. % workforce	0.365 (0.295)	0.393 (0.279)	-0.569** (0.203)	-0.629** (0.204)
Resources % workforce	-0.455 (0.300)	-0.325 (0.295)	-0.548 (0.394)	-0.605 (0.348)
Agric. output % GRP	0.335 (0.203)	0.222 (0.192)	-0.049 (0.203)	-0.090 (0.187)
Manufac. output % GRP	-0.076 (0.078)	-0.089 (0.081)	0.002 (0.056)	0.007 (0.059)
Δ Unemployment	0.007 (0.156)	0.039 (0.105)	0.006 (0.088)	-0.232 (0.245)
Δ Res. output since 00	-0.034 (0.174)	-0.007 (0.168)	-0.199 (0.115)	-0.141 (0.113)
Δ log(GRP): Δ Unempl.		0.265* (0.114)		0.578 (0.484)
Observations	328	328	247	246
R ²	0.104	0.140	0.535	0.538
Adjusted R ²	-0.262	-0.218	0.248	0.245
F Statistic	2.081* (df = 13; 232)	2.678** (df = 14; 231)	14.580** (df = 12; 152)	13.420** (df = 13; 150)

Note:

*p<0.05; **p<0.01

Table 4

	<i>Dependent variable: United Russia/Communist Vote, Pres. and Duma</i>			
	UR Presidential	CM Presidential	UR Duma	CM Duma
	(1)	(2)	(3)	(4)
Turnout level	0.512** (0.110)	-0.404** (0.067)	0.151 (0.169)	-0.284** (0.071)
log(Population)	1.662 (3.670)	-0.442 (2.376)	6.838* (2.836)	-3.158 (1.833)
log(GRP)	2.357 (3.482)	2.986 (2.263)	0.377 (6.831)	4.347 (3.795)
Urban pop. %	-0.201 (0.335)	-0.111 (0.226)	-0.627 (0.596)	0.408 (0.301)
Higher ed. emp.	0.217 (0.124)	-0.105 (0.079)	0.105 (0.173)	-0.173 (0.120)
Manufac. % workforce	-0.230 (0.273)	0.012 (0.164)	0.541 (0.334)	-0.071 (0.142)
Resources. % workforce	0.026 (0.437)	0.155 (0.198)	-0.441 (0.368)	-0.211 (0.189)
Agric. output % GRP	-0.266 (0.155)	0.222 (0.118)	-0.127 (0.156)	0.663** (0.198)
Manufac. output % GRP	0.114 (0.058)	-0.132** (0.036)	0.124* (0.051)	0.034 (0.034)
Unemployment	0.092 (0.097)	0.081 (0.092)	-0.722* (0.303)	0.220 (0.228)
Δ Res. output since 00	0.058 (0.112)	-0.160** (0.058)	0.054 (0.167)	0.058 (0.065)
Observations	330	330	247	247
R ²	0.737	0.812	0.789	0.419
Adjusted R ²	0.629	0.735	0.657	0.053
F Statistic	46.668** (df = 14; 233)	71.911** (df = 14; 233)	43.490** (df = 13; 151)	8.363** (df = 13; 151)

Note:

*p<0.05; **p<0.01

Table 5: Iran presidential elections, pooled dataset, year and province dummies included

	<i>Dependent variable:</i>	
	Turnout level	
	(1)	(2)
lag(Turnout level)		0.096 (0.073)
log(Population)	2.117 (3.032)	-2.100 (3.270)
Election round (factor)	-3.952*** (1.305)	-3.610*** (1.215)
Incumbent (dummy)	-13.728*** (3.018)	-11.407*** (2.854)
Unemployment	0.568*** (0.169)	5.136*** (1.164)
log(GRP)	-1.135 (1.878)	7.443*** (2.699)
Unemployment:log(GRP)		-0.507*** (0.126)
Constant	30.237 (33.679)	3.082 (39.199)
Observations	169	164
R ²	0.876	0.892
Adjusted R ²	0.841	0.858
Residual Std. Error	5.718 (df = 131)	5.445 (df = 124)
F Statistic	25.057*** (df = 37; 131)	26.333*** (df = 39; 124)
<i>Note:</i> *p<0.1; **p<0.05; ***p<0.01		

Table 6: Iran Majlis elections, pooled dataset, year and district dummies included (number of districts: 215, number of elections: 7).

	<i>Dependent variable:</i>	
	Turnout level	
	(1)	(2)
lag(Turnout)		0.006 (0.013)
log(Population)	−35.194** (2.906)	−34.867** (2.903)
Urban pop. %	0.105** (0.039)	0.062 (0.037)
Round2 (dummy)	−13.547** (0.518)	−14.039** (0.522)
Interperiod (dummy)	−7.047** (1.696)	−5.969** (1.716)
Incumbent (dummy)	−1.237** (0.419)	−1.234** (0.422)
Literacy %	−0.050** (0.009)	0.401* (0.177)
Agric. % workforce	−0.107* (0.049)	−0.062 (0.055)
Manufac. % workforce	0.053 (0.101)	−0.026 (0.114)
Resources. % workforce	0.477 (0.369)	0.670* (0.273)
Unemployment	−0.148* (0.071)	−0.195** (0.073)
Constant	515.345** (42.419)	478.040** (43.302)
Observations	1,445	1,343
R ²	0.904	0.916
Adjusted R ²	0.887	0.900
Residual Std. Error	7.433 (df = 1228)	6.934 (df = 1127)
F Statistic	53.497** (df = 216; 1228)	56.963** (df = 215; 1127)

Note:

*p<0.05; **p<0.01

Table 7: Instrumental Variable/2SLS Analysis, 2nd Stage

	<i>Dependent variable:</i>		
	“United Russia” Vote		
	(1)	(2)	(3)
Turnout level	0.492* (0.237)	0.793** (0.281)	0.551 (0.299)
log(GRP)		0.648 (0.657)	1.960* (0.771)
Unemployment			0.970*** (0.281)
Constant	42.502** (13.471)	17.855 (20.645)	7.277 (21.641)
Observations	330	330	330
R ²	-0.002	-0.067	-0.039
Adjusted R ²	-0.006	-0.073	-0.048
Residual Std. Error	12.841 (df = 328)	13.268 (df = 327)	13.111 (df = 326)
<i>Note:</i>		*p<0.05; **p<0.01; ***p<0.001	

Supporting Information

SI 1: Supplementary Regression Results and Descriptive Statistics, Russian and Iranian Elections

SI 2: Winning Vote Shares, Islamic Republic of Iran's *Majlis* Elections 1980-2012

SI 3: Ecological Inference with Russian Elections Data, Schematics

SI 1: Supplementary Regression Results and Descriptive Statistics, Russian and Iranian Elections

Table (8) reports the results of models similar to table (1), but without year fixed effects. Here, similar to the results with year fixed effects, unemployment is robustly linked to turnout in presidential election. The opposite is true of the elections to the Duma.

Table (9) reports the results of models similar to table (4), but without year fixed effects.

Tables (10) to (13) are the results of simple OLS regressions conducted for each year over turnout levels and support rates for United Russia for both presidential and Duma elections. Two temporal evolutions are worth mentioning: first, the link between agricultural production and turnout weakens by time, second, areas with resource industry workers start to generate more votes and more support for United Russia after the mid 2000s (see Table (12)).

Tables (14) and (15) show a similar breakdown for the elections to the Iranian *Majlis* between 1992 and 2016.

Figures (1) and (2) demonstrate histograms of variables used in the Russian part of the study, as well as the temporal dynamics of turnout and unemployment in each of the 83 Russian regions included.

SI 2: Winning Vote Shares, Islamic Republic's *Majlis* Elections 1980-2012

SI 3: Ecological Inference with Russian Elections Data, Schematics

Table 8: No year fixed effects

	<i>Dependent variable:</i>			
	Turnout level, no year fixed effects			
	Pres. Fixed Eff.	Duma Fixed Eff.	Pres. First Diff.	Duma First Diff.
	(1)	(2)	(3)	(4)
log(Population)	−3.490 (3.943)	−5.800 (4.130)	−2.676 (4.574)	−5.564* (2.324)
log(GRP)	0.076 (0.702)	3.075** (1.082)	1.206 (1.617)	4.836 (4.345)
Urban pop. %	−0.203 (0.267)	−0.820* (0.395)	−0.511 (0.315)	−0.691 (0.428)
Higher ed. emp.	−0.065 (0.138)	−0.150 (0.183)	−0.116 (0.126)	−0.245 (0.196)
Manufac. % workforce	0.433 (0.236)	−0.495* (0.208)	0.426 (0.265)	−0.688** (0.243)
Resources % workforce	0.158 (0.363)	0.157 (0.636)	0.247 (0.308)	−0.196 (0.522)
Agric. output % GRP	0.177 (0.107)	0.202 (0.199)	0.152 (0.099)	0.165 (0.182)
Manufac. output % GRP	−0.006 (0.046)	−0.061 (0.045)	0.025 (0.049)	−0.110* (0.050)
Unemployment	0.181** (0.060)	−0.707** (0.237)	0.226** (0.051)	−0.840** (0.272)
ΔRes. output since 00	0.058 (0.076)	−0.077 (0.126)	0.041 (0.105)	−0.154 (0.112)
Constant			−0.808 (1.046)	−1.229 (2.827)
Observations	330	247	247	164
R ²	0.118	0.260	0.083	0.262
Adjusted R ²	−0.224	−0.182	0.045	0.214
F Statistic	3.181** (df = 10; 237)	5.406** (df = 10; 154)	2.147* (df = 10; 236)	5.444** (df = 10; 153)

Note:

*p<0.05; **p<0.01

Table 9

	<i>Dependent variable:</i>			
	UR Presidential	CM Presidential	UR Duma	CM Duma
	(1)	(2)	(3)	(4)
Turnout level	−0.094 (0.130)	0.160 (0.092)	0.556* (0.231)	−0.332** (0.070)
log(Population)	−0.006 (5.620)	2.242 (5.159)	2.486 (6.849)	−2.991 (1.854)
log(GRP)	3.301** (1.158)	−2.354* (0.943)	4.233* (1.834)	7.428** (0.711)
Urban pop. %	−0.446 (0.483)	−0.244 (0.293)	−1.127 (0.815)	0.548* (0.260)
Higher ed. emp.	0.592** (0.206)	−0.416* (0.162)	0.124 (0.351)	−0.181 (0.136)
Manufac. % workforce	−0.424 (0.408)	0.209 (0.240)	−0.925 (0.477)	0.128 (0.137)
Resources % workforce	−0.055 (0.301)	0.389 (0.288)	−0.425 (0.656)	−0.175 (0.244)
Agric. output % GRP	−0.089 (0.180)	0.026 (0.144)	−0.626 (0.356)	0.734** (0.166)
Manufac. output % GRP	−0.105 (0.087)	0.060 (0.059)	−0.136 (0.086)	0.063* (0.030)
Unemployment	0.081 (0.146)	0.104 (0.145)	−2.144** (0.689)	0.434 (0.273)
ΔRes. output since 00	−0.309 (0.167)	0.086 (0.108)	−0.157 (0.207)	0.057 (0.066)
Observations	330	330	247	247
R ²	0.333	0.379	0.405	0.382
Adjusted R ²	0.070	0.134	0.043	0.007
F Statistic	10.711** (df = 11; 236)	13.089** (df = 11; 236)	9.451** (df = 11; 153)	8.608** (df = 11; 153)

Note:

*p<0.05; **p<0.01

Table 10: Results: Turnout, Presidential Elections

	<i>Dependent variable: Turnout, Presidential elections</i>			
	(2000)	(2004)	(2008)	(2012)
log(Population)	1.815 (2.136)	0.574 (2.495)	1.912 (2.940)	4.048 (2.080)
log(GRP)	-1.266 (2.012)	0.715 (2.235)	-0.876 (2.572)	-4.272* (1.955)
Urban pop. %	0.010 (0.087)	-0.233* (0.108)	-0.129 (0.107)	-0.174 (0.088)
Higher ed. emp.	0.261 (0.176)	0.149 (0.169)	0.188 (0.178)	0.176 (0.159)
Manufac. % workforce	0.071 (0.160)	0.431 (0.236)	-0.228 (0.243)	0.394 (0.202)
Resources % workforce	-0.295 (0.260)	0.897* (0.383)	0.760 (0.426)	1.077** (0.295)
Agric. output % GRP	0.440** (0.143)	0.625** (0.235)	0.432 (0.217)	0.078 (0.194)
Manufac. output % GRP	0.117 (0.085)	-0.009 (0.111)	0.292* (0.132)	-0.033 (0.121)
Unemployment	-0.180 (0.201)	-0.290 (0.226)	-0.208 (0.143)	-0.077 (0.166)
Δ Res. output since 00		-0.442 (0.222)	0.005 (0.197)	-0.135 (0.122)
Constant	45.075** (11.459)	36.593* (15.637)	51.161** (13.699)	77.051** (14.334)
Observations	82	82	83	83
R ²	0.359	0.248	0.198	0.326
Adjusted R ²	0.279	0.142	0.086	0.233
Residual Std. Error	5.383 (df = 72)	7.343 (df = 71)	7.481 (df = 72)	5.888 (df = 72)
F Statistic	4.489** (df = 9; 72)	2.336* (df = 10; 71)	1.776 (df = 10; 72)	3.485** (df = 10; 72)

Note:

*p<0.05; **p<0.01

Table 11: Results: Turnout: Duma Elections

	<i>Dependent variable: Turnout, Duma elections</i>		
	(2003)	(2007)	(2011)
log(Population)	0.706 (3.046)	3.337 (5.874)	2.432 (2.982)
log(GRP)	1.942 (2.677)	-1.881 (5.283)	-2.935 (2.860)
Urban pop. %	-0.072 (0.126)	-0.156 (0.202)	-0.341** (0.124)
Higher ed. emp.	0.080 (0.196)	-0.159 (0.310)	0.455* (0.218)
Manufac. % workforce	-0.016 (0.214)	1.050* (0.479)	0.402 (0.246)
Resources % workforce	-0.091 (0.386)	1.248 (0.754)	0.344 (0.323)
Agric. output % GRP	0.888** (0.252)	0.871* (0.420)	0.168 (0.266)
Manufac. output % GRP	0.018 (0.130)	-0.108 (0.224)	-0.098 (0.156)
Unemployment	-0.260 (0.200)	0.247 (0.318)	-0.298 (0.233)
Δ Res. output since 00	-0.861* (0.332)	-0.160 (0.348)	-0.115 (0.180)
Constant	15.484 (15.331)	29.471 (32.125)	74.577** (21.487)
Observations	82	82	83
R ²	0.321	0.171	0.301
Adjusted R ²	0.225	0.054	0.204
Residual Std. Error	7.563 (df = 71)	13.248 (df = 71)	8.605 (df = 72)
F Statistic	3.356** (df = 10; 71)	1.464 (df = 10; 71)	3.103** (df = 10; 72)

Note:

*p<0.05; **p<0.01

Table 12

	<i>Dependent variable: UR vote (Putin/Medvedev)</i>			
	UR vote/Turnout Count			
	2000 (1)	2004 (2)	2008 (3)	2012 (4)
Turnout level	0.540* (0.214)	0.451** (0.115)	0.283* (0.110)	0.432* (0.167)
log(Population)	-5.819 (3.900)	-2.017 (2.409)	2.593 (2.749)	7.347* (3.025)
log(GRP)	3.588 (3.666)	-0.047 (2.158)	-3.001 (2.400)	-5.091 (2.861)
Urban pop. %	-0.144 (0.158)	-0.090 (0.108)	-0.262* (0.101)	-0.300* (0.128)
Higher ed. emp.	-0.145 (0.324)	0.205 (0.164)	0.524** (0.167)	0.434 (0.227)
Manufac. % workforce	0.533 (0.291)	0.269 (0.233)	0.078 (0.228)	-0.360 (0.293)
Resources % workforce	-0.099 (0.476)	0.379 (0.384)	0.974* (0.405)	1.653** (0.456)
Agric. output % GRP	-0.460 (0.277)	-0.045 (0.238)	-0.009 (0.208)	0.059 (0.275)
Manufac. output % GRP	-0.017 (0.156)	0.031 (0.108)	0.143 (0.127)	0.372* (0.171)
Unemployment	1.086** (0.367)	0.520* (0.221)	0.125 (0.135)	0.391 (0.235)
Δ Res. output since 00		0.118 (0.220)	0.148 (0.184)	0.178 (0.174)
Observations	82	82	83	83
R ²	0.250	0.459	0.441	0.546
Adjusted R ²	0.144	0.374	0.354	0.476
Residual Std. Error	9.781 (df = 71)	7.087 (df = 70)	6.976 (df = 71)	8.345 (df = 71)
F Statistic	2.360* (df = 10; 71)	5.391** (df = 11; 70)	5.083** (df = 11; 71)	7.767** (df = 11; 71)

Note:

*p<0.05; **p<0.01

Table 13

	<i>Dependent variable: UR vote (Duma)</i>		
	UR vote/Turnout Count		
	2003	2007	2011
	(1)	(2)	(3)
Turnout level	0.110 (0.163)	−3.704** (0.816)	0.880** (0.249)
log(Population)	1.963 (4.173)	3.984 (30.982)	12.745* (6.327)
log(GRP)	−3.002 (3.680)	−3.222 (28.184)	−11.645 (6.084)
Urban pop. %	−0.009 (0.173)	−0.457 (1.088)	−0.591* (0.276)
Higher ed. emp.	0.391 (0.269)	−0.800 (1.635)	0.529 (0.474)
Manufac. % workforce	0.433 (0.293)	1.637 (2.671)	−0.424 (0.530)
Resources % workforce	1.117* (0.529)	1.019 (4.000)	1.680* (0.688)
Agric. output % GRP	0.749* (0.374)	0.768 (2.307)	−0.861 (0.563)
Manufac. output % GRP	−0.025 (0.179)	−0.583 (1.179)	0.082 (0.331)
Unemployment	0.280 (0.277)	1.469 (1.679)	0.075 (0.498)
ΔRes. output since 00	−0.620 (0.476)	−1.618 (1.827)	0.046 (0.382)
Observations	82	80	83
R ²	0.314	0.257	0.461
Adjusted R ²	0.207	0.136	0.377
Residual Std. Error	10.359 (df = 70)	68.955 (df = 68)	18.174 (df = 71)
F Statistic	2.918** (df = 11; 70)	2.134* (df = 11; 68)	5.521** (df = 11; 71)

Note:

*p<0.05; **p<0.01

Table 14

<i>Dependent variable: Turnout, Majlis, 1992-2004</i>				
	Turnout level			
	(1992)	(1996)	(2000)	(2004)
log(Population)	-10.537** (1.192)	-11.796** (1.193)	-10.156** (1.123)	-8.893** (1.049)
Urban pop. %	0.089 (0.094)	0.207* (0.093)	0.157 (0.091)	-0.112 (0.070)
Round2 (dummy)	-4.363* (2.206)	-4.067 (2.241)	-17.087** (2.222)	-20.071** (2.304)
Interperiod (dummy)	-1.935 (4.647)	-0.351 (3.666)	-4.216 (3.350)	
Incumbent (dummy)	-2.975 (2.142)	0.792 (2.008)	3.683 (2.169)	-0.946 (2.280)
Literacy %	-0.022 (0.028)	-0.039 (0.027)	-0.041 (0.028)	0.235 (0.273)
Agric. % workforce	0.046 (0.118)	0.160 (0.115)	0.033 (0.108)	-0.049 (0.102)
Manufac. % workforce	0.014 (0.140)	-0.129 (0.137)	-0.390** (0.138)	-0.461** (0.152)
Resources % workforce	0.722 (0.587)	-0.002 (0.648)	0.234 (0.474)	0.421 (0.677)
Unemployment	-0.083 (0.189)	-0.585** (0.194)	-0.006 (0.187)	-0.319* (0.136)
Constant	168.454** (16.790)	190.498** (16.719)	179.230** (15.670)	158.864** (22.878)
Observations	232	221	249	242
R ²	0.516	0.577	0.540	0.605
Adjusted R ²	0.494	0.557	0.520	0.590
Residual Std. Error	14.308 (df = 221)	13.666 (df = 210)	14.198 (df = 238)	14.145 (df = 232)
F Statistic	23.551** (df = 10; 221)	28.614** (df = 10; 210)	27.903** (df = 10; 238)	39.525** (df = 9; 232)

Note:

*p<0.05; **p<0.01

Table 15

<i>Dependent variable: Turnout, Majlis, 2008-2016</i>			
	Turnout level		
	(2008)	(2012)	(2016)
log(Population)	−9.069** (0.997)	−8.375** (1.151)	−6.023** (1.040)
Urban pop. %	−0.071 (0.067)	−0.289** (0.087)	−0.219* (0.085)
Round2 (dummy)	−12.922** (1.991)	−13.573** (2.534)	−21.622** (2.207)
Incumbent (dummy)	1.625 (1.881)	−1.810 (2.059)	
Literacy %	0.118 (0.251)	0.683* (0.332)	0.399 (0.326)
Agric. % workforce	−0.008 (0.098)	0.020 (0.145)	0.050 (0.143)
Manufac. % workforce	−0.600** (0.150)	−0.321 (0.188)	−0.487** (0.186)
Resources % workforce	−0.319 (0.654)	0.922* (0.462)	1.300** (0.457)
Unemployment	−0.132 (0.131)	−0.114 (0.161)	−0.441** (0.163)
Constant	165.445** (21.392)	127.495** (30.382)	125.763** (29.398)
Observations	247	254	252
R ²	0.640	0.646	0.551
Adjusted R ²	0.626	0.633	0.536
Residual Std. Error	13.586 (df = 237)	14.520 (df = 244)	14.382 (df = 243)
F Statistic	46.747** (df = 9; 237)	49.430** (df = 9; 244)	37.206** (df = 8; 243)

Note:

*p<0.05; **p<0.01

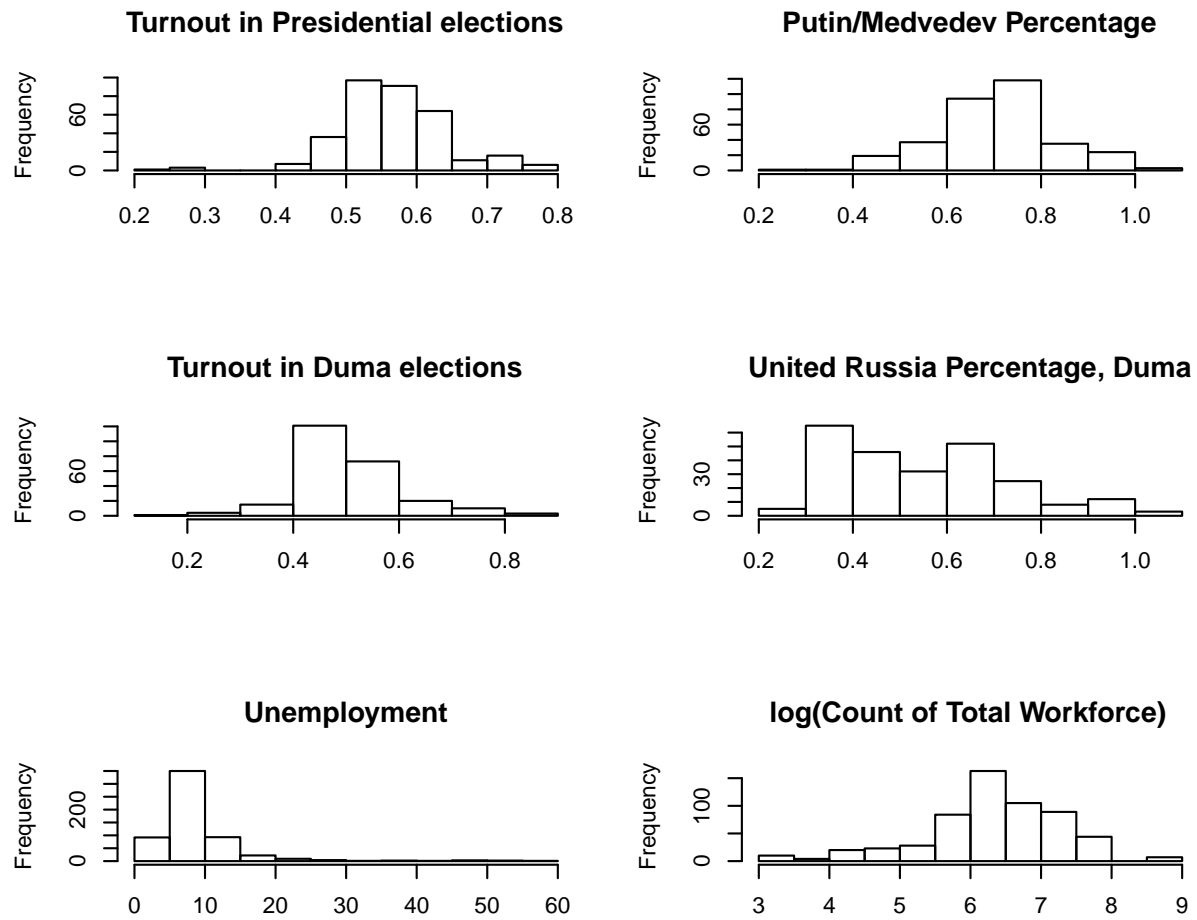


Figure 1: Histograms of electoral and socioeconomic data used in the study of Russian elections, total $N = 581$

Turnout & Unemployment by Year, Presidential Elec.s



Figure 2: Turnout and Unemployment in Russian Presidential Elections, 83 Regions

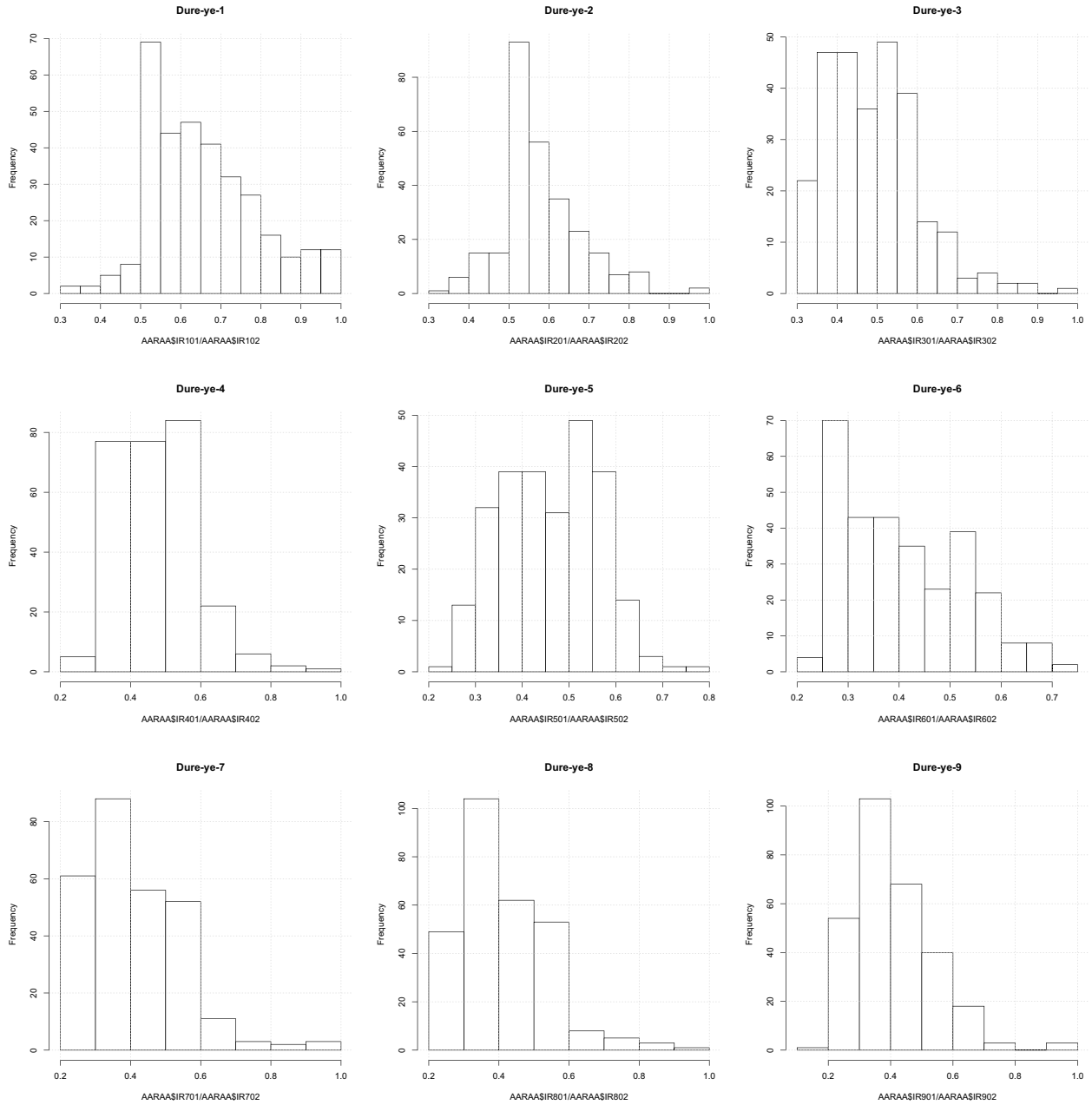


Figure 3: Histograms of winning vote shares, Islamic Republic's *Majlis* Elections 1980-2012, y axis: frequency, The first nine elections to the Iranian National Assembly, held from 1980 to 2012, left to right, top to bottom, district level

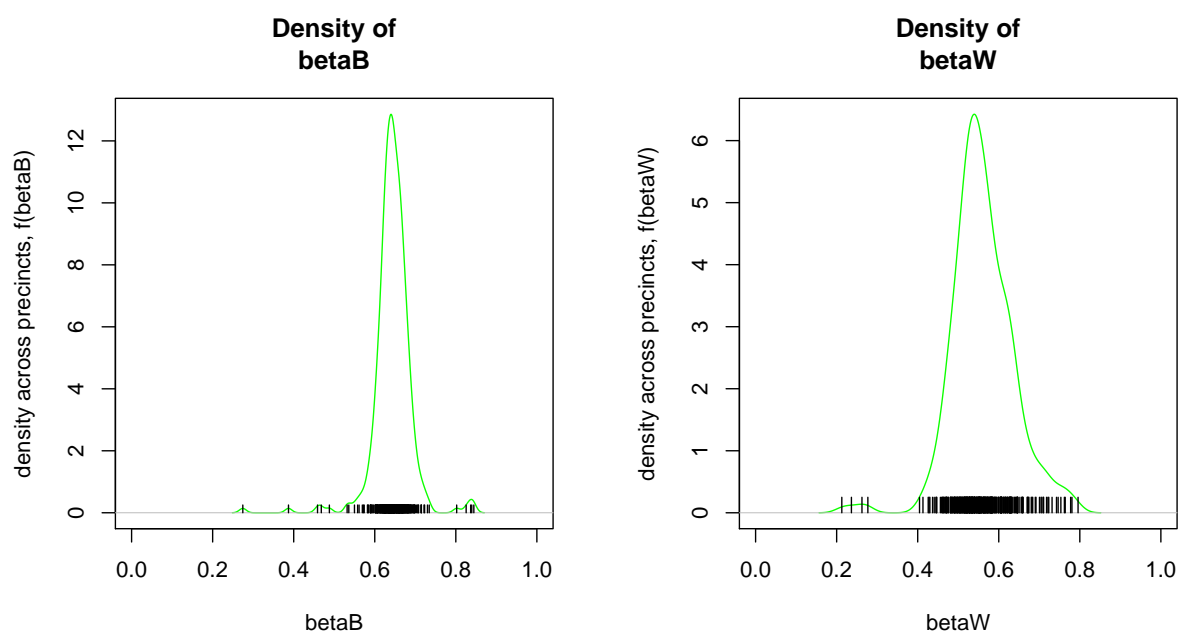


Figure 4: Ecological Inference, Estimator for turnout among the unemployed (left) and the employed (right) population, in Russian presidential elections data