

# Voting After Democratic Backslide

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## Abstract

How do citizens engage with electoral institutions after democratic backslide? Following Hirschman (1970) we conceptualize three options open to citizens: abstention (exit), voice (spoilage), or loyalty (opposition voting). We investigate the ecological correlates of these outcomes across 343 Egyptian electoral districts in presidential elections before (2012) and after (2014) the 2013 military coup. We find that districts that supported the winner in democratic elections were systematically more likely to feature higher abstention, spoilage, and opposition voting in post-backslide elections. Districts with higher numbers of public employees featured lower abstention but higher spoilage rates, which we interpret as consistent with arguments that it is easier for patronage machines to monitor turnout rather than vote choice. We also find that rates of abstention, spoilage, and opposition voting were highly correlated across both elections, which potentially indicates a consistency of behaviors regardless of whether or not elections are free and fair.

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# 1 Introduction

The Arab Spring uprisings inspired hope that a wave of democratization would at last uproot the staunch authoritarian regimes of the Middle East. Protesters flocked to the polls to create new legislatures, executives, and constitutions, democratic consolidation, but these transitions were soon thwarted by widespread violence or renewed autocracy (Brownlee, Masoud, and Reynolds 2014). While there is an increasing theoretical interest in such “backsliding,” these investigations have often focused on elite behaviors or the formal institutional change that signal such a process is underway (Bermeo 2016; Lust and Waldner 2015). Comparatively less attention has been paid to the ways that ordinary citizens respond to backsliding, whether to an “uneven playing field” (Levitsky and Way 2002*a*) or they types of largely pre-ordained outcomes that mark a variety of contemporary non-democratic regimes. We use Hirschman (1970)’s foundational framework to conceptualize the electoral choices on offer to citizens in these cases: they can exit the system by simply abstaining from participation, voice their discontent by casting a spoilt ballot, or display loyalty to the system by participating in the electoral process and voting for the incumbent (Zartman 1990; Albrecht 2005). Under what conditions do citizens exercise these options?

We explore these questions in post-2013 Egypt. Hosni Mubarak’s February 2011 resignation triggered a series of referenda, legislative, and presidential elections, all of which were hailed as being the freest and the fairest in Egypt’s history. Major backsliding began when as the military removed elected president Mohammed Morsi from office in July 3, 2013 (Ketchley 2017*a*). A May 2014 election cemented military rule when de-facto president Field Marshall Abdel Fattah El-Sisi won over 95% percent of the vote running against a single weak opponent. These national outcomes obscured often considerable subnational variation: in the Upper Egyptian governorate of Assuit, less than a quarter of registered voters turned out in the district of Ghoneim, while in the nearby district of Abu Tig turnout approached

50%. In the Port Said governorate, electoral officials in the district of Port Fouad, located at the mouth of the Suez Canal, categorized almost 9% of the ballots as invalid, while in the district of Ganub a few kilometers south, the rate of spoilage barely reached 2%.

An ecological analysis of 343 electoral districts reveals strong legacies from prior democratic periods in elections *after* democratic backsliding. Districts that had supported the winner in 2012's free and fair contests are correlated with higher abstention, spoilage, and support for the opposition candidate in 2014. We also find telling evidence of the influence of patronage networks. While districts with a higher public sector employment have systematically higher turnout rates, they also yield greater rates of ballot spoilage, suggesting that beneficiaries coerced into participation may use the privacy of the voting booth to avoid supporting the regime. Finally, spoilage and turnout rates from the 2012 presidential elections were highly correlated with those same outcomes in 2014, suggesting that a non-trivial percentage of citizens continue to engage with the electoral process in similar ways regardless of whether the outcome is uncertain or preordained. One potential implication is that having participated in higher quality democratic elections continues to exert an effect on political behavior once a democratic opening has been closed.

The paper proceeds as follows. We first outline existing literatures on democratic backsliding and voting behavior under authoritarianism to identify plausible hypotheses to test with subnational electoral data. We then describe Egypt's trajectory during the period under study and introduce our key variables and estimation strategy. We follow by presenting and discussing our results. We conclude by highlighting potential weaknesses and extensions of our findings, as well as implications for our understanding of democratic backsliding.

## 2 Democratic Backsliding

According to O’Donnell and Schmitter (1986, 6) a democratic transition can be ended either by the consolidation of democracy, the return to authoritarian rule, or the emergence of a revolutionary alternative. The course of a transition hinges on a number of contingent factors, such as decisions of compromise and cooperation made by elites (Rustow 1970; O’Donnell and Schmitter 1986; Di Palma 1990), as well as the nature of pre-existing societal and institutional structures (Lipset and Rokkan 1967; Rueschemeyer, Stephens, and Stephens 1992; Brownlee, Masoud, and Reynolds 2014). Authoritarian regression can be spurred by either exogenous or endogenous factors, including military or foreign intervention, democratic encroachment by the incumbent, or mass mobilization (Rustow 1970; Maeda 2010). Recent theories of democratic backsliding center on a negative change in the quality of democratic institutions, and depending on the definition can include changes to the independence of the judiciary, the institutional restraint on the power of the executive, and laws regarding rights of free speech and assembly (Lust and Waldner 2015; Bermeo 2016).

Hungary is an example of such a backslide. The country witnessed rich democratic contestation in the post-Soviet era, but more recently has experienced a reversion to semi-authoritarian practices by the state (Kopstein 2003; Ágh 2013; Greskovits 2015). Similarly, Serra (2010)’s study of the “de-democratization” of Mexico highlights how a weakening of electoral institutions strengthened the ruling party’s dominance. Backsliding in electoral institutions can occur in non-democratic regimes, where it indicates a decline in democratic qualities of governance (Lust and Waldner 2015). Kienle (2001)’s study of “deliberalization” in Egypt in the 1990s highlights negative developments with regard to the penal code, the freedom of syndicates and trade unions, and an increase in electoral fraud which decreased the nominally democratic quality of certain institutions.

These investigations use the quality of elections to distinguish between democratic

and non-democratic regimes (Linz and Stepan 1996; Schumpeter 1942). For example, Bermeo notes how elections may shift from free and fair contests with *ex ante* uncertainty over outcomes to more constrained choices, where formal and informal changes in rules, norms, and institutions, decrease the competitiveness, independent oversight, and accountability of elections (Bermeo 2016). Lust and Waldner (2015) similarly recognize a change in quality of competitive electoral procedures as a core component of democratic backsliding.

In the next section we shift the analysis from elite behavior and change in formal institutions to the ordinary citizens who engage with the electoral process after a democratic backslide. In particular, we distill the literature on democratic backsliding, authoritarianism, and electoral behavior to identify plausible relationships that might appear in a subnational analysis of voting after democracy.

### 3 Electoral Engagement After Democratic Backslide

The “third wave” of democratization suggested that democracy was on the rise in the late twentieth century (Huntington 1993). But even as scholars focused their attention on the proliferation of newly democratic states, they also kept one eye on the ways in which legacies of authoritarian rule structured competition in subsequent democratic periods (Grzymala-Busse 2002; McFaul 2002; Howard 2003; Hagopian 2007). Today, instead of a wave of democratization, scholars warn of a global “recession” (Diamond 2015) or “rollback” (Diamond 2008) of democracy.<sup>1</sup> So just as third wave investigations attempted to account for authoritarian legacies, we seek to identify whether influences of more liberalized competition persist after a democratic backslide.

One benefit of our approach is the ability to make explicit comparisons with patterns of electoral engagement from more competitive periods. So while we are able to examine a

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<sup>1</sup> Although there have been troubling developments, this claim may be exaggerated (Brownlee 2017; Levitsky and Ziblatt 2018).

variety of demographic and institutional variables theorized to exert influence over electoral behavior in authoritarian environments, we are also able to account for specific characteristics derived from a prior, and unfortunately truncated, democratic period. Our investigation leverages a unique, albeit unfortunate, moment in Egypt’s recent political history to capture, to borrow Hirschman’s terminology, how voters react to a decline in the quality of democracy.

We derive three clusters of hypotheses that offer predictions about the factors shaping post-backslide politics. First, we focus on characteristics of democratic transitions themselves. These include general perceptions of efficacy in pre-backslide politics as well as how specific partisan loyalties identified during democratic elections might conceivably manifest post-backslide. We also identify how differential exposure to economic decline and disorder accompanying the decline of democratic quality shape attitudes in the less competitive periods that follow. Second, we use the general literature on authoritarian elections to make predictions about voting behavior, focusing particularly on clientelism and access to public sector jobs. Finally, we cast a broad net to identify how particular demographic characteristics of the electorate may correlate with patterns of post-backsliding electoral engagement.

### **3.1 Residues of Democracy**

Scholars have interpreted abstention, and particularly, spoilage as forms of purposive political protest. Uggala, for example, argues that “such voting is a conscious act related to the political choices available through the election” (2008, 1161). Examining Bolivia’s 2011 elections, Driscoll and Nelson find that “the opposition overwhelmingly chose to spoil their ballots as a signal of discontent with the electoral process and the government more generally” (2014, 557-558). In the American context, Herron and Sekhon (2005) counter findings of an association between minority status and “residual votes” by showing a considerable drop in these types of votes in elections with black candidates on the ballot. Rather than signs of structural factors, such as illiteracy or lower levels of education, they interpret this as

evidence that a portion of incorrect votes are actually dissatisfaction with the choices on offer, in particular a lack of ethnically similar candidates.

This cluster of research has obvious implications for elections in less than democratic contexts. In Brazil, Power and Roberts (1995) find that compulsory voting under military rule led to high turnout but blank and spoiled ballots, which they interpreted as a form of protest against the authoritarian government. Fornos et. al. (2004) find a similar dynamic at work cross-nationally, noting that in countries with compulsory voting there is a greater percentage of spoilt ballots. To the extent that modern autocracies often rely on the political support of swathes of the population opposed to alternative social agglomerations, patterns of electoral behavior would seem to map onto these cleavages (Levitsky and Way 2012; Slater 2010; Waldner 1999).

We rely on a series of baseline assumptions to identify and conceptualize protest. High levels of citizen engagement during elections suggests satisfaction with the incumbent regime. Namely, regimes desire low abstention, low spoilage, and low support for the opposition, all of which indicate substantial support for the incumbent and, more generally, citizen engagement with formal regime institutions (as opposed to harder-to-control extra-institutional politics such as demonstrations or violence). Alternatively, regimes fret that their electoral contests will be marred by high abstention, high spoilage, and high support for the opposition, which indicate dissent not only with the specific incumbent, but more generally with the extant political system.

We derive two potential hypotheses for how the particular process of democratic backslide may manifest itself in post-backsliding politics. The first is non-partisan; we consider whether general feelings of efficacy on the part of the voter, influenced by the structure of subnational political competition during the democratic opening, might have an effect on voting behavior under authoritarianism. In other contexts, scholars have found where one perceives their individual likelihood of casting a deciding vote is higher, they will be less

likely to abstain or cast an invalid ballot (Levine and Palfrey 2007; Duffy and Tavits 2008). For example, based on a cross-national study of Presidential elections in Latin America and post-Communist countries, Kouba and Lysek argue that “Our evidence solidifies the conclusion that ... invalid votes are the product of a cost-benefit consideration of the likelihood of casting a pivotal vote, rather than of protest” (2016, 102). We interpret these findings slightly differently in the context of a backslide: that the disconnect between heightened perceptions of personal political efficacy in the period of democratic transition and the depoliticized atmosphere of authoritarianism will be highest where races were closest in the democratic period. This is consistent with Chen and Zhong (2002)’s finding that voters with a keener sense of internal efficacy are less likely to vote in China’s semicompetitive elections. Instead, those who identify more strongly with the regime are more likely to vote in the elections. We distill this as  $H_1$ :

$H_1$ : Districts where the margin of victory was smaller in pre-backslide elections will be less likely to engage (higher abstention, higher spoilage, higher opposition voteshare) in post-backslide elections.

Our second implication is much more partisan, based on the specific way that the authoritarian reversion maps on prominent political cleavages in society. In transitional contexts, for example, losers of elections are more likely to engage in protest (Anderson and Mendes 2006). In much the same way, we expect the electoral balance-of-power prior to the authoritarian reversion to condition post-reversion political behavior. We specifically expect those citizens whose preferred political option was disadvantaged by the end of democracy to display higher levels of electoral protest than those whose political preferences were supported.



H<sub>2</sub>: Districts which supported the democratically-elected incumbent in pre-backslide elections will be less likely to engage (higher abstention, higher spoilage, higher opposition voteshare) in post-backslide elections.

A period of democracy may also exert influence over post-backslide politics not through partisanship but through the pocketbook. Sectors of the economy are exposed differently to various political and economic factors, which ensures that processes of democratization and authoritarian regression impact citizens dependent on those sectors of the economy differently (Haggard and Kaufman 1995). In the particular case of Egypt, the disproportionate reliance of the economy on tourism made that sector particularly sensitive to political upheaval during the Arab Spring. Prior to the 2011 uprising, tourism-related industries employed an estimated 12 percent of Egypt's workforce, and in certain areas it was considerably higher. Since the uprisings, the onset of democratic competition, and the reversal following the 2013 coup, this industry suffered consistent declines over fears of unrest. Thus areas where the tourism economy is predominant should engage more strongly in authoritarian elections, on the assumption that the stability that they promise would revive the local economy. This produces H<sub>3</sub>:

H<sub>3</sub>: Districts which are more involved in sectors of the economy that rely on stability (tourism), are more likely to engage (lower abstention, lower spoilage, lower opposition voteshare) in post-backslide elections.

More intense forms of disorder during the democratic transition may also influence patterns of politics thereafter. Events surrounding democratic openings and backsliding disrupt the political, social, and economic life of a country. Political psychologists have identified the ways that underlying dispositions and sense of external threat can increase support for authoritarian policies (Merolla and Zechmeister 2009; Stenner 2005; Huddy, Feldman, Taber, and Lahav 2005). A number of experimental studies, grounded mainly in

advanced democracies, have shown how threat or feelings of insecurity increase support for authoritarian policies (Albertson and Gadarian 2015; Davis and Silver 2004; Huddy et al. 2005; Marcus 1995; McCann 1997).

Concerns over governability, perceived corruption, economic stress, and insecurity can incentivize citizens to support anti-systemic parties and politicians who vow to prioritize order and stability over competition and perceived chaos. Examining the rise of Rodrigo Duterte in the Phillipines, Pepinsky dubs this phenomenon “voting against disorder” (2017). A variety of anecdotal evidence suggests that this phenomenon may have widespread applicability. Amidst continued protests over widespread corruption in Brazil, one demonstrator told the *New York Times* that “We need a military coup... Brazil was better off during the military dictatorship.”<sup>2</sup> Citizens in restive parts of the Middle East have relayed similar sentiments. After terrorist attacks rocked Tunisia, some in the country pined for the dictator they ousted in 2011: “[L]ook what freedom has brought us: terrorism on the beach.”<sup>3</sup> One Turkish citizen explained his support for the increasingly authoritarian AKP similarly: “Without the AKP, this country will sink into chaos. We need a strong government to guide us through these times.”<sup>4</sup> This suggests an association between patterns of democratic-era political “disorder” and authoritarian-era support for the incumbent. We articulate this as the following:

H<sub>4a</sub>: Districts which experienced higher levels of disorder (political violence or protest) pre-backslide are *more* likely to engage (lower abstention, lower spoilage, lower opposition voteshare) in post-backslide elections.

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<sup>2</sup> Simon Romero, “Protests Continue in Brazil Against Dilma Rousseff,” *The New York Times*, December 13, 2015. Available online at: <https://www.nytimes.com/2015/12/14/world/americas/brazil-protests-dilma-rousseff.html>.

<sup>3</sup> Alice Su, “Look What Freedom has Brought Us: Terrorism on the Beach,” *The Atlantic*, June 29, 2015. Available online at: <https://www.theatlantic.com/international/archive/2015/06/tunisia-sousse-isis-democracy/397169/>.

<sup>4</sup> Ercan Gurses and Oran Coskun, “Turkey Returns to Single-Party Rule in Boost for Erdogan,” *Reuters*, November 1, 2015. Available online at: <https://uk.reuters.com/article/uk-turkey-election/turkey-returns-to-single-party-rule-in-boost-for-erdogan-idUKKCNOSP17S20151101>.

Alternatively, to the extent that these actions— protest and violence— suggest an underlying disenchantment with various social, political, and economic factors, it may be the case that this alienation will also be manifested in electoral behavior following the authoritarian regression. Although their sample consists of democracies, Fornos, et. al. find a direct correlation between a similar measure of disorder— specifically incidents of political violence— and rates of ballot spoilage (2004). This provides an inverse of  $H_{4a}$ :

$H_{4b}$ : Districts which experience higher levels of disorder (political violence or protest) pre-backslide are *less* likely to engage (higher abstension, higher spoilage, higher opposition voteshare) in post-backslide elections.

### 3.2 Authoritarian Elections

Leaving aside the specific post-backslide context, we can derive additional hypotheses from the general literature on non-democratic elections (Diamond 2002; Levitsky and Way 2002*b*; Geddes 2005; Schedler 2006; Gandhi and Przeworski 2007; Levitsky and Way 2010; Magaloni 2006; Blaydes 2011). Authors working in this vein of research identify a variety of ways that elections serve regimes, based on powersharing and co-optation, institutionalization of conflicts, demonstration of state power, production and dissemination of information, and efficient distribution of resources (Gandhi and Lust-Okar 2009; Schwedler and Chomiak 2006; Brownlee 2011).

Clientelism-based explanations for authoritarian elections offer a clean prediction for voting behavior. The use of public employment to secure support for incumbents is widespread in both democratic and non-democratic regimes (Calvo and Murillo 2004; Gimpelson and Treisman 2002). As Gryzmala Busse suggests, “Employment in the state sector is both a source of rents and a mechanism of rent distribution. The steady employment and wages of state jobs can be attractive rewards to supporters and to the rulers at whose

discretion the employees serve, ensuring greater dependency on the ruler” (2008, 659). In autocracies, patronage is supercharged by resource imbalances, whereby ensconced incumbents can utilize their control over state resources to effectively co-opt large segments of society (Lust-Okar 2006; Mwenda 2007). Greene, for example, tells us that this dynamic is key to the survival of non-democratic regimes: “a large public sector allows the incumbent to dole out huge numbers of patronage jobs to supporters and withhold them from opponents” (2010, 811). Authors have also relied on this logic to explain subnational variation in electoral competitiveness in Argentina (Gervasoni 2010; Remmer 2007), the former Soviet States (McMann 2006), and the Middle East (Lust-Okar 2006; Blaydes 2011). This relationship suggests that:

H<sub>5</sub>: Districts with a higher share of employment in the public sector are more likely to engage (lower abstention, lower spoilage, lower opposition voteshare) in post-backslide elections.

### **3.3 Population Characteristics**

A variety of research identifies electoral behavior as a function of the electorate’s demographic characteristics. Drawing from democratic cases, these authors argue that spoiled ballots derive largely from differences in education, which shapes familiarity with the electoral process. For example, in the 1996 U.S. Presidential election, Knack and Kropf find that spoiled ballots were highest in minority neighborhoods and places with lower average levels of education, but that these differences were ameliorated in districts where voting equipment was designed to prevent unintentional spoilage (2003). Sinclair and Alvarez find a similar relationship between education and spoilage in a smaller context, Los Angeles county (2004). This result also seems to hold outside the U.S. Pachon et. al. find that in Columbia that, in conjunction with level of education, the physical structure of the ballot itself influences the

prevalence of spoiled votes (2017). In their cross-national study of Latin American elections, Power and Garand (2007) also find that these demographic factors strongly predict rates of spoilage. Finally, McAllister and Makkai (1993) examine Australian elections and find that the prevalence of immigrants with poor command of English, combined with compulsory voting and complex electoral system, produces a higher rate of invalid votes.

Other explanations use demographic characteristics as proxies for difficult-to-observe processes. (2011) notes how the pervasive clientelism of authoritarian contexts tends to reverse the relationship between education and voting observed in democracies: whereas turnout is associated with higher levels of education in developed countries, in authoritarian contexts such as Egypt, “illiterates are twice as likely to vote as those who can read” (Blaydes 2006)<sup>5</sup> Croke, et. al. (2016) find similar patterns in Zimbabwe’s competitive authoritarian elections in 2008, where higher levels of education led to higher abstention, which they suggest is indicative of a process by which more educated individuals become disillusioned with democratic facades. In a similar vein, Karklins (1986) finds that younger, educated, urban centers had a higher likelihood of abstention in Soviet Russia. Whether related to poorer citizens’ supposedly higher propensity to have their vote bought or wealthier citizens’ supposed susceptibility towards disenchantment, we expect to detect that:

H<sub>6</sub>: Districts with a higher share of illiterates are more likely to engage (lower abstention, lower spoilage, lower opposition voteshare) in post-backslide elections.

## 4 Egypt’s Failed Transition

On February 18, 2011, 18 days of sustained protests forced the resignation Hosni Mubarak after nearly 30 years in office. After decades of being denied legal political participation, the Brotherhood applied for and – for the first time in its history –received a license

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<sup>5</sup> Abadeer, Blackman, and Williamson (N.d.) find that this pattern reverses in Egypt’s 2012 (democratic) presidential elections, where turnout was higher in more educated and urban districts.

to operate a legal political party, called the Freedom and Justice Party (FJP). During the 2011-2012 elections for the National Constituent Assembly, the FJP led the Democratic Alliance, which garnered 37.5 percent of votes, the highest percent won by a single list. In June 2012, Mohamed Morsi, a former member of the Brotherhood's Guidance Bureau who had represented the organization in parliament under Mubarak, defeated former Prime Minister and Air Force commander Ahmed Shafiq with 51.7 percent of the vote in a two man run-off, and was inaugurated as Egypt's first democratically elected president.

On February 18, 2011, 18 days of sustained protests forced the resignation of Egypt's long-serving president, Hosni Mubarak, after nearly 30 years in office. After decades of being denied official political participation, the Brotherhood applied for and – for the first time in its history –received a license to operate a legal political party, called the Freedom and Justice Party (FJP). During the 2011-2012 elections for the National Constituent Assembly, the FJP led the Democratic Alliance, which gathered 37.5 percent of votes, the highest percent won by a single list. In June 2012, Mohamed Morsi, a former member of the Brotherhood's Guidance Bureau who had represented the organization in parliament under Mubarak, defeated former Prime Minister and Air Force commander Ahmed Shafiq with 51.7 percent of the vote in the second-round, and was inaugurated as Egypt's first democratically elected president.

However, the Brotherhood quickly went from overwhelming electoral triumphs to vicious repression and exclusion at the hands of a revived authoritarian regime. On the one-year anniversary of Morsi's inauguration, the youth group *Tamarod* (Arabic for “Rebellion”), conspicuously aided by elements of Egypt's security apparatus, organized massive anti-Morsi protests (Ketchley 2017a). On July 3, 2013, military officers removed Morsi from power, suspended the constitution, and installed an interim government. In the aftermath of the coup, the military began an unprecedented crackdown on the Brotherhood. Within a year, estimates put the number of detained around 40,000 detentions, the majority being

Brotherhood members or supporters.<sup>6</sup>

In May of 2014 Field Marshall Abdel Fattah El-Sisi garnered approximately 97% of the vote in a presidential election, decisively defeating Nasserist Hamdin Sabahi. The election featured numerous procedural irregularities. Election observers from Democracy International wrote in their final report, “although Egypt’s constitution guarantees freedom of speech and association, continued suppression of political dissent and restrictions on fundamental freedoms have prevented free political participation and severely compromised the broader electoral environment. This environment made a genuinely democratic presidential election impossible.”<sup>7</sup> While Egypt was by no means a consolidated democracy prior to the July 2013 military coup, it did experience democratic backsliding: a clear and negative change in the quality of its democratic institutions, particularly that of competitive elections, individual liberties, and accountability. In the remainder of this paper we attempt to understand how ordinary citizens engaged with the country’s electoral institutions after these events.

## 5 Research Design

We investigate the effects of democratic backsliding on patterns of voter behavior subnationally, leveraging considerable variation across Egyptian districts (in rural areas the *markaz*, pl. *marakiz*; in urban areas the *qism*, pl. *aqsam*).<sup>8</sup> These are Egypt’s second-level administrative divisions, roughly akin to American counties, and the lowest level of spatial disaggregation for which voting statistics are currently available. Egypt’s 2006 census included 343 inhabited districts, the smallest of these contained 16 residents (Alamein Ma-

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<sup>6</sup> According to reports from Wikithawra, an initiative run by the independent Egyptian Center for Economic and Social Rights.

<sup>7</sup> [http://democracyinternational.com/media/Egypt%20Presidential%20Election%20Observation%20Report%20\(ES\)%20-%20for%20web.pdf](http://democracyinternational.com/media/Egypt%20Presidential%20Election%20Observation%20Report%20(ES)%20-%20for%20web.pdf).

<sup>8</sup> Prior studies of Egyptian voting have done the same (Abadeer, Blackman, and Williamson N.d.).

rina Tourist District, in Matrouh), while the largest was al-Muntaza, in Alexandria, with 1,173,803 residents.

To these districts we match official election returns for pre- and post-coup presidential elections. Specifically, we retrieve from the Egyptian electoral commission website (<http://pres2012.elections.eg/>) results for Egypt’s first and second-round presidential elections, held in the summer of 2012. These contest, widely considered to be free from major irregularities, occurred over two stages. A first round occurred in May 2012 and pitted roughly a dozen major candidates against each other, including Islamist favorite and Brotherhood member Mohammed Morsi, prominent Islamist dissident Abdul Moneim Abu El-Fotouh, Mubarak-era Prime Minister Ahmed Shafiq, and Nasserist Hamdin Sabahi, among others. Because no candidate got over 50% of the vote, the second round contests, held one month later, featured the top two vote-getters from the first round contests, Morsi and Shafiq.<sup>9</sup> On June 24, 2012 Egyptian authorities announced that Mohammed Morsi had won with 51.73% of the vote. We also retrieve results for 2014 presidential elections, which El-Sisi handily won, from the same electoral commission’s website (<https://pres2014.elections.eg/presidential-elections-2014-results>) and compile them into similar district-level indicators.<sup>10</sup>

Our research design marks a departure from existing studies into authoritarian executive elections. For example, in his cross-national study of authoritarian executive elections in the Arab World, Brownlee (2011) notes how abnormally low voter turnout in Mubarak’s Egypt (22.9%) “poses an implicit challenge” for prevalent theories of political dissent, clientelism, and state dominance. Yet while Egypt may indeed complicate theories

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<sup>9</sup> For differences in these variables across the first and second round presidential elections of 2012, see Abadeer, Blackman, and Williamson (N.d.).

<sup>10</sup> We follow prior research that relies on official statistics from authoritarian elections, although we too note the possibility that they have been systematically altered in some way (Brownlee 2011). Since the outcome in 2014 was not in doubt, Simpson’s (2013) work seems particularly relevant, specifically his argument that regimes often tinker with results beyond winning/losing to demonstrate supermajorities. In the appendix we report a series of tests designed to uncover evidence of fraud.



of non-democratic elections when compared to its Arab, or even non-Arab authoritarian peers, there are notable differences when Egyptian electoral districts are compared to each other. Our approach “scales down” the unit of analysis to a more local level (Snyder 2001) in an effort to offer a new perspective on electoral engagement in authoritarian contexts. It also allows us to ‘hold constant’ a variety of other factors theorized to influence abstention, spoilage, and opposition voting. These include regime type, voting laws (e.g. mandatory voting), electoral system design, or the ballot’s physical layout. Furthermore, constricting analysis to a single, two-candidate presidential election eliminates the possibility that institutional factors, such as district magnitude or number of parties, is influencing the results.

Finally, given the absence of panel data over this period, our ecological approach offers the best opportunity to identify the how 2013’s democratic backsliding influences patterns of voter engagement. The fact that Egypt’s electoral map remained stable between 2012-2014 allows us to reach back to the 2012 elections in order to isolate how the sudden democratic reversion, spurred by the summer 2013 military coup, shaped the specific ways in which citizens interacted with the electoral process. Not only does this allow us to identify how patterns of candidate support in 2012 pattern turnout and spoilage in 2014, it also identifies a baseline, and thus controls for, a level of turnout and spoilage from free and fair elections.

## **5.1 Dependent Variables**

We use Hirschman’s Hirschman (1970) foundational conceptualization to outline the electoral choices on offer to citizens after democratic backsliding: they can exit the system by simply abstaining from participation, voice their discontent by casting a spoilt ballot, or display loyalty by voting for the incumbent.

We measure these three concepts in three discrete dependent variables, all drawn from the 2014 presidential election and measured as ratios at district level. First, we characterize the “exit” option as total abstention from the electoral process. To measure this, we calculate a ratio of abstainers (total registered voters minus total ballots cast) to total registered voters in the district. Figure 1 presents this variation.

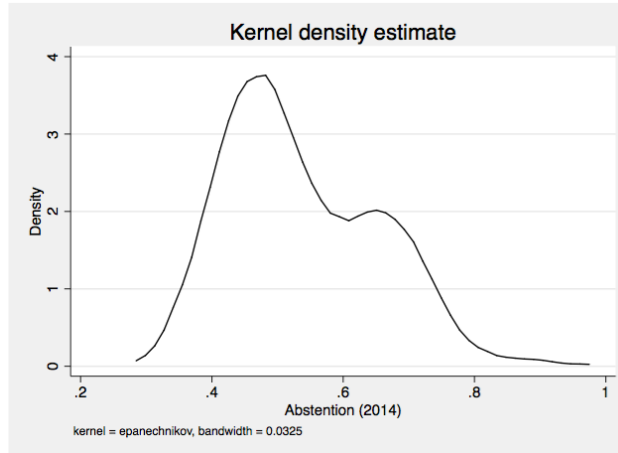


Figure 1: Abstention (2014)

We identify “voice” as partial participation in the electoral process, specifically the casting of a spoiled ballot (spoiled ballots to total ballots cast).<sup>11</sup> While we do attempt to control for the possibility that spoiled ballots are a result of unfamiliarity with the electoral process rather than a de-

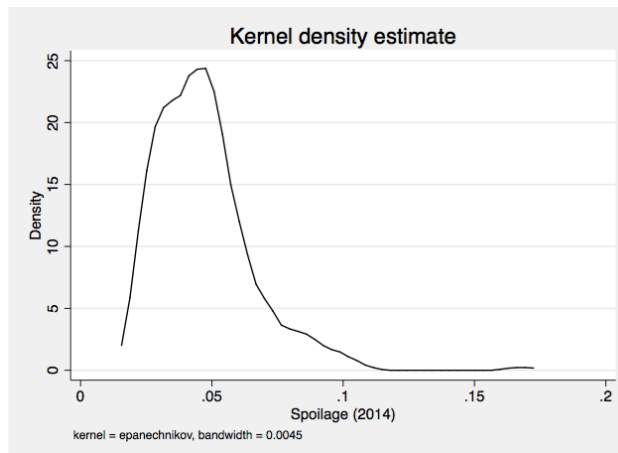


Figure 2: Spoilage (2014)

liberate decision to cast a purposely spoiled ballot, via our illiteracy and prior elections variables, we cannot say what percentage of spoiled ballots were deliberate acts of protest

<sup>11</sup> Unfortunately, the data does not denote whether the valid was invalid due to spoilage or blankness, which potentially obscures relevant variation (Driscoll and Nelson 2014).

versus well-intentioned mistakes. Variation in ballot spoilage is presented in Figure 2.

Finally, Figure 3 presents variation in the “loyalty” option, which we conceptualize as electoral support for the opposition candidate. We particularly follow the framework of William Zartman (1990), who conceptualizes the background decision to participate in regime institutions as highly consequential for preserving regime stability, even if the point of the engagement is to support the incumbent’s opponent (see also Albrecht 2005). To measure pro-opposition voting, we calculate a simple ratio of votes for the single opposition candidate (Hamdeen Sabahi) to total ballots cast.<sup>12</sup>

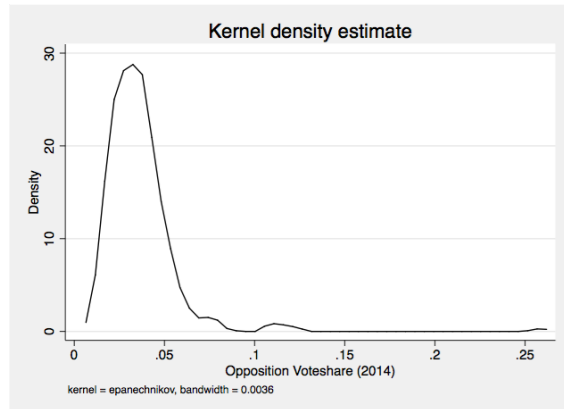


Figure 3: Pro-Opposition Voting (2014)

## 5.2 Independent Variables

### Efficacy

$H_1$  predicts that engagement in the 2014 elections will be conditioned by voters’ perceived political efficacy, derived from the closeness of the election in their district in the 2012 second-round presidential elections.

- Margin:  $\frac{\text{Absolute Value of (Morsi Voteshare (2012 2nd Round) - Shafiq Voteshare (2012 2nd Round))}}{\text{Total Votes 2012 2nd Round}}$ .

<sup>12</sup> Note that Hamdeen Sabahi was also a candidate for president in the first round (free and fair) contests of 2012, where he garnered 21.5% of the vote, good enough for third place (but not enough to participate in the two candidate run-off). We regress his 2014 performance on his 2012 first round performance in the appendix.

## Partisanship

H<sub>2</sub> predicts that voters will engage with the electoral process differently in 2014 depending on their partisan allegiances in 2012 and, in particular, whether or not the democratic reversal undermined or supported their chosen candidate as determined from the 2012 first round presidential elections.<sup>13</sup> While there are a variety of potentially influential cleavages, we pick arguably the most salient during the post-Mubarak period and collapse the vote totals for the two Islamist candidates in the race: Muslim Brother Mohammed Morsi and former Muslim Brother Abdel Moneim Abu El-Fotouh, who was formally endorsed by the Salafi Hizb al-Nour.<sup>14</sup>

- Pro-Islamist Voteshare: (Morsi Votes + Futouh Votes) / Total Votes Cast

## Pocketbook

H<sub>3</sub> predicts that electoral behavior will be determined by the extent to which economic decline has affected voters. From the 2006 Egyptian census occupation categories we construct a measure of district residents employed in the tourism industry (food and hotel services).

- Pocketbook: District residents employed in tourism industry / Employed residents.

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<sup>13</sup> We choose these first round contests because the field of candidates was wide, which allows us to disaggregate preferences in a very specific way. Other races, for example the second round contests, potentially aggregate preferences because they reduced the candidates on offer to two: Mohammed Morsi and Ahmed Shafiq.

<sup>14</sup> David Kirkpatrick and Mayy El Sheikh, "Support From Islamists For Liberal Upends Race in Egypt," *The New York Times*, April 28, 2012. Available online at: <http://www.nytimes.com/2012/04/29/world/middleeast/conservatives-in-egypt-back-liberal-to-oppose-brotherhood.html>; Khalil al-Anani, "Egypt's Blessed Salafi Votes," *Foreign Policy*, May 2, 2012. Available online at: <http://foreignpolicy.com/2012/05/02/egypts-blessed-salafi-votes/>.

## Disorder

H<sub>4a</sub> and H<sub>4b</sub> predict that the experience of “disorder” should influence patterns of post-authoritarian electoral behavior. We measure disorder in two ways, as protest and as violence. For the former, we rely on Ketchley’s catalog of district-level protest events during the first half of Egypt’s brief democratic transition (the calendar year 2011) (Ketchley 2017b). This data is valuable for the way it includes estimated size of protest event, which allows us to reasonably approximate how much citizens perceive a given protest event as an instance of disorder (Barrie and Ketchley 2017). For the latter, we download from the Global Terrorism Database at the University of Maryland (<http://www.start.umd.edu/>) a geo-located catalogue of terrorist events, with casualties, in Egypt from Feb. 11, 2011 to July 3, 2013. We assigned these events to context with a shapefile of districts.<sup>15</sup> This helps us produce the following variables:

- Protest Size: Size of protest events (square root transformed)
- Terrorism Casualties: Casualties (killed and wounded) from terrorist attacks (square root transformed)

## Patronage

H<sub>5</sub> predicts that electoral behavior will be determined by the extent of pro-incumbent patronage. From the 2006 census occupation categories we construct a measure of district residents employed in the public sector.<sup>16</sup>

- Patronage: District residents employed in the public sector/Emmployed residents.

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<sup>15</sup> Much of this violence is clustered in the Sinai Peninsula, related to the ongoing activities of the Islamic State’s regional affiliate (*Wilayat Sinai*) there. Thus we also include in all models that include the political violence measure a dummy for districts in either North or South Sinai.

<sup>16</sup> Specifically, this includes the categories of government worker or public worker.

## Demography

$H_6$  suggests that electoral behaviors should fluctuate as a result of underlying structural (demographic) variables. We use the 2006 Egyptian census to calculate an illiteracy variable.

- Illiteracy: Percentage of illiterate adults.

### 5.2.1 Controls

We also include into the below analyses a series of district-level controls.<sup>17</sup> These include:

- Abstention (2012 second round presidential elections):  $(\text{Registered Voters} - \text{Turnout}) / \text{Registered Voters}$
- Vote Spoilage (2012 second round presidential elections):  $\text{Spoilt Ballots} / \text{Votes Cast}$ <sup>18</sup>
- District Population: Total Population from the 2006 Census (logged)
- Percent Female:  $\text{Female Population} / \text{Total Population}$
- Sinai: A dummy variable for district in North or South Sinai governorates, the site of heightened violence.

## 6 Exit, Voice, and Loyalty in Egypt's 2014 Presidential Election

Below we present three models analyzing district-level rates of abstention, vote spoilage, and pro-opposition voting. As the dependent variable in each case is a percent-

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<sup>17</sup> Descriptive statistics and correlation matrix available in the appendix.

<sup>18</sup> We use the 2012 second round contests because it, like the 2014 contest, was a two-candidate race, allowing us to hold ballot construction constant.

age (i.e. bounded between zero and one), we fit a fractional logit model to estimate each outcome.

## 6.1 Abstention

Table 1 presents the models predicting abstention in 2014 as a function of our key demographic variables. Model one includes the control variables, model two adds in the demographic variables designed to test  $H_6$ , model three adds the employment variables necessary to test  $H_3$  and  $H_5$ , model four includes the disorder variables to test  $H_{4a}$  and  $H_{4b}$ . Models five and six add the substantive variables from the 2012 elections: the margin variable designed to test  $H_1$  is added to model five, while model six includes the partisanship (Islamist voteshare) variable designed to test  $H_2$ .

Table 1: District-Level Correlates of Abstention (2014)

	(1)	(2)	(3)	(4)	(5)	(6)
Abstention (2012 2nd Round)	3.012*** (0.308)	2.128*** (0.367)	2.086*** (0.388)	2.023*** (0.389)	2.406*** (0.374)	2.843*** (0.273)
Population (log)	-0.0112 (0.0213)	-0.0522* (0.0237)	-0.0532* (0.0260)	-0.0520* (0.0253)	-0.0236 (0.0234)	-0.00181 (0.0125)
Pct. Female	1.030 (0.668)	0.641 (0.640)	-0.968 (0.788)	-0.310 (0.992)	-0.104 (1.002)	0.790 (0.984)
Sinai Peninsula	0.175+ (0.101)	0.214* (0.0938)	0.259** (0.0989)	0.298** (0.110)	0.309** (0.0948)	0.123 (0.0879)
Pct. Illiterate		1.594*** (0.293)	1.132*** (0.298)	1.021*** (0.300)	0.320 (0.333)	-1.033*** (0.202)
Pct. Public Sector			-0.944* (0.387)	-1.178** (0.432)	-0.974* (0.425)	-0.758* (0.294)
Pct. Tourism			-1.608* (0.752)	-1.215 (0.813)	-1.272 (0.840)	-0.677 (0.674)
Protest Size (sqrt)				-0.000141+ (0.0000751)	-0.000183* (0.0000792)	0.0000133 (0.0000456)
Casualties (sqrt)				0.0141 (0.0269)	0.00612 (0.0249)	0.0214 (0.0175)
Margin (2012 2nd Round)					0.777*** (0.155)	0.192* (0.0787)
Islamist Voteshare (2012 1st Round)						2.301*** (0.120)
Constant	-1.690*** (0.348)	-0.968* (0.382)	0.0870 (0.566)	-0.158 (0.622)	-0.811 (0.587)	-2.288*** (0.478)
Observations	328	328	328	327	327	327
Pseudo $R^2$	0.016	0.019	0.019	0.020	0.022	0.033

Standard errors in parentheses

+ $p < 0.1$ , \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$



A district’s rate of abstention in the prior presidential election was highly correlated ( $p < .001$ ) with that district’s rate of abstention in 2014, confirming our intuition that it is important to control for prior (pre-backslide) electoral outcomes in these types of studies if possible.<sup>19</sup> Regarding the demographic characteristics, there was a strong

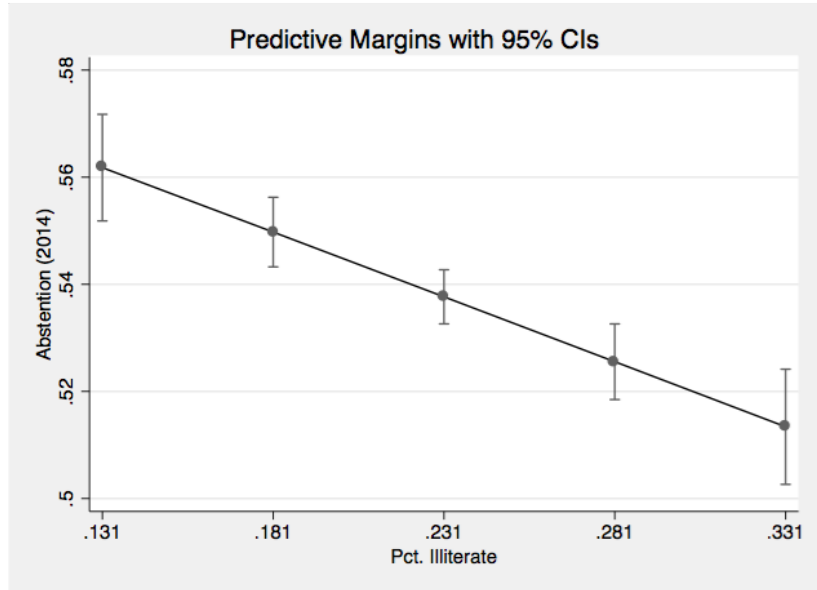


Figure 4: Illiteracy Rate

relationship between illiteracy, a key demographic variable, and abstention across all models. It is noteworthy that literacy was *positively* correlated with abstention in the first four models, suggesting that districts with a higher percentage of illiterates were more likely to abstain in 2014. However, the inclusion of variables related to the prior elections (2012) strongly influences this relationship. In the case of margin of victory in the 2012 second round contests, the relationship weakens a good deal, outside the bounds of accepted statistical significance ( $p < .336$ ). And accounting for areas of Islamist strength in the 2012 first round contests causes the sign on the relationship between literacy and turnout to reverse, becoming strongly significant in the process. The fact that illiterates were more likely to turnout is supportive of  $H_1$  although our research design is insufficient to tell us whether this is due to more pervasive clientelism targeting less wealthy voters (Blaydes 2006), or

<sup>19</sup> In the immediate aftermath of the 2014 elections analysts reported preliminary findings that subnational (governorate and district) patterns of turnout were broadly consistent with the 2012 contests. See Tarek Masoud’s tweet at <https://twitter.com/masoudtarek/status/474930998677753856> and Mostafa El-Hoshy’s tweet at <https://twitter.com/melhoshy/status/475940447463170048>.

greater disillusionment of more politically sophisticated citizens (Croke et al. 2016). Leaving the question of causal mechanisms aside, however, the impact of illiteracy is a substantively important influence on abstention rates. In the full model (model six), Figure 4 shows how moving from a district with an illiteracy rate around one SD below the mean (about 13% illiteracy, for example Qism al-Zuhor in the Suez Canal Governorate Port Said) to one with an illiteracy rate around one SD above the mean (roughly 33%, for example Markaz Sohag, in Upper Egypt) decreased predicted abstention rates in 2014’s presidential elections by around 10%.

Figure 5 depicts the marginal effects of percentage of public sector employment on abstention. As it shows, districts with a higher percentage of public sector workers experienced systematically lower abstention than districts with a lower percentage of public sector employees ( $p < .05$ ). At the low end of the scale, a district like Qena in

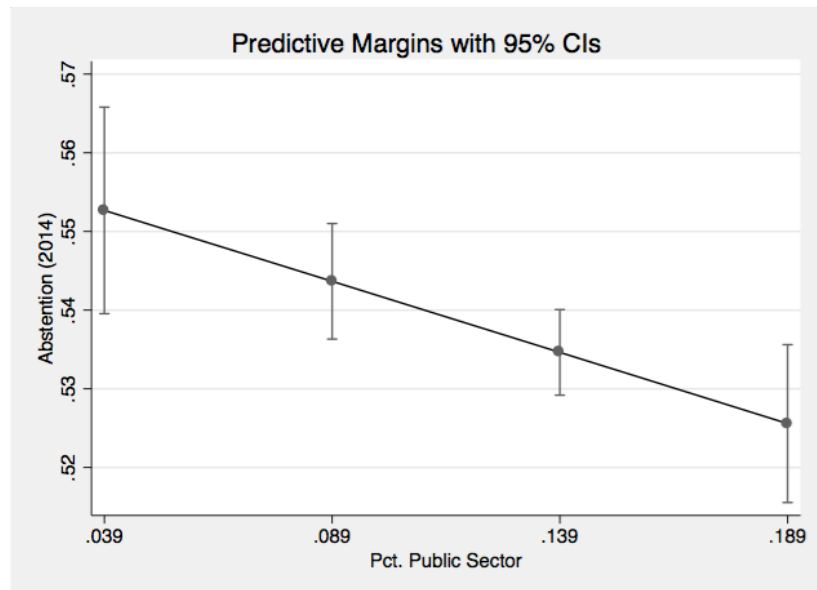


Figure 5: Public Sector Employment

Southern Egypt where less than 4% of the workforce is in the public sector, the model predicts that just over 55% of the electorate would abstain from the 2014 contests. However in a place like Fayyoun city, where almost 20% of the workforce is public sector, abstention would be expected to be slightly lower, at approximately 52.5%.

This inverse relationship between abstention and public sector employment supports  $H_2$ , which predicted that the common tendency of electoral authoritarian regimes to use

public sector employment to reward supporters would be reflected in patterns of electoral mobilization. Our other occupation-based variable, employment in the tourism industry, was not strongly-enough related with abstention to reject the null hypothesis, although the negative sign on the relationship was suggestive of the predicted relationship. Neither of the disorder variables—transformed terms capturing protest size or casualties from terrorism—were significant. Both signs were negative, however, which was predicted by H<sub>3b</sub>.

Both variables that captured political behaviors during periods of prior democratic contestation influenced abstention. Our variable capturing the margin of victory in 2012 was significantly ( $p < .05$ ) positively correlated with abstention in 2014, suggestive of a relationship whereby districts that witnessed a closer race between

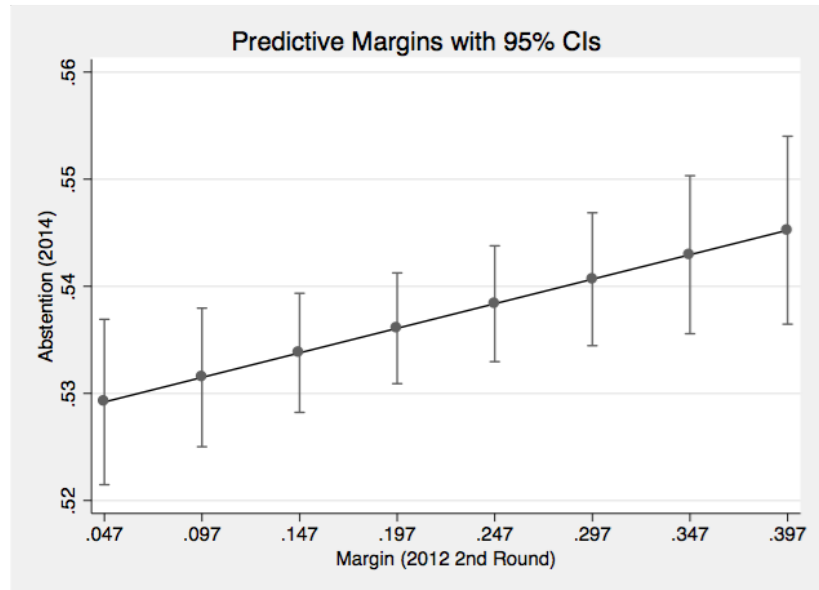


Figure 6: Margin of Victory (2012)

Mohammed Morsi and Ahmed Shafiq in 2012 featured higher participation in 2014. Figure 6 shows this effect was significant but substantively rather limited; moving from a hard-fought district in 2012’s presidential contest, such as Ismailiyya’s second district, to a blowout district (such as Meghaga, in Upper Egypt), only increased abstention rates in 2014 from approximately 53% to 54.5%.

This relationship contradicts H<sub>5</sub>, which predicted that districts in which citizens had a higher individual sense of efficacy in the political process under democracy would be most disillusioned by the swift reversion to autocracy. Our finding potentially suggests

the opposite: engagement in the free and fair contests of the 2012 second round elections seemingly carried through into elections following the democratic backslide.

Finally, the district-level voteshare for Islamist candidates in 2012's first round contests, specifically Mohammed Morsi and Abdel Moneim Abu El-Fotouh, was strongly positively correlated with abstention in 2014 ( $p < .001$ ). It also had a large substantive impact: districts where Islamist candidates struggled to break 30% of the votes cast in 2012

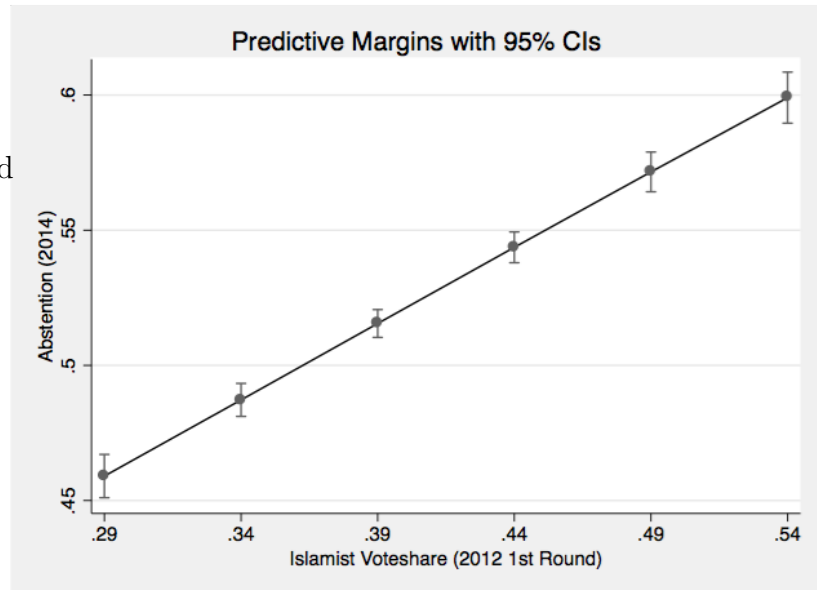


Figure 7: Islamist Voteshare (2012)

(such as Sharm al-Sheikh in South Sinai), have a predicted abstention rate of around 45%. But moving to Islamist strongholds, such as Wadi Natrun in the Delta governorate of Beheira, increased predicted abstention to 60%. This relationship supports  $H_5$  by showing generally lower rates of engagement with the electoral process in those districts whose preferred candidate had been unconstitutionally removed from power a year prior. Again, we cannot account for the mechanism through which abstention and pro-Islamist voteshare are correlated. On the one hand, it may be that districts with a higher percentage of pro-Islamist voters experienced a comparatively greater sense of dissatisfaction and alienation with the military coup that deposed their preferred candidate and this, in turn, was reflected in their less enthusiastic participation in elections in later periods. On the other, it may be that these districts were disproportionately targeted by authorities seeking to repress their opponents in the wake of the coup, which made voting for those particular citizens more difficult.

## 6.2 Spoilage

Table 2 presents the models predicting spoilage rates in 2014 following the same order as for Table 1.

Table 2: District-Level Correlates of Spoilage (2014)

	(1)	(2)	(3)	(4)	(5)	(6)
Spoilage (2012 2nd Round)	4.783* (2.063)	5.099* (2.517)	4.869+ (2.715)	5.299+ (2.737)	6.404** (2.305)	13.01*** (1.748)
Population (log)	-0.0969*** (0.0228)	-0.0982*** (0.0223)	-0.0890*** (0.0237)	-0.0905*** (0.0238)	-0.0628*** (0.0175)	-0.0376* (0.0163)
Pct. Female	0.769* (0.376)	0.750+ (0.385)	0.231 (0.512)	-0.379 (0.718)	-0.337 (0.663)	0.190 (0.846)
Sinai Peninsula	0.369*** (0.0927)	0.370*** (0.0929)	0.397*** (0.0888)	0.338** (0.112)	0.372*** (0.0898)	0.290*** (0.0874)
Pct. Illiterate		0.0760 (0.261)	0.0273 (0.372)	0.0113 (0.371)	-0.420 (0.390)	-1.040*** (0.283)
Pct. Public Sector			0.0765 (0.417)	0.168 (0.433)	0.401 (0.395)	0.576+ (0.314)
Pct. Tourism			-0.894 (0.573)	-1.276+ (0.658)	-1.183+ (0.658)	-0.360 (0.666)
Protest Size (sqrt)				-0.000154+ (0.0000933)	-0.000211+ (0.000117)	-0.0000879 (0.0000863)
Casualties (sqrt)				0.0104 (0.0258)	0.00913 (0.0244)	0.0253 (0.0242)
Margin (2012 2nd Round)					0.769*** (0.177)	0.0757 (0.0934)
Islamist Voteshare (2012 1st Round)						2.084*** (0.127)
Constant	-2.427*** (0.233)	-2.431*** (0.237)	-2.270*** (0.535)	-1.960** (0.612)	-2.450*** (0.476)	-3.864*** (0.448)
Observations	328	328	328	327	327	327
Pseudo $R^2$	0.004	0.004	0.004	0.004	0.006	0.012

Standard errors in parentheses

+ $p < 0.1$ , \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

As with abstention, a particular district’s rate of spoilage in free and fair elections (2012) was highly predictive ( $p < .001$ ) of spoilage in the authoritarian elections that followed. Turning to demographic variables, illiteracy again returns the expected results. In Table 1 illiteracy was negatively correlated with abstention, and Figure 8 shows

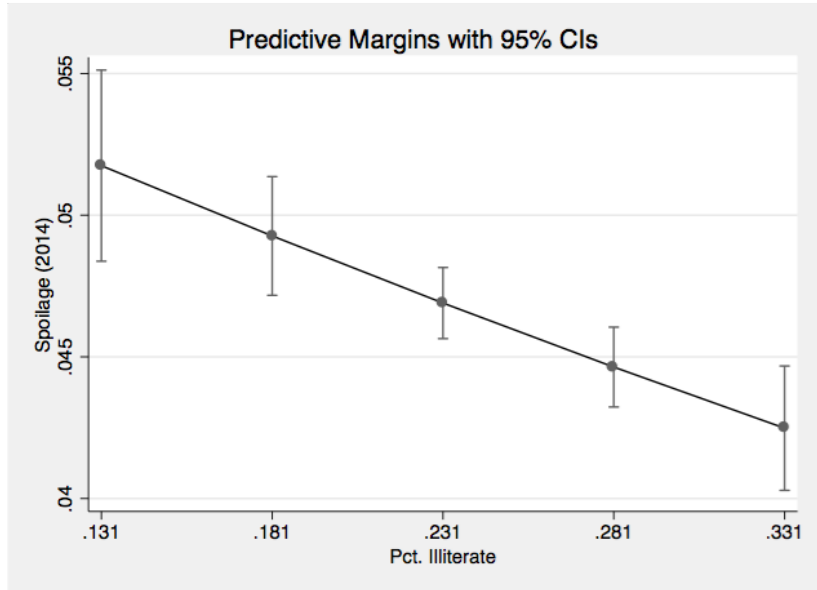


Figure 8: Illiteracy Rate

that a larger percentage of illiterates among district residents was also correlated with systematically *lower* rates of ballot spoilage. While the range of variation in spoilage was more constricted than turnout, moving from one SD below the mean rate of illiteracy to one SD above decreases spoilage from just over 5% to just over 4%.

In his study of Egyptian politics under Mubarak, Robert Springborg points out that rates of spoilage were fairly constant across constituencies, which would indicate that literacy— which varies significantly across the landscape— is not an important variable (Springborg 1989, 164). Our data on 2014’s elections suggests that there was systematic subnational differences in spoilage. Taken together, the relationships presented in Figures 4 and 8 suggest that illiterates were highly engaged in the 2014 presidential elections: not only did they participate at higher rates than their more literate countrymen and women, they were more likely to cast valid ballots. To the extent that this relationship counteracts arguments that ballot spoilage is unintentional, resulting from lower levels of education or lack of exposure to electoral participation, it seems to support clientelism-based explana-

tions emphasizing the greater prevalence of vote buying among poorer citizens, especially in authoritarian contexts.

The effect of employment in Egypt’s public sector on spoilage was also notable. While weak ( $p < .10$ ) there was an unexpectedly *positive* correlation between district residents employed in the public sector and a district’s rate of spoilage. As Figure 9 shows, the more public sector employees in a district, the higher the rate of

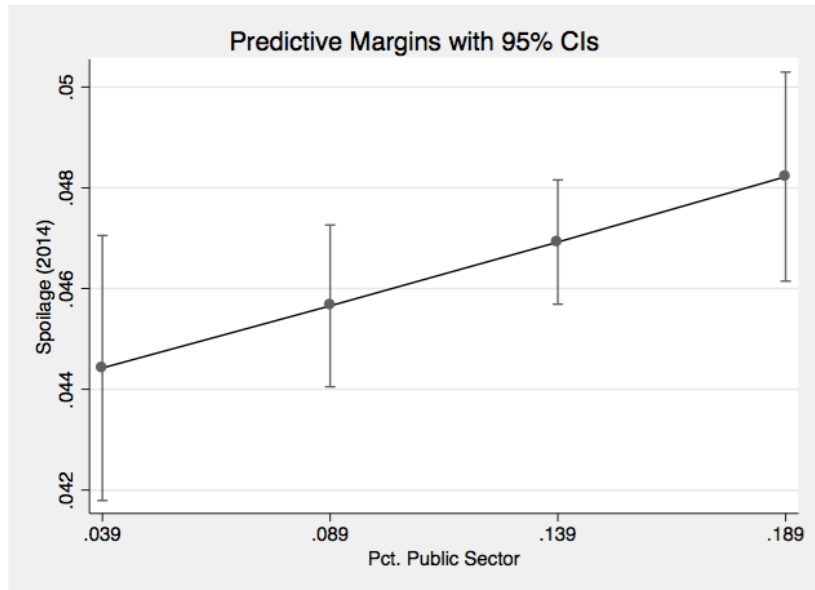


Figure 9: Public Sector Employment

ballot spoilage. While small in substantive terms, public sector employment produced a roughly ten percent swing in spoilage in 2014 (approximately 4.4% to 4.8%  $\pm$  one SD from the mean).

This finding is opposite what was predicted by H<sub>5</sub>: that the size of the public sector would be inversely correlated with spoilage. The relationship graphed in Figure 9 is also surprising in light of the inverse relationship between public sector employment and abstention, presented in Figure 5 (above). One interpretation of these results could be that public sector workers were more likely than others to participate in the 2014 presidential elections, but also more likely to spoil their ballots. These findings *may* potentially be interpretable in light of a deeper consideration of the literature motivating H<sub>5</sub>: that authoritarian incumbents rely on public sector employment to incentivize participation. To the extent that Geddes (2005) is correct that “although public opposition might be dangerous, simply voting against regime

candidates or spoiling is not very costly to citizens since nearly all post World War II dictatorships employ the secret ballot,” these findings may suggest a reservoir of dissatisfaction with the electoral process in general in 2014. Because the secret ballot renders voter *turnout* much more observable than voter *choice* (Nichter 2008), our analysis may show how public sector workers felt compelled to show up but rebelled in the privacy of the voting booth.

While the relationship between margin in 2012 and spoilage in 2014 was not strong enough to reject the null hypothesis even under weaker assumptions ( $p < .10$ ), again the strength of Islamist voters in a district in 2012 was strongly predictive of spoilage in 2014 ( $p < .001$ ). As with abstention, those districts with higher percentages

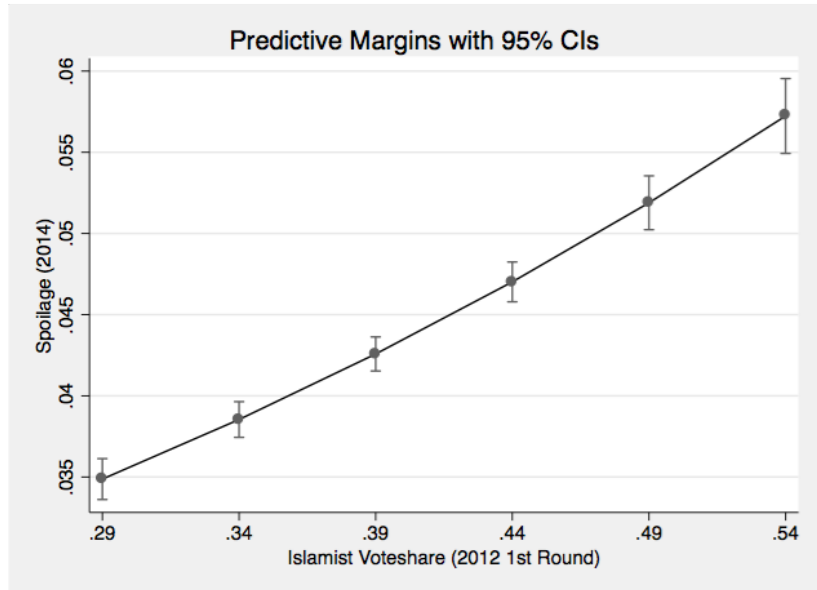


Figure 10: Islamist Voteshare (2012)

of Islamist voters were systematically more likely to feature spoiled ballots than districts where Islamists had not performed well in 2012. As Figure 10 shows this relationship was substantial:  $\pm$  one SD around the mean Islamist voteshare in 2012, vote spoilage climbs from approximately 3.5% to nearly 6%. These results track with the general narrative of this period. Ordinary Islamist voters experienced Egypt’s democratic backslide particularly acutely, swinging from consistent electoral success to systematic disenfranchisement and significant violence in a span of two and a half years. Not only were pro-Islamist voters less likely to turn out following the 2013 military coup, they were more likely to spoil their ballot if they did.



### 6.3 Pro-Opposition Voting

Table 3 presents models predicting the district-level voteshare for the opposition.

Table 3: District-Level Correlates of Opposition Voteshare (2014)

	(1)	(2)	(3)	(4)	(5)	(6)
Sabahi Voteshare (2012 1st Round)	0.921+ (0.550)	1.157+ (0.604)	1.163+ (0.607)	1.160+ (0.604)	1.380* (0.580)	2.329*** (0.577)
Population (log)	-0.102*** (0.0216)	-0.123*** (0.0242)	-0.127*** (0.0246)	-0.127*** (0.0251)	-0.104*** (0.0240)	-0.0924*** (0.0214)
Pct. Female	0.451 (0.641)	0.258 (0.672)	-0.716 (0.873)	-0.779 (0.952)	-0.808 (1.061)	-0.785 (1.162)
Sinai Peninsula	0.500*** (0.145)	0.501*** (0.136)	0.514*** (0.138)	0.509*** (0.151)	0.550*** (0.139)	0.532*** (0.144)
Pct. Illiterate		0.905 (0.596)	0.530 (0.595)	0.574 (0.632)	0.229 (0.564)	-0.193 (0.530)
Pct. Public Sector			-0.775 (0.499)	-0.730 (0.567)	-0.507 (0.560)	-0.482 (0.502)
Pct. Tourism			-0.830 (0.861)	-0.848 (0.818)	-0.877 (0.910)	-0.747 (0.942)
Protest Size (sqrt)				0.0000498 (0.000139)	-0.00000480 (0.000140)	0.000139 (0.000126)
Casualties (sqrt)				0.00109 (0.0524)	0.000822 (0.0512)	0.0165 (0.0539)
Margin (2012 2nd Round)					0.707*** (0.181)	0.246 (0.167)
Islamist Voteshare (2012 1st Round)						1.769*** (0.208)
Constant	-2.520*** (0.264)	-2.447*** (0.241)	-1.729*** (0.480)	-1.719** (0.533)	-2.136*** (0.572)	-3.051*** (0.595)
Observations	328	328	328	327	327	327
Pseudo $R^2$	0.007	0.007	0.008	0.007	0.009	0.012

Standard errors in parentheses

+ $p < 0.1$ , \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

As in abstention and spoilage, one factor that did exercise a strong effect was that district’s prior support for Islamist candidates ( $p < .001$ ).<sup>20</sup> As Figure 11 shows, moving from a district where Islamist voteshare in 2012 was one SD below the mean (roughly 29%) to one where it was one SD above (approx.

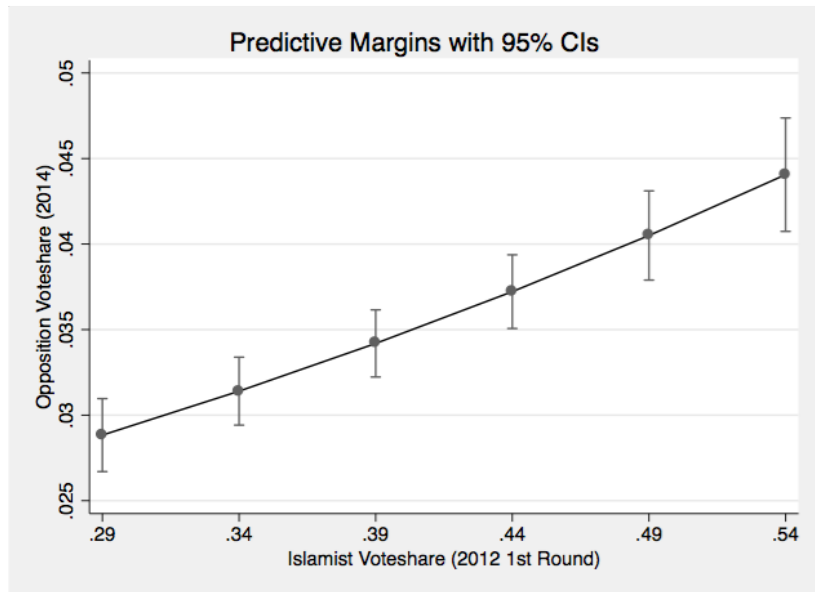


Figure 11: Islamist Voteshare (2012 First Round)

54%) increased the share of votes for the opposition by approximately 65%. This is somewhat unexpected, given that this relationship suggests cross-cutting ideological cleavages in the Egyptian electorate. Hamdeen Sabahi ran in 2012 as a staunch opponent of Islamists (an easy task given his Nasserism), and his aversion to the Muslim Brotherhood continued through the military coup and even mass killings of pro-Morsi protestors.<sup>21</sup> Despite occupying opposite sides of this cleavage, however, our results suggest that a non-trivial number of pro-Islamist voters in 2012 were content to forego ab-

<sup>20</sup> Two control variables exhibited a strong relationship with opposition voteshare. In the case of those districts in the Sinai Peninsula— an area of historic underdevelopment and neglect by the Egyptian state, as well as a site of an ongoing insurgency linked to the Egyptian affiliate of the Islamic state— district voteshares were systematically higher for the opposition candidate ( $p < .001$ ). Districts with fewer residents (log transformed) were also more likely to vote for the opposition candidate ( $p < .001$ ). Somewhat surprisingly, neither the demographic nor the disorder variables were significantly associated with voting for Abdelfattah El-Sisi’s opponent, Hamdeen Sabahi. The results hint at certain relationships. For example, a district’s preponderance of public sector workers and workers employed in tourism were also inversely correlated with opposition support, but neither was strong enough to reject the null hypothesis of no relationship ( $p = .337$  and  $p = .428$ , respectively).

<sup>21</sup> Borzou Daragahi, “Call for Egypt Protest Sparks Concern,” *Financial Times*, July 25, 2013. Available online at: <https://www.ft.com/content/75725b0e-f525-11e2-b4f8-00144feabdc0>.

stention and/or spoilage in 2014. Instead, they remained firmly inside the political process but registered their dissent institutionally, despite the fact that their expressed preference in these contexts was ideologically opposed to their earlier position.

## 7 Discussion

The above supports arguments that both prior democratic openings and more deeply-embedded structural factors influence voting behavior after democratic backslide. In fact, across all three models the strongest predictor of a particular track of engagement (or disengagement) with the electoral process in 2014 was that particular behavior in the district in 2012.

While nationwide abstention was slightly higher in 2014 than in 2012, there was remarkable consistency in the ways that subnational turnout behavior mapped across democratic and authoritarian periods. Figure 12 shows how one SD below the mean abstention rate in 2012 was approximately 41%, which produced a predicted 2014 abstention rate of about 47.5%. At the high end of the 2012 abstention rate (one SD above the mean, approximately 60%) the predicted 2014 abstention rate was just over 60%.

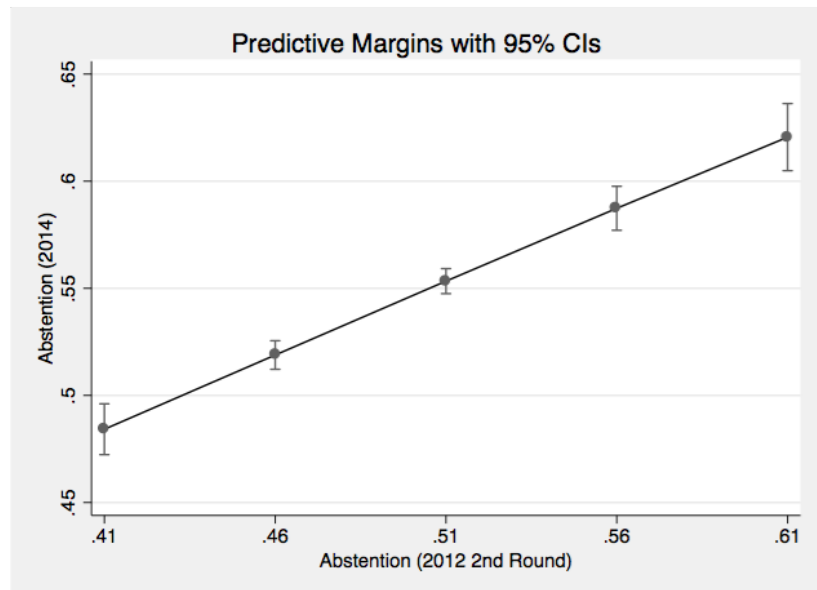


Figure 12: Abstention (2012)

Spoilage rates (Figure 13) between the two elections were also correlated. Shifting from one SD below the mean value (3.1%) in 2012's second round contest to one above increased the 2014 spoilage rate about 10%, from approximately 4.4% to 4.9%.

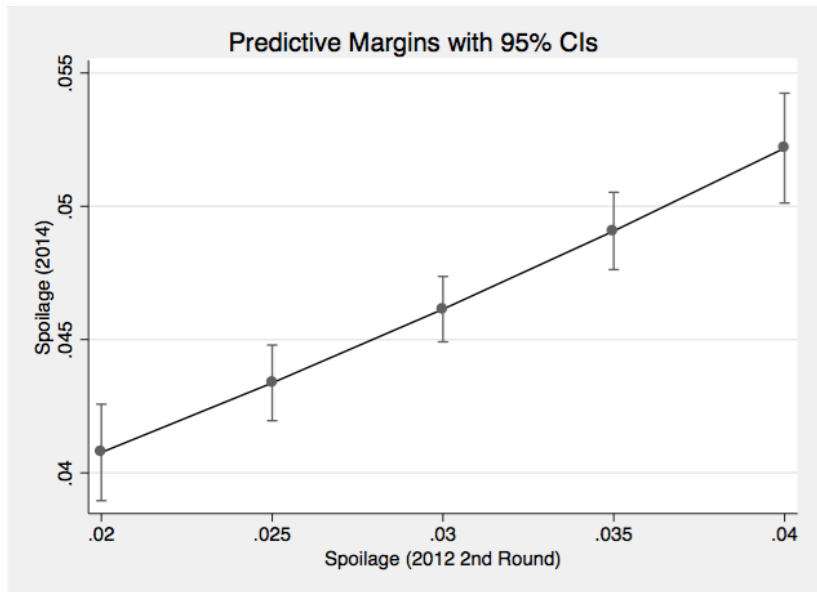


Figure 13: Spoilage (2012)

In addition, opposition voteshare in 2014 was strongly conditioned by behavior in 2012. Specifically, 2012 district voteshare for prominent Nasserist candidate Hamdeen Sabahi— are strongly and positively ( $p < .001$ ) correlated with voteshare for the opposition candidate in 2014 (also Hamdeen Sabahi). Figure 14 shows that in places where Sabahi struggled to gain traction in 2012 he also foundered in 2014, gaining less than 3% of the vote. However in his strongholds, places where his support cracked 30% in 2012's first round contests, he was predicted to increase his voteshare by over 50% in 2014. On the one hand, this relationship is not particularly surprising; Sabahi was not excluded from politics following the coup, so it is logical that the behavior of his bloc of supporters would remain fairly stable across both periods. On the other, the substantive disjuncture between his results over the two periods points to a striking effect of Egypt's democratic backslide away from voting for the incumbent's opponent. For instance, in 2014 Sabahi's best performance (25.8%) came in his home district of Burullus, in the North Delta governorate of Kafr al-Shaykh. In 2012's first round contests, however, he charted almost 200% times that, raking in 74% of the vote.

Certain features of the district’s political preferences as expressed in periods of democratic competition — specifically the closeness of the race— were weakly and sporadically relevant. Others, particularly those associated with pre-backslide partisanship, were strongly correlated with post-backslide voting patterns. The concentration of Islamist voters in a district in 2012 is consistently and inversely associated with less electoral engagement in 2014:

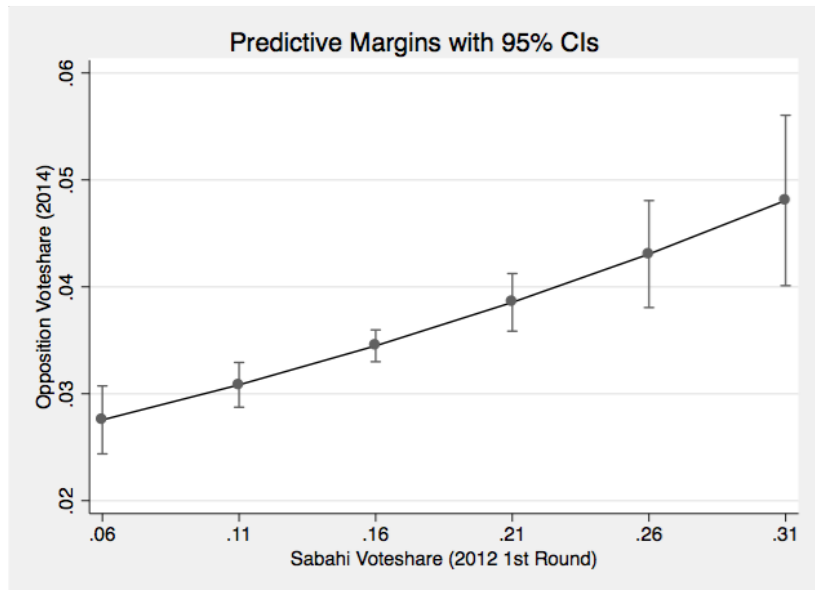


Figure 14: Opposition Voting (2012)

a higher voteshare for Islamist candidates in a district in 2012 is systematically associated with less support for the regime in 2014. “Pro-Islamist” districts feature higher abstention, higher spoilage, and higher pro-opposition voting than districts where Islamist candidates performed less well in 2012. In some ways this is expected: the July 3, 2013 military coup removed Egypt’s democratically-elected Islamist president and ushered in a period of state crackdown on Islamists that, according to Human Rights Watch, amounted to crimes against humanity.<sup>22</sup> Given that pro-Islamist voters were most adversely affected by Egypt’s backslide, it is unsurprising that they appear to view Egypt’s current electoral processes with a high degree of skepticism.

Our results support arguments that clientelism is a key factor in electoral politics of non-democratic regimes. These interventions suggest that poor voters are frequently targeted

<sup>22</sup> <https://www.hrw.org/news/2014/08/12/egypt-raba-killings-likely-crimes-against-humanity>.

by vote-buying networks, and that this dynamic is particularly salient where resource-rich regimes leverage their advantages to crowd out opponents. To the extent that illiteracy proxies for poverty—a reasonable assumption—we find evidence in support of this argument; districts with higher rates of illiteracy are more likely to turn out *and* less likely to spoil their ballots in post-backslide elections. Other parts of our analysis also support common clientelist arguments. Namely, a district’s share of public sector workers was systematically related to lower abstention (higher turnout), which is suggestive evidence that state workers were exposed to potentially greater pressure to participate in elections widely expected to ratify the incumbent regime.

At the same time, however, this story is not completely clean. Neither illiteracy rates nor public sector employment were systematically related to support for the incumbent (technically, anti-opposition voting in our models). If pro-regime clientelist networks were truly at work in Egypt’s 2014 presidential contest they seem to have yielded at best inconsistent returns. It may be that this is due to characteristics of the secret ballot, or perhaps even principal-agent problems between political bosses and mid-level vote brokers (Stokes, Dunning, Nazareno, and Brusco 2013). The unexpectedly positive correlation between public sector employment and spoilage might be an indication of this: brokers leaned on government employees to (visibly) turn out on election day, but could exercise much less influence on whether or not these employees actually carried out their end of the clientelistic bargain when shielded from prying eyes. While more research will be necessary to determine why this is so, one possibility is that Egypt’s public sector contains pockets of either pro-Islamist or pro-democracy sentiment who, while unable to electorally express themselves via abstention take advantage of the privacy of the voting booth to communicate their displeasure with authoritarian rule.

Our findings suggest potentially revising understandings about how Egypt’s democratic experiment ended. One interpretation of the end of Egypt’s democratic experiment

focuses on how voters abandoned the Muslim Brotherhood in droves, turning to the military to save the country from an increasingly undemocratic trajectory. To the extent this is true, we would expect to see this disillusionment in the data, as pro-Islamist districts in 2012 would be the most disillusioned by their time in power, and thus most likely to swing behind the military in 2014. Instead, the results show a much more consistent base of Islamist support than this scenario would predict: Islamist voters remained supportive of the group—or at least hostile to the military regime that ousted them—into 2014. In this perspective, the supposed popular mobilization against Mohammed Morsi was as much partisan as it was popular.

## Conclusion

In this paper, we analyze hundreds of electoral districts in post-Arab Spring Egypt to identify which factors correlate with voters' choices of exit, voice, or loyalty following democratic backsliding. Just as a variety of research demonstrates the way that authoritarian legacies influence patterns of electoral behavior after democratic transitions, we find ample evidence that exposure to even a brief period of liberalized electoral competition can shape what happens after an authoritarian regression. First, there were significant district-level continuities across turnout, spoilage, and opposition voting, suggesting that structural factors persevere through institutional changes. Second, patterns of partisanship, created even in short periods of ultimately failed democratic transition, remain after democratic backslide. Districts that supported the democratically-elected incumbent were highly alienated from subsequent authoritarian elections, with systematically higher abstention, spoilage, and pro-opposition voting. Finally, our results potentially indicate the continuing relevance of clientelistic-centered approaches to authoritarian elections. In particular, illiteracy and public sector employment both correlate with lower abstention and spoilage in ways that suggest

the influence of material exchange on patterns of regime support.

The behaviors we have modeled in this paper are not exhaustive of ways citizens react to democratic backsliding. Citizens in this situation can choose from a variety of options beyond abstention, spoilage, or opposition electoral support, to encompass various forms of protest or even violence. And quite obviously these choices may not be exclusive; a disillusioned citizen may simultaneously spoil their ballot on the morning of election day, stage an anti-regime sit-in in the afternoon, and hurl a molotov cocktail at a local police station at night. However, as Bermeo (2016) writes, elections are a key mechanism through which backsliding occurs: “we now face forms of democratic backsliding that are legitimated through the very institutions that democracy promoters have prioritized: national elections, voting majorities in legislatures and courts, and the “rule” of the laws that majorities produce.” We take this seriously, and have attempted in this paper to understand how citizens make choices in this narrow but important subset of political behaviors.

While we believe our findings and argument to be generalizable beyond the case of Egypt, it is worth specifying potential scope conditions. Egypt is a high profile case of rapid democratic breakdown: Egypt’s switch from a competitive electoral system prior to the July 3, 2013 coup to an electoral authoritarian, military-backed regime afterwards. To the extent that this clear demarcation of regime types helps identify commonalities and disjunctures in voting patterns across both periods, it is valuable for our motivating question. A natural follow-up would be to examine other potential cases that may exhibit similarly swift changes in context, such as Alberto Fujimori’s 1992 *auto-golpe* in Peru and the 2014 coup d’état in Thailand. More gradual cases of “democratic decay,” such as post-Communist Russia, Venezuela under Chavez/Maduro, and contemporary Turkey may produce different outcomes, and thus will be a rich way to extent and test these findings (Levitsky and Way 2002a, 61).

Our findings have implications for understanding the role of elections in democratic



backsliding, not only in the extent to which they measure how much backsliding has occurred but as a mechanism through which backsliding is furthered and, potentially, reversed. Citizens have a choice once backsliding begins. They can abstain from the process entirely, maximizing their leverage by refusing to trek to the polls so as to signal that, as (Geddes 2005) writes, “citizens remain acquiescent.” Choosing to participate can also offer an opportunity to express their opposition to the institution itself by spoiling their ballots rather than voting for either incumbent or challenger. These options entail a certain degree of risking punishment from the regime, which depends on the appearance of popular support through high turnout and large winning margins. However, abstention and spoilage, particularly when they become widespread, may be the most effective way for citizens in backsliding regimes to effectively express dissatisfaction with the regime, and to indicate to other other citizens that opposition to the backsliding exists.

# Appendix

## Descriptive Statistics and Correlation Matrix

Table 4: Descriptive Statistics, All Variables

Variable	Mean	Min	Max	SD
<u>Dependent Variables</u>				
Turnout (2014)	.463	.058	.683	.115
Spoilage (2014)	.047	.02	.168	.018
Opposition Vote (2014)	.036	.01	.258	.02
<u>Independent Variables</u>				
Population (log)	11.66	2.773	13.976	1.499
% Female	.476	0	.627	.063
% Illiterate	.237	0	.481	.105
% Public Sector Workers	.128	.002	1	.089
% Tourism Industry	.014	0	.505	.051
Protest Size (sqrt)	71.21	0	236.594	158.792
Casualties (sqrt)	.129	0	7.746	.129
Margin (2012 First Rd.)	.229	.001	.953	.182
Islamist Voteshare (2012 First Rd.)	.433	.151	.948	.143

Table 5: Correlation Matrix

	Abstention (2014)	Abstention (2012)	Spoilage (2014)	Spoilage (2012)	Sisi Voteshare (2014)	Shafiq Voteshare (2012)	Sabahli Voteshare (2014)	Sabahli Voteshare (2012)	Population (log)
Abstention (2014)	1								
Abstention (2012)	0.634***	1							
Spoilage (2014)	0.452***	-0.0238	1						
Spoilage (2012)	-0.292***	-0.251***	0.156**	1					
Sisi Voteshare (2014)	-0.414***	-0.221***	-0.531***	-0.180**	1				
Shafiq Voteshare (2012)	-0.497***	-0.362***	-0.413***	-0.112*	0.409***	1			
Sabahli Voteshare (2014)	0.414***	0.221***	0.531***	0.180**	-1.000***	-0.409***	1		
Sabahli Voteshare (2012)	-0.489***	-0.166**	-0.218***	0.511***	-0.165**	-0.167**	0.165**	1	
Population (log)	-0.0565	-0.0807	-0.412***	-0.120*	0.334***	0.293***	-0.334***	0.0107	1
Pct. Female	-0.0591	-0.177*	-0.193***	0.0623	0.192***	0.155**	-0.192***	0.115*	0.590***
Sinai Peninsula	0.196***	0.236***	0.353***	-0.115*	-0.312***	-0.212***	0.312***	-0.183***	-0.358***
Pct. Illiterate	0.511***	0.480***	-0.183***	-0.488***	0.0679	-0.0534	-0.0679	-0.415***	0.280***
Pct. Public Sector	-0.312***	-0.304***	0.268***	0.191***	-0.108	-0.0170	0.108	0.132*	-0.501***
Pct. Tourism	-0.0210	0.162**	0.0326	-0.0608	-0.117*	-0.0633	0.117*	0.0157	-0.250***
Protest Size (sqrt)	-0.190***	-0.155**	0.00501	0.362***	-0.0236	0.0122	0.0236	0.186***	-0.00689
Casualties (sqrt)	0.0719	0.0854	0.168**	0.112*	-0.119*	-0.0370	0.119*	-0.0171	-0.140**
Margin (2012)	0.384***	0.0705	0.299***	-0.190***	-0.172**	-0.0849	0.172**	-0.363***	-0.109*
Islamist Voteshare (2012)	0.732***	0.184***	0.476***	-0.449***	-0.149**	-0.408***	0.149**	-0.683***	-0.0464
Pct. Female									
Sinai Peninsula									
Pct. Illiterate									
Pct. Public Sector									
Pct. Tourism									
Protest Size (sqrt)									
Casualties (sqrt)									
Margin (2012)									
Islamist Voteshare (2012)									
Pct. Female	1								
Sinai Peninsula	-0.316***	1							
Pct. Illiterate	0.189***	-0.115*	1						
Pct. Public Sector	-0.437***	0.236***	-0.547***	1					
Pct. Tourism	-0.546***	0.341***	-0.237***	0.0788	1				
Protest Size (sqrt)	0.0609	-0.0532	-0.274***	0.0644	-0.0200	1			
Casualties (sqrt)	0.00106	0.319***	-0.0910	0.112*	-0.0288	0.290***	1		
Margin (2012)	-0.0861	0.00213	0.317***	-0.0980	-0.0426	-0.0496	0.0160	1	
Islamist Voteshare (2012)	-0.0910	0.0920	0.476***	-0.161**	-0.0707	-0.240***	-0.0554	0.523***	1

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

## Effect of Controls

One benefit of our approach, and our particular case, is that we are able to control for pre-backslide district characteristics in post-backslide elections. In the body of the paper we emphasize two in particular— margin of victory and Islamist voteshare. We also include as controls measures of abstention, spoilage, and opposition voting from 2012 in our attempts to model these outcomes for 2014. Our intuition for doing so is that accounting for these three behaviors in pre-backslide politics will allow tighter specification of the effects of democratic backslide on district-level results. To identify the substantive effects of this decision on the results, Table 7 re-specifies the full models for the three outcomes in the paper without (models 1, 3, and 5) and then with (models 2, 4, and 6) the related controls.

Including abstention rates from 2012's second round presidential contests reverses the relationship of abstention to illiteracy, from strongly positively correlated ( $p < .05$ ) to quite strongly inversely correlated ( $p < .001$ ). The relationship of public sector employment remains inversely correlated, but the strength of the relationship decreases. Finally, adding the control derived from 2012's second round contests reverses the sign on the relationship between the margin of victory in those concepts and abstention in 2014, in the process becoming statistically significant at traditional levels ( $p < .05$ ). Inclusion of prior spoilage rates (2012) also influences the observed relationships to patterns of spoilage in 2014. The most notable is to strengthen the positive correlation with public sector employment to just inside weak statistical significance ( $p < .10$ ), while dropping it beyond that threshold for tourism-sector employment.

Finally we chart the inclusion of 2012 (first round) vote shares for Hamdeen Sabahi, who would run again in 2014 as Abdelfattah El-Sisi's sole opponent. Including this variable leaves directions and strengths of relationships essentially unchanged save for one: it moves the voteshare of Islamist candidates in the 2012 first round candidates (Mohammed Morsi and Abdel Moneim Abu El-Fotouh) to a strongly significant ( $p < .001$ ) positive correlation

with opposition voting in 2014. It is also notable that, for each model, inclusion of the controls derives from the 2012 elections improves the fit (measured by the pseudo  $R^2$ ).

Table 6: Effects of Controls on Three Outcome Variables

	(1)	(2)	(3)	(4)	(5)	(6)
	Abstention	Abstention	Spoilage	Spoilage	Opposition	Opposition
Population (log)	-0.0472* (0.0209)	-0.00181 (0.0125)	-0.0503*** (0.0149)	-0.0376* (0.0163)	-0.106*** (0.0219)	-0.0924*** (0.0214)
Pct. Female	0.678 (1.469)	0.790 (0.984)	-0.174 (0.699)	0.190 (0.846)	-0.0878 (0.898)	-0.785 (1.162)
Sinai Peninsula	0.379* (0.166)	0.123 (0.0879)	0.220** (0.0839)	0.290*** (0.0874)	0.379** (0.133)	0.532*** (0.144)
Pct. Illiterate	0.523* (0.266)	-1.033*** (0.202)	-1.694*** (0.242)	-1.040*** (0.283)	-0.501 (0.661)	-0.193 (0.530)
Pct. Public Sector	-1.813*** (0.396)	-0.758* (0.294)	0.190 (0.317)	0.576+ (0.314)	-0.579 (0.507)	-0.482 (0.502)
Pct. Tourism	0.280 (0.817)	-0.677 (0.674)	-1.123+ (0.658)	-0.360 (0.666)	-0.427 (0.868)	-0.747 (0.942)
Protest Size (sqrt)	-0.0000659 (0.0000682)	0.0000133 (0.0000456)	0.0000415 (0.000112)	-0.0000879 (0.0000863)	0.0000779 (0.000154)	0.000139 (0.000126)
Casualties (sqrt)	0.0454 (0.0310)	0.0214 (0.0175)	0.0300 (0.0242)	0.0253 (0.0242)	0.00283 (0.0521)	0.0165 (0.0539)
Margin (2012 2nd Round)	-0.0504 (0.102)	0.192* (0.0787)	0.135 (0.0914)	0.0757 (0.0934)	0.344 (0.246)	0.246 (0.167)
Islamist Voteshare (2012 1st Round)	2.056*** (0.158)	2.301*** (0.120)	1.723*** (0.125)	2.084*** (0.127)	0.334 (0.604)	1.769*** (0.208)
Abstention (2012 2nd Round)		2.843*** (0.273)				
Spoilage (2012 2nd Round)				13.01*** (1.748)		
Sabahi Voteshare (2012 1st Round)						2.329*** (0.577)
Constant	-0.420 (0.714)	-2.288*** (0.478)	-2.777*** (0.362)	-3.864*** (0.448)	-2.064*** (0.539)	-3.051*** (0.595)
Observations	327	327	327	327	327	327
Pseudo $R^2$	0.026	0.033	0.010	0.012	0.006	0.012

Standard errors in parentheses

+ $p < 0.1$ , \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

## 7.1 Spoilage in Closer Districts

As noted in the body of the paper, Aldashev and Mastrobuoni (2016) find that variation in the rate of spoiled ballots is caused by differential rates of attention election officials devote to counting ballots in close versus blowout districts. On the one hand, the “slimmest” district-level margin in our dataset is substantively large (al-Sisi defeated Hamdeen Sabahi 74% to 26%, in al-Burulus, Sabahi’s home district). Nevertheless, we do find a statistically significant inverse correlation ( $p < .05$ ) of the type Aldashev and Mastrobuoni propose between spoilage rates and the margins in 2014, as Table 7 shows.

Table 7: District-Level Correlates of Spoilage (2014)

	(1) Spoilage (2014)
Turnout (2012 2nd Round)	0.129 (0.210)
% Illiterate	-1.382*** (0.294)
Population (log)	-0.0182 (0.0146)
% Public Sector Workers	0.469 (0.302)
Protest Size (sqrt)	0.0000510 (0.0000868)
Casualties (sqrt)	0.0384** (0.0128)
Sinai Peninsula	0.0602 (0.0827)
Margin of Victory (2012)	0.00744 (0.0856)
Pro-Islamist Voteshare (2012 1st Round)	1.708*** (0.163)
Margin of Victory (2014)	-3.144** (0.988)
Constant	-0.478 (0.838)
Observations	327
Pseudo $R^2$	0.012

Standard errors in parentheses  
 $+p < 0.1, *p < 0.05, **p < 0.01, ***p < 0.001$

## Manipulation in the 2014 Elections

One concern is that the official results of the 2014 elections were systematically manipulated post-hoc by the regime. As we noted in the body of the article this is possible if not likely, although the specific dimensions of manipulation are likely unknowable absent extraordinary insight into Egypt’s military-backed authoritarian regime. In this section we attempt to gain further insight into this possibility in two ways; first with a variety of general diagnostic tests designed to detect abnormal statistical patterns suggestive of manipulation, and then with a targeted analysis of specific variables that might reveal evidence of manipulation.

There has recently been an interest in statistical detection of election fraud, whereas investigators compare the supposed properties of normally-run (clean) elections to the election under consideration. When the test statistics derived from the election under consideration depart significantly enough (e.g.  $p < .05$ ) from those produced by a hypothetical clean election, that is taken as an potential indication of abnormal manipulation. We briefly summarize these tests here and present their results for the 2014 presidential elections in Table 8 to help contextualize the analysis.<sup>23</sup>

- The “Last Digit” test proposes that while the last digits of naturally-generated electoral returns (0-9) will be essentially random, those generated by direct manipulation will, due to a human psychological tendency to select lower numbers when attempting to produce a random pattern, bias the mean lower than the expected 4.5 (Hicken and Mebane 2017, 37).
- The Percent (05s) test interrogates “whether the last digit of the rounded percentage of votes for the referent party or candidate is zero or five” on the assumption that lower-level agents may manufacture the appearance of these digits to signal fraud to higher-ups. A naturally run electoral process should produce a mean value of 0.2

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<sup>23</sup>To derive these statistics we used Mebane and Hicken’s helpful online election forensics toolkit at <http://www.electiondataarchive.org/forensics.html>. We analyzed four outcome variables across 14041 polling stations: Turnout, Sisi (Incumbent) Voteshare, Sabahi (Opposition) Voteshare, and Spoilage. We appreciate Walter Mebane for providing further information about these tests. The website was unable to run the Benford’s second digit test and Mebane’s proposed finite mixture likelihood method due to technical problems.

(Hicken and Mebane 2017, 38).

- The Count (05s) test is the “mean of a binary variable indicating whether the last digit of vote count for the referent party or candidate is zero or five.” Likewise, a naturally run electoral process should produce a mean value of 0.2 (Hicken and Mebane 2017, 37).
- Skew proposes that normally-run elections should produce turnout patterns that approximate a standard normal distribution with skew of zero (Hicken and Mebane 2017, 38).
- Alongside Skew, Kurtosis suggests that a normally-run electoral process will produce a distribution of turnout that is standard normal, with kurtosis = 3 (Hicken and Mebane 2017, 38).

Table 8: Forensic Analysis, 2014 Egyptian Presidential Elections

	Last Digit (counts)	Percent (05s)	Counts (05s)	Skew	Kurtosis
Turnout	4.422* (4.373, 4.469)	.208* (0.201, 0.214)	.214* (0.207, 0.222)	-0.019 (-0.085, 0.05)	4.038* (3.891, 4.202)
Sisi Voteshare	4.466 (4.417, 4.515)	.199 (0.193, 0.206)	.201 (0.194, 0.208)	-2.372* (-2.794, -1.988)	17.626* (13.321, 22.168)
Sabahi Voteshare	4.464 (4.421, 4.511)	.108* (0.102, 0.113)	.2 (0.194, 0.207)	6.583* (5.328, 8.231)	99.906* (74.343, 135.295)
Spoilage	4.476 (4.426, 4.522)	.174* (0.168, 0.18)	.198 (0.191, 0.204)	2.395* (2, 2.813)	17.442* (11.628, 23.027)

95% confidence intervals in parenthesis.

Star denotes a value significantly different than a hypothesized “clean” election.

All five tests reveal a value for one of the four tested outcomes that is significantly different than the value expected in a clean election. This must caveat the analysis, although these tests alone are only suggestive and are all subject to both Type I and Type II errors. Certain types of non-fraudulent behavior (i.e. strategic voting) can produce statistical results that mirror those expected in a manipulated election (Mebane, Egami, Klaver, and Wall 2014). Inversely, elections that appear fraudulent based on myriad non-statistical indicators can produce statistics that suggest an election free from manipulation (Mebane 2013). As



these tests alone are insufficient to judge whether or not an election is fraudulent, they must be combined with other types of data to reach a conclusion (Hicken and Mebane 2017, 2).

In contrast, pre and post-coup patterns of abstention, spoilage, and pro-opposition voting were consistently and highly correlated, suggesting that official results were not completely produced *ex nihilo*. Specifically, both partisan (pro-Islamist and pro-Opposition) and non-partisan (abstention and spoilage) variables from 2012 were highly correlated with 2014 outcomes in logical ways. We can further investigate the 2012 election results ability to predict 2014 behavior in one other way. Abdelfattah El-Sisi's regime was, in some (but not all) respects, a continuation of the military-backed authoritarian regime of Hosni Mubarak. One implication is that pockets of support for the Mubarak regime measured during democratic periods should correlate to support for Abdelfattah El-Sisi in the 2014 elections. To identify these pockets, we exploit the fact that one of the major candidates in that 2012 election, Ahmed Shafiq, was prominently associated with the Mubarak regime—a fact that he and his supporters explicitly noted during the campaigning period.<sup>24</sup> Thus we should expect a direct correlation between pro-Shafiq votes in the first round presidential elections of 2012—when assumedly only those who had strong preferences for the Mubarak regime—and pro-Sisi votes in the 2014 contests. Table 9 models Abdelfattah El-Sisi's 2014 voteshare as a function of Ahmed Shafiq's voteshare in 2012's first round contests.

The results in Table 9 are weakly suggestive of the types of relationships that might be expected without high levels of manipulation: the distribution of pro-military, *ancien regime* supporters identified in the first round contests of 2012 map closely ( $p < .001$ ) onto patterns of support for a military authoritarian in 2014. This pattern also appears in the support of a candidate who actually was present in both 2012 and 2014: Hamdeen Sabahi. Again, we simply cannot assign with confidence the potential bias caused by pro-incumbent

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<sup>24</sup> Ian Black, "Ahmed Shafiq Unrepentant About Past," *The Guardian*, May 25, 2012. Available online at: <https://www.theguardian.com/world/2012/may/25/ahmed-shafiq-unrepentant-egypt-past>.

manipulation, but these results are potentially suggestive that the 2014 results were not simply conjured *ex nihilo*.

Table 9: Predictors of Pro-Sisi Vote (2014)

	(1) Sisi Voteshare (2014)
Shafiq Voteshare (2012 1st Round)	1.753*** (0.307)
Population (log)	0.0612** (0.0213)
Pct. Female	-0.0501 (0.959)
Sinai Peninsula	-0.285* (0.128)
Pct. Illiterate	0.559 (0.401)
Pct. Public Sector	0.289 (0.513)
Pct. Tourism	0.181 (0.873)
Protest Size (sqrt)	-0.0000327 (0.000144)
Casualties (sqrt)	-0.0146 (0.0442)
Margin (2012 2nd Round)	-0.400*** (0.113)
Constant	2.190*** (0.521)
Observations	327
Pseudo $R^2$	0.010

Standard errors in parentheses

+ $p < 0.1$ , \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

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