Beyond the Colored Revolutions: A Dynamic Model of Policy Making and Protest *

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Abstract

The popular response to a series of fraudulent elections in Serbia, Georgia, Ukraine, and Kyrgyzstan has attracted a great deal of attention from scholars. Left relatively unexplored, however, has been the legacy of these "Colored Revolutions" for the future of political protest for the countries in which they occurred. In particular, an understanding of protests in a dynamic context raises a tension. In settings in which individual opposition is likely to be strong or coordinated enough to result in protests, we might think that subsequent organized protests become more likely. But the possibility of subsequent protests might limit the ability of a government to respond to an initial protest, thereby diminishing the value of protesting in the first place. Furthermore, the need for subsequent protest may call into question the value of the benefits gained from the original protest, thus making participation in future protests less likely. To address these tensions, we formulate a dynamic model of policy making and protest behavior and apply its insights to understanding recent political developments in Colored Revolution countries.

Key Words: Protest, Colored Revolutions, Moral Hazard, Adverse Selection

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1 Introduction

In the first half of the first decade of the 21st century, it was clear something special was occurring in the post-communist world. In a series of stunning developments, a number of countries that had by and large failed to establish viable democratic governments in the original period of post-communist transitions ten years earlier suddenly rose up to demand democratic accountability following a series of fraudulent elections in such previous hotbeds of democracy as Serbia, Georgia, Ukraine, and Kyrgyzstan. Scholars of course took notice, with a flurry of articles on each individual "Colored Revolution", as they collectively came to be known, as well as a number of more recent papers that have tried to make sense of them collectively (e.g., McFaul 2005; Beissinger 2007; Bunce and Wolchik 2007; Tucker 2007). The focus of these papers, not surprisingly, lay in trying to explain how and why the Colored Revolutions took place. To the extent that they looked at all to the future, it was largely to speculate as to the next country that was likely fall in the path of this democratic onslaught (Belarus anyone?). Left relatively unexplored, however, was the legacy of the Colored Revolutions for the future of political protest for the countries in which they had occurred.

Here we take up precisely this question from a theoretical perspective. We begin by laying out two different *intuitive* ways in which we might expect the legacies of the Colored Revolutions to influence the future of protest movements in those countries. The most intuitive expectation would be one that highlights citizens' discovery of their own "people power", leading us to expect to see protests again in the future when democratic development is threatened by corrupt or inept leaders. Surprisingly, though, when we consider in sufficient detail the micro-level motivation of protestors that took to the streets in the original Colored Revolutions, a paradox emerges: to the extent that the need for a second "Colored Revolution" might emerge in a country, it will simultaneously call into question whether the gains from the original Colored Revolution was worth the cost paid by the people who participated in it. Thus far from ushering in an era of "people power", we might instead expect the Colored Revolutions to instead turn out to be "one shot deals".

Having illustrated this potentially counter-intuitive expectation through a series of thought experiments, we then attempt to provide an additional degree of rigor and precision to our expectations by crafting a formal model of the relationship between protest and regime change. More specifically, the model considers the interaction between the incentives of governments to behave "well", knowing that citizens could take to the streets to replace them, and the incentives of citizens to actually take to the streets to try to replace the government, knowing what that government has done and the fact that it will have to be replaced with another government. The model, which we present in Section 5, also points in a similarly pessimistic direction regarding the expectation that the Colored Revolutions could usher in a period of "people power" whereby citizens could use protest (or the threat of protest) to ensure good government. Indeed, the version of the model we present in the paper, a "noiseless" one in which we assume perfect information and eliminate uncertainty, actually suggests that protest is an off the equilibrium path behavior, and thus ought never to occur if all of the relevant actors are fully informed! Of course, we know protest does occur, so future extensions of the model will relax the assumption of perfect information. Nevertheless, even in its current form, the model provides a number of additional useful insights. First, governments are only likely to be cajoled into behaving "well" by the threat of future protest if there is a ready supply of viable replacement parties available. This might explain, for example, disappointment with Sakashvilli's rule in Georgia, or why continued political stalemate in Ukraine has led to underwhelming outcomes when various political forces have attempted to bring supporters on to the streets in the post-Orange Revolution era. Second, if there are numerous viable options for replacing the current government, parties can be expected to behave better in office, the two most popular parties should be in office the bulk of the time, and, somewhat counter-intuitively, the more popular party can actually shirk more. Finally, the model also suggests that for this dynamic to work, we should generally expect a situation in which parties shirk more in their second term of office than their first term of office. Neither of these last two points are particularly appropriate in the context of the Colored Revolution countries at the moment, but they are potentially interesting predictions for the future.

2 Electoral Fraud, Protest, and Colored Revolutions

Numerous explanations have been proposed for the Colored Revolutions that took place in Serbia, Georgia, Ukraine, and Kyrgyzstan, most of which focus on the actions of elites (McFaul 2005; Beissinger 2007; Bunce and Wolchik 2006; Way 2005). In contrast, Tucker (2007) focuses on the individual level decision making of protestors in the Colored Revolutions, which we take as our starting point. This argument begins from the vantage point of assuming that abusive or unrestrained states present a classic collective action problem (Weingast 1997, 2005). Most societal actors would agree that society as a whole would be better off with a less abusive and appropriately restrained state. This is not to deny that there are individual actors in society who clearly benefit from these types of arrangements. Nevertheless, the assumption that most citizens would prefer not to have to pay bribes to policemen, health care workers and government bureaucrats and would also prefer not to have government officials stealing public funds and using their public positions for private financial gain seems to be a reasonable one. Achieving this goal in states where such abusive actions regularly take place, however, requires confronting these abuses and attempting to stop them. This can take a variety of forms, but all share two common features. First, there is a cost to any individual in taking any of these steps, from the relatively minor loss of time to the potentially major loss of livelihood or life. Second, the likelihood of success is always questionable, and this is especially so for individuals facing petty corruption in the course of daily life. This combination yields the familiar result predicted by the collective action framework: individuals "shirk" and tolerate whatever actions on the part of the state that have given rise to their grievances, and as a result everyone is worse off from having to continue to live under an abusive regime.

Major electoral fraud, however, can help solve this collective action problem.¹ It can do so by both lowering the costs of participating in anti-regime actions and/or increasing the likelihood of a successful result stemming from those actions. For once, the entire country is experiencing the same act of abuse simultaneously; in the language of the collective action literature, major electoral fraud provides an obvious *focal point* for action. People no longer have to choose whether to react alone.² Especially as crowds grow, individuals know that they will only be one of many, many people protesting, and thus much less likely to be punished individually. This does not mean that there is no chance of punishment - and it is certainly not meant to deny the bravery of citizens who risked harm to participate in the revolutions described above - but only to note that major electoral fraud presents an opportunity to act on grievances against the current regime without a high degree of certainty that punishment - if it is forthcoming - will be felt by you individually.

Simultaneously, major electoral fraud followed by large scale protests can dramatically increase the likelihood of a successful "result" from one's participation in an anti-regime protest. This is of course not to say that all large

¹"Major" electoral fraud is defined as fraud which effects the overall outcome of an election. This is in contrast to "minor" electoral fraud, which, while in violation of electoral law, would not have changed the results of the election had it not occurred. In no way are "major" or "minor" intended as normative statements related to the level of perniciousness of the fraud.

 $^{^{2}}$ On focal points, see Schelling 1960; Chong 1991; Weingast 1997. Thompson and Kuntz (2005) take this one step further, arguing that not only does an election present an act of abuse aimed at everyone at the same time, but that it actually "creates an 'imagined community' of robbed voters, in which people can suppose that also their attitudes towards the regime's latest behavior are shared by their fellow- citizens" (p.11).

scale protests following electoral fraud against abusive regimes are successful. Nevertheless, in contrast to every day life, major electoral fraud offers hope for greater success in combating an abusive regime in two important ways. First, if protests follow the fraud, then immediately there is the opportunity to speak out with a much stronger voice than anyone could have alone. But perhaps even more importantly, fighting major electoral fraud holds open the hope of changing who actually wields political power in a country; if you are successful, the bums actually can be thrown out.

While there are many other implications that we can draw about both the causes and effects of the Colored Revolutions from this framework (see Tucker 2007, 541-3), for the sake of the current argument we need focus only on the central claim: the protests at the heart of the Colored Revolutions occurred at least in part because major electoral fraud altered both the perceived costs and benefits of participating in actions aimed against an abusive/unrestrained regime. With this in mind, in the next section consider the following question: if this framework does indeed correctly explain what happened in the Colored Revolutions, then what ought to happen in the future should the country's regime once again behave in a way that is seen to threaten democracy?

3 People Power or a One-Shot Deal

In order to address this question, we employ the following simple thought experiment. Assume that a Colored Revolution has indeed occur in a given country. Then assume some period of time passes, after which some "event" occurs that that suggests that the regime in power is once again acting in an unrestrained/abusive manner. Let us then attempt to answer the question of whether - based on the collective action framework posited in the previous section to model the dynamics that gave rise to the protests in the original Colored Revolutions - we would expect people to once again take to the streets to protest the action from this new "event". In this extremely simple framework, we can vary the length of time between the two events, what has transpired during this time period, and the nature of the "event" that gives rise to the new threat to democracy. For simplicity's sake, we refer to the time at which this event takes place as t_1 , and the time of the original Colored Revolution as time t_0 .

To start with, we would expect the experience of a Colored Revolution ought to greatly revise citizens' perceptions of both the potential costs and potential benefits from engaging in collective action against an abusive state. The argument advanced in the previous section only got us to the likelihood of protest following electoral fraud. However, in the case of the Colored Revolutions, these protests actually succeeded in toppling governments and removing rulers from office. Thus we would likely expect a huge revision upwards in the minds of citizens of the potential benefits of protesting against an abusive state. Moreover, as the Colored Revolutions were - with some minor exceptions in Kyrgyzstan generally nonviolent affairs that did not lead to any long term sanctions against the participants (consider events in Myanmar or Pakistan in contrast), we would also expect a downward revision in the costs associated with protest. And while spending weeks outside in Kyiv in December is clearly nothing to sneer at, by all accounts most protestors were enjoying themselves most of the time. Therefore, as long as nothing happens in the intervening period between the Colored Revolutions and the next "event", we would expect to see people likely to take to the streets again in defense of democracy.

This begs the question of what could happen in the intervening time period so as to change this cost-benefit analysis. At one extreme, so much time could pass (say 50+ years) so that the actual participants in the Colored Revolutions were no longer around to participate in a new protest, at which point it would be safe to say that the effect of the original Colored Revolutions would likely have dissipated. Given that we are still in the first decade of the twenty-first century, however, this case is of little interest at the moment, but we mention it only to highlight the fact that there is some sort of temporal upper bound to the entire process; where exactly it is may be uncertain, but is beyond the scope of our concern for the foreseeable future.

Within the relevant time frame, it is easiest to begin by considering changes to the "cost" component of the cost-benefit analysis. Simply put, we would expect that if the regime were to demonstrate credibly that it was capable of using violence against its own citizens, we might expect potential protestors at time t_1 to be more hesitant to take to the streets than they were at time t_0 . This is of course far from a novel explanation of the calculus of the decision to protest, and there is nothing in the argument specific to protests that follow electoral fraud at time t_0 .

Of slightly more interest, however, is to consider the question of what exactly is counted as a credible commitment to use violence. It is not difficult to come up with some obvious cases where we would say this has taken place. For example, if the head of the security services had changed, the new head was known as a hardliner, and the security services had cracked down on political dissent in a violent manner in the period of time between t_0 and t_1 , we would expect people to update accordingly. Where it gets interesting, however, is to consider steps short of this. How seriously might statements committing to using violence be taken in the aftermath of restraint during a Colored Revolution? And perhaps most intriguing, would it be possible for some sort of "global shift" in the perceived acceptance of repression of dissent by other regimes in the region cause domestic actors to be more fearful of rising costs to participation in protest in their own country, even where had been no such violence domestically? To put a more concrete spin on this, is it possible that participation in protests in Georgia in 2007 could have been tempered by the fact that violence was used to put down protests in Uzbekistan and, to a lesser extent, in Belarus since the time of the original Georgian Rose Revolution?³ And, if so, what would be the

³For more on recent protests in Georgia, see for example Vaisman, Daria and Fred Weir, 2007, "Georgia Verges on Repeat Turmoil", Christian Science Monitor, November 5, 2007, p.6, accessed through Lexis-Nexis.

limits of this upward cost-revision from violence in other countries? Would it matter, for example, at some future date in Serbia as well?

Even more interesting than considering revisions in people's estimates of the costs of protest, however, is considering what happens to people's revised estimates of the benefits of having participated in a Colored Revolutions. Herein lies the crux of the question: if people are expected to have revised their expectation of the benefits of protest against an abusive regime because the "success" of a Colored Revolution resulted in "throwing the bums out", then would the need for more protest somehow undercut the original perceived "success" of the Colored Revolution? What is particularly interesting about this tension is it is explicitly tied to an original protest at time t_0 that involved a protest that actually resulted in a change in who held office, as did the Colored Revolutions.

We can consider the paradox of whether a need for a protest at time t_1 undermines the perceived success of actions at time t_0 from a number of different starting points. In all cases we will assume - as was basically the case with the actual Colored Revolutions - the protest at time t was over major electoral fraud, and that the protest culminated with a reversal of the fraud and a change of office holders in key political institutions. Let us therefore start from one extreme, and consider the case where the event demanding a protest at time t_1 is again an instance of major electoral fraud, this time perpetrated by the very people who road the tide of popular protest into office at time t_0 . In this case, it seems obvious that protestors would likely think "why bother?" when considering whether or not to take to the streets again. If both sides have shown themselves willing to resort to electoral fraud to stay in office, then why should individuals risk any harm to get one side into power at the expense of the other?⁴ This is, of course, a fairly easy scenario, but does nicely illustrate

⁴Of course, this assumes something roughly resembling a two party system, or else two distinct "forces" in a country (e.g., Ukraine, which is multiparty but has clear pro and anti-Orange forces). But even if there are three forces, we can just extend the logic out into another

the inherent paradox.

Let us then take a step backwards from the easy first scenario and assume nothing so obvious as another case of electoral fraud at time t_1 , and instead consider a scenario whereby the newly empowered government simply continues to engage in fairly corrupt practices, leading to charges that "nothing has changed". Perhaps the event at time t_1 is some particularly egregious act of corruption, symbolizing the fact that the new regime is no less abusive - or even only a little bit less abusive - than the previous regime. Would the people take to the streets in this case to protest the new event at time t_1 ? We might expect them to hold the new government to a higher standard. But on the other hand, if the new government turned out to be just as abusive as the prior one, then people might update that although they had paid some cost to protest previously, they had now learned that they received little or no benefit from the changes that took place after that protest, which could again cause them to decide to sit this one out.

We can even back a second step away from this scenario, and still get to a point where protest looks doubtful. Consider a scenario similar to what seemed to unfold in Ukraine following the Orange Revolution. A new "better" regime comes to power following electoral fraud, only to gradually lose power to the old regime through a series of bad decisions, highlighting perhaps arrogance and/or incompetence on the part of the newly empowered forces. The result is a situation where once again the old regime is in power, and the members of the forces that had been victorious in the Colored Revolution call on the people to support them with protest. Ought people to take to the streets in this circumstance? Again, we have to wonder whether individuals, seeing that the hard work of their protest form a number of years earlier did nothing to ultimately prevent the return of the original corrupt regime to power, will decide

period with the third force also falsifying election results.

that the benefits of protest no longer seem to outweigh the costs.

Walking through these three scenarios raises the question if there is any circumstance where we would theoretically expect citizens to take to the streets again in the years following a Colored Revolution. Let us then consider perhaps the most hospitable scenario for seeing renewed protests: the original Colored Revolution succeeds at time t_0 , the new regime comes into power and behaves in a non-abusive manner but loses power in a free and fair election because of other factors (e.g., the state of the economy), and then the old regime comes back into power, starts behaving abusively once again, and ends up committing major electoral fraud again in an effort to stay in power. If ever there was a situation conducive to a realization of the "people power" scenario whereby citizens once again rise to defend their newly granted rights, this ought to be it. And yet, we need to ask how different this scenario actually is from the preceding one. In both cases, people have protested (and therefore borne costs) at time t. In both cases, citizens find themselves at a time t_1 , where the people they threw out of office at time t are back in power and continuing to behave in an abusive manner. What, therefore, can citizens logically conclude was the benefit gained from the costs they paid in participating in protests at time t_0 ? And, more importantly, what is the point of risking harm in a new Colored Revolution, if the ultimate result is that the "bums" always come back to power?

Take together, we get the Paradox of the Colored Revolutions: given the nature of the "success" inherent in overthrowing a government that has attempted to stay in power through electoral fraud in a society where the regime has behaved in a consistently abusive or unrestrained manner towards the citizenry, is there any sort of event in the future which can simultaneously drive people back on to the streets to protest without forcing them to question the benefits gained from the original protest?

To answer this question, the most prudent tact would seem to be to start at the beginning with the more general question of why it is people take to the streets to protest against "bad" regimes in the first place. Or, put another way, irrespective of the occurrence of a successful Colored Revolution at time t_0 or not, does it ever make sense for forward looking citizens to try to take to the streets to replace "bad" regimes, and, if so, how ought this to impact regime behavior? For this we turn to the tools of formal modeling.

4 Motivation

In principle, an understanding of these issues requires understanding both the means by which citizen behavior (e.g., to protest or not to protest) influences the incentives of government officials and how citizens solve the collective action problem associated with protestation in the first place. In this section we abstract away from the question of how protesters might solve the collective action problem and instead take as given that a coherent set of voters could solve the problem if they want and investigate the extent to which the possibility of protest can influence the behavior of elites and allow the masses to replace bad governments. Our decision to initially ignore the coordination problem is motivated by the fact that particular incidents of electoral fraud are likely to serve as focal opportunities for the occurrence of protests (e.g., along the lines discussed in Section 2). Accordingly, once the coordination problem is solved at a critical point in time, the question of whether a protest occurs can be conceived of as a participation problem. Standard models like Palfry and Rosenthal (19xx, 19xx) provide insights about equilibrium behavior in these problems. In the process of analyzing this problem we also gain insights into the possible dynamic patterns of protest behavior. The key issues that we focus on are usually termed moral hazard and adverse selection in various literatures that use principal agent models. In this context, the former, moral hazard, deals with the possibility that masses can structure the incentives faced by elites to induce them to behave in ways that the masses would like them to behave. The most natural way to model this is to allow/require the government to decide how much to transfer to the voters. We could interpret this as a problem of selecting how much effort to exert on good governance or deciding how much of the tax revenue to expropriate through corrupt behavior. In the model the question is just how much of a fixed surplus the government gives to the voter in period t, x^t and how much it keeps for itself, $1 - x^t$. The second aspect, adverse selection, pertains to the ability of the masses to deal with observed or unobserved variation in the intrinsic quality or motivation of the the parties that could serve in the government. When considering problems of this form, we consider parties that have a quality attributed q and assume that voters prefer higher quality. A well known tradeoff exists between the ability of voters to solve these two problems simultaneously. The key departure of this model and analysis is that a protest is both imperfect and it is costly (in comparison to a collective decision by voters to replace the government).

5 A Basic Representative Voter Model

5.1 Pure Moral Hazard

We start with a stark base line model. This model involves moral hazard but no adverse selection; protestation might influence the behavior of elites, but there is no interesting variation in quality of the elites. There are n + 1identical governments, indexed j = 1, 2, ..., n + 1 and a representative citizen. The government in office at period t has a choice about how much of a public good to provide for the voter, $x^t \in [0, 1]$. A government obtains rent $d + 1 - x^t$ from its provision choice in period t. The voter receives the signal and payoff x^t from the government in period t. The key departure that protests offer relative to elections (in democratic countries) is that attempts to throw out a party can be imperfect and costly. In particular, we will assume that the voter's choices in each period are to stage a revolt, r, or acquiesce to the government's legitimacy, a. In particular, we denote the voters action in period t by $v^t \in \{r, a\}$. In contrast to a standard model of democratic politics, we assume that $v^t = r$ only replaces the government with probability z and that it imposes a cost of krelative to the action a. All players care about the expected discounted sum of payoffs with the voter using discount rate δ and the governments using discount rate δ_g . We assume for now that if a government is replaced then there is a probability of 1/n that each of the remaining parties is placed in office.

In this case a natural candidate for equilibrium is one in which the voter uses the threat of a revolt to solve the moral hazard problem. The strongest plausible way that the voter can solve the moral hazard problem is to create incentives for the government to produce a high level of goods, by revolting whenever it sees the bad signal. This strategy involves the rule:

$$v^t(s^t) = \begin{cases} r \text{ if } s^t < 1\\ a \text{ otherwise.} \end{cases}$$

If this strategy is sufficient to deter shirking, than the government in office (regardless of party) will select $x^t = 1$ in order to raise the probability that it is retained from 1 - z to 1. Can full provision by parties and this revolt strategy be part of a subgame perfect Nash equilibrium? In contrast to the standard moral hazard models of elections where the voter is typically indifferent between retaining and replacing a complicing party, here the fact that revolts are costly makes supporting the equilibrium problematic. Using the single-period deviation principle it is sufficient to see if the voter can gain by deviating in one period. If the voter deviated in period t following a signal of $x^t < 1$ and chose not to revolt she would save the cost k and the government would remain with probability 1 instead of probability 1 - z. Since the government in office is identical to one of the governments that would replace it, and the voter is using the conjectured strategy in all subsequent periods, the retained party will face exactly the same decision problem in period t + 1 that she faced in period t. Accordingly it is not the case that any parties strategy in some period t' > t is influenced by whether the voter actually revolted in period t following the signal $s^t = 0$. A similar argument applies to any equilibrium in which the voter probabilistically revolts to deter shirking. Thus, we see that with identical parties (and thus no adverse selection) revolts cannot be used to create incentives for full provision in simple equilibria like this, precisely because the cost of a revolt is not worth absorbing. If revolts actually control the governments then the voter cannot credibly threaten to use a revolt because replaceing one controlled government with an identical controlled government makes the voter no better and thus does not offset the cost/risk associated with revolting.

A natural follow up is whether the above insight hinges on the fact that we tried to characterize a very simple equilibrium that depended on only behavior in the last period. A more complicated strategy would be one in which government parties somehow punish the voter when she does not protest agains a government that has been present during a period of shirking, $x^t < 1$. While analysis of this form might be theoretically interesting it might seem odd to think that democracy hinges on governments sanctioning voters for not punishing other governments; moreover, such an approach is not particularly germane to the substantive question motivating this paper.⁵

We have seen that the fact that protest is costly to the voter results in a control problem that is different from the more standard electoral applications of agency models. The key point we learn from this exercise is that to make protest credible the voter must see some potential gains to replacing the government; it can not just be a tool to induce good behavior. It is interesting to note that Fearon (200x) concluded his assessment of moral hazard and adverse selection by arguing that selection was the more likely explanation. Constructing equilibria in dynamic games in which voter behavior solves moral hazard and selection

⁵It might, however, be worth exploring in the context of countries suffering from repeated coups, where perhaps we could expect new coup leaders to exact retribution on a population that was not seen to have sufficiently opposed a prior regime.

problems requires that a problem similar to the one described above be solved. The voter must be willing to replace the "better" government if it has any hope of controlling it (solving the moral hazard problem).

One approach that has been used in the literature (Meirowitz 200x) is to use the fact that "better" governments can provide less while "worse" government provide more. In other words, we can allow the voter to fully solve the moral hazard problem for the "bad" party and then partially solve it for the "good" party when the level of partial solution is chosen to make the voter indifferent between the parties. The problem with this approach in the context of costly protests is that getting the voter to be willing to protest against a party requires that the out party is *always* more attractive to offset the protest cost, k. Accordingly, this strategy will require that a government's performance must decay from when it is in its first term to subsequent terms.

5.2 Adding adverse selection

The simplest way to add adverse selection to the above model is to assume that each party has a type q_j that is fixed and commonly known. Without loss of generality assume that the parties are ordered by quality so that $q_j \ge q_{j+1}$ for $j \in \{1, ..., n-1\}$. Assume that voters get payoff $x^t + q_j$ from having party jin office and selecting x^t in period t. We assume that parties care only about their rents $d + 1 - x^t$ for period t, and treat this stream as unaffected by the party's type. For convenience we let $q_2 = 0$ and interpret Q as the quality difference between the best and second best party. If k = 0 then the voter could solve the moral hazard problem for party 2 and allow party 1 to benefit from her quality advantage while solving the adverse selection problem partially (never having parties 3 or higher in office). In particular if the value to office d is high enough then an equilibrium in which party 2 provides $x^t = 1$ and party 1 provides $x^t = 1 - Q$, where recall that we have set $Q = q_1 - q_2$ as the quality difference between the best and second best party. would make the voter indifferent between having either party in office. Accordingly, the voter would be willing to replace 1 with 2 or 2 with 1, assuming that in the subsequent periods the parties were offering $x_1^t = 1 - Q$ and $x_2^t = 1$ respectively. Alternatively as long as d is large enough relative to the parties discount rate, compliance with this equilibrium strategy and retention with probability 1 will be at least as good as a deviation that results in retention with probability 1-z. The problem with this description, however, is that when protestation is costly, k > 0, the voter profits from a deviation in any period in which she is supposed to protest. In order to offset the protestation cost, the voter must value the current government less than a new government, and this must be true regardless of which party is in office. One way to attain this is to consider equilibria in which the government provides more services in its first term than it does in any subsequent period. Suppose then, that the second highest quality party behaved as follows. If it was not in office in the previous period and it finds itself in office in period t it provides $x_{n2}^t = 1$ but if it is in office during period t and was in office during period t-1 then it provides $x_{o2}^t = 1-y$. So the subscripts n and o are to remind us of new and old. Given this strategy by party 2, the voter is willing to protest a party 1 that provides less than she is supposed to as long as the expected payoff from replacement

$$z(x_{n2} + \delta V_2) + (1-z)[x_{o1} + \delta V_1] - k$$

results in an expected payoff that is at least as good as the continuation payoff from retaining 2 another period, $x_{n2} + \delta V_2$. Under the assumption that party 2 behaves the way we have just described and party 1 shades her effort by Q, the continuation payoffs $V_2 = \sum \delta^{t-1}(1-y) = \frac{1-y}{1-\delta}$. The continuation payoff from having 1 return is similarly $V_1 = \frac{1-y-Q+Q}{1-\delta} = \frac{1-y}{1-\delta}$ and the continuation payoff to having a new party 1 is $1-Q+Q+\delta\left(\frac{1-y}{1-\delta}\right)$ given the conjectured strategies. Accordingly we have the equilibrium condition

$$z\left(\frac{1-y}{1-\delta}\right) + (1-z)\left[1+\delta\left(\frac{1-y}{1-\delta}\right)\right] - k \ge \left(\frac{1-y}{1-\delta}\right)$$

Solving the above with equality (which is the best that the voter could get out of the parties) yields

$$z\left(\frac{1-y}{1-\delta}\right) + (1-z)\left[1+\delta\left(\frac{1-y}{1-\delta}\right)\right] - k = \left(\frac{1-y}{1-\delta}\right)$$

Solving this equilibrium condition yields, the straightforward expression, $y = \frac{k}{1-z}$. Accordingly, as long as the value of office is high enough for the parties that they don't want to risk replacement, the level of provision is

$$x_{n2} = 1, x_{o2} = 1 - \frac{k}{1-z}, x_{n1} = 1 - Q, x_{o1} = 1 - Q - \frac{k}{1-z}.$$

Accordingly, the level of agency loss that is introduced by the difference from voting to protests is increasing in the cost of protests and the probability of protest failure. As is typically the case of agency models without noise or uncertainty the dynamics are interesting, and in some sense all of the action is off the equilibrium path. The analysis, however, illustrates how the move from voting to protests changes the incentives and provides an interesting finding, parties behave differently when the enter office following a different party (they behave better). When a party is just retaining office it can shirk more. The noiseless model also provides an explicit and simple means to track the distortion. Even when protests never happen in equilibrium the fact that following through with a protest would be costly influences the level of provision by the parties. The cost of a protest results in agency loss through the level of provision by all but the lower quality party in a new period of office. The higher quality party as well as the lower quality party that is continuing a spell gets to consume revenue (or shirk) by an amount proportional to the protest cost. In addition the higher quality party gets to shirk by an amount proportional to its quality advantage. Subsequent extensions will introduce imperfect monitoring of the government provision, so that voters get $x^t + \varepsilon^t$ where the latter is random. In models of this form, equilibria typically involve sanctioning on the path.

6 Conclusions

Despite the international excitement and flurry of academic research, it unfortunately seems safe to say at this point that the Colored Revolutions have for the most part fizzled out. The ball stopped rolling in Bishkek (or some might even say in Kyiv), and to date there has been no denim revolution in Belarus or similarly fashioned events in Armenia or Azerbaijan. In a similar vein, there has been no explosion of people power in any of the Colored Revolution countries, although the jury is of course still out on the extent to which governance has improved in these countries in the wake of the examples of people power left behind from the colored revolution.

In this paper, we have hopefully provided some insight into why this is the case. Simply put, due to cost and uncertainty, protest is much more difficult manner of constraining abusive regimes than simpler electoral mechanisms. Such "off the equilibrium" behavior may indeed be just that: rare events that can play a role in shifting a country's political evolution at a given moment in time, but not a long term solution for political development. As is now painfully clear to most Ukrainians, a successful Colored Revolution does not guarantee competent governance in the future; our research suggests we should not delude ourselves into thinking that the threat of future protest alone every really could.⁶

 $^{^{6}\}mathrm{This}$ is not to say that better governance can not come about as a result of a successful

We also hope to make a modest contribution to the formal literature, which has hitherto focussed primarily on the moral hazard and adverse selection issues confronting citizens when choosing to vote governments out of office in regularly scheduled elections. As large proportions of the world continue to live under political systems that do not afford them a legitimate opportunity to actually "throw the bums out" in elections, it is important that the literature consider other means that citizens have at their disposal for doing this outside of the context of free and fair elections. We advance this goal by examining the effect of making government swaps both costly (e.g., the price of protesting) and uncertain, and in doing so identify even more challenges that citizens face in trying to optimize the performance of their governments.

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protest, but only that it is likely to do so simply because a better quality government has been installed by the protests, not because a dynamic of future governments being constrained by the threat of future popular protest has taken hold. Serbia before and after Milosevic would seem to be a good example in this regard.

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