

Explaining Variation in Protester Commitment: Survey Evidence from Ukraine's EuroMaidan, 2013–2014*

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Abstract

Why do some protesters place themselves into situations with a high-risk of personal injury, while others dissipate at the first threat of repression? The anti-government protests in Ukraine provided an ideal setting for answering this question, due to the government's known preference to keep up the semblance of freedom of assembly during the day, while engaging in violent repression against the protesters under the cover of the night. Our analysis of survey data collected from over 110 protesters in December, 2013 reveals that, contrary to the conventional media story of an East–West divide, night-time protesters originated from all over the country and consisted of both Russian- and Ukrainian-speakers. We explore four competing explanations—cultural, political, economic, and educational—to explain protester goals, and to identify what characteristics made a protester more likely to remain in Maidan at night. We then compare the explanatory powers of each theoretical model using Clarke's distribution-free test, which allows for non-nested model comparison. Our analysis provides one of the few studies examining costly forms of unconventional political participation at the time of that participation, rather than retrospectively.

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Introduction

On November 21, 2013, students gathered in Maidan Nezalezhnosti (Independence Square) of Kyiv, Ukraine to protest against President Viktor Yanukovich's abrupt refusal to sign a previously negotiated Association Agreement with the European Union. After an initial promise to reconsider the agreement—a seeming acquiescence to the protesters' demands—Yanukovich proceeded to leave the meeting of the Eastern Partnership without signing to the agreement on November 29. In the early morning hours that followed, Berkut police (Interior Ministry special troops) attacked the student protesters in a failed attempt to disperse the protesters under the cover of darkness.

Visual images of the brutally beaten students were broadcast across Ukraine, sparking broad public outrage, even among supporters of the government. In the next couple of days, hundreds of thousands of people from all over the country traveled to the capital to join the protests and decry the violence of the Yanukovich regime. Despite this rapid growth in protesters' numbers and determination, Yanukovich ordered police to undertake another violent dispersion attempt in the middle of the night of December 11. Fearing additional violence, Kyiv's mayor asked city residents to stay away from the downtown and closed down several of the downtown subway stations, while the government-controlled court passed an order to ban Vitaliy Klitschko, leader of the opposition Ukrainian Democratic Alliance for Reform (Udar) party, from traveling within Kyiv (Ukraynska Pravda 2013). The next day, troops were reported to have massed near the square. By the weekend, rumors swirled that government had planted agent provocateurs with the plan to provoke violence, which would justify a more systematic and larger-scale crackdown to clear Maidan of the protesters.¹ Yet neither these repressive measures, nor the below freezing temperatures of Ukrainian winter could dissipate the protests, which at some point numbered one million people.

The goal of this paper is to uncover the reasons for participation in costly protests. The costs of participating in an anti-government rally, such as the EuroMaidan protests, involves travel expenses, such as transportation, food and shelter, taking time off work, and, most notably, a risk of personal injury at the hands of the police.² Not all protesters,

¹Provocation is a popular crowd control technique within the post-Soviet space, since at least the Tsars.

²Protesters may also confront harsh weather conditions, as in the case of the EuroMaidan protests.

however, demonstrate equal levels of resolve or commitment, as some dissipate at the threat to personal safety, while others persevere even in the harshest circumstances. The known preference of Yanukovich’s regime to engage in violent repression under the cover of the night, while maintaining the semblance of respecting freedom of speech and assembly during the daytime, provides a great way to separate these two types of protesters. The protests and threat of nighttime violence in Maidan provided an ideal setting for answering our research questions. We use survey data from over 110 protesters in Maidan on December 13 and 14.

Our paper makes a significant contribution to the literatures on political participation, social movements, and protests, as it is one of the few studies examining costly forms of unconventional political participation at the individual level-of-analysis, using data collected *at the time of participation*. Many studies of protest participation conduct *ex post* surveys of participants (e.g., Mueller 2013), or employ aggregated protest-level data obtained from newspapers and police archives (e.g., van Aelst and Walgrave 2001). *Ex post* questionnaires, however, may introduce bias: respondents’ perceptions of events may be contaminated by media framing, concerns with providing socially acceptable answers, or *ex post* rationalizations of behavior in the view of subsequent events (i.e. reverse causality) (Bozzoli and Brück 2011; Finkel and Muller 1998). The protest-level studies, in the meantime, may be unable to identify individual characteristics of protesters without encountering the ecological fallacy problem (King 1997; Robinson 1950).

This paper’s findings run in contrast to many popular narratives of EuroMaidan protests. Contrary to the often-told story of Ukrainian politics in terms of the East-West divide, our results indicate that EuroMaidan protesters came from all of the geographic and linguistic groups. Moreover, both geographical origin and linguistic background are poor predictors of protester demands for the government’s resignation or the willingness to stay in the square overnight, braving the cold and the threat of police batons. In addition, and in contrast to later reports suggesting that protester demands escalated over time with the death toll over the violent winter months—we find that 74% of respondents to our December survey said they would not leave Maidan until President Yanukovich resigned. This percentage is larger than the percentage of those whose primary demand was Ukraine’s accession to the EU association agreement (59%)—the proximate cause of the protests. Such high percentage

of protesters seeking the removal of Yanukovich suggests a longer, deeper held animosity towards the regime. This also helps explain the failure of the EU-mediated February 21 agreement, which sought to preserve the current government until the Fall elections. Our findings also indicate that, in contrast to the Moscow-instigated reports blaming the protests on the US and pro-Western parties or nationalist parties, only a minority of protesters in Maidan claimed ideological association with the right-wing nationalist party Svoboda (28%), with a plurality of protesters self-identifying with no party (43%).

We use logistic regression to examine four competing explanations—cultural, political, economic, and educational—of costly unconventional political participation. We first analyze characteristics associated with the goals of EuroMaidan protesters, ranging from more extreme demands, such as insisting on the government resignation, to more moderate demands, such as calling on the government to sign the EU Association agreement or that it do more to fight corruption. We then examine why some protesters engage in the very costly action of staying in Maidan overnight, when the risk of violent confrontation with riot police was greatest. We compare these competing accounts using Clarke’s (2003, 2007) distribution-free test to discriminate between non-nested models in order to identify the model with the greatest explanatory power.

We find that while cultural accounts do the best job of identifying protester goals, they do a poor job of explaining willingness to engage in the highest cost participation of staying in Maidan overnight. Moreover, the cultural account is not as straightforward as one might expect, as evident by protesters from East Ukraine actually being *more* likely to demand the resignation of the pro-Russian Yanukovich government. We think this finding is best explained by a selection effect, as willingness to travel from East Ukraine to Kyiv would likely select out potential participants with less radical demands.³ We also find that women and the more educated participants are the most likely to demand the government resignation. Women were also most likely to demand that the government sign the EU agreement. None of the models—cultural, political, economic, and educational—are statistically distinguishable from one another when examining the very high cost action of staying in Maidan overnight.

³Protesters from Yanukovich’s strongholds in eastern Ukraine already demonstrated great commitment by choosing to travel to Kyiv in the first place, whereas those with a lower resolve may have been dissuaded by the travel and by potential conflict with friends and neighbors.

Looking at individual predictors, remaining in EuroMaidan at night is best accounted for by gender, as men were more likely to stay, having either full-time or no employment relative to student status, and speaking both Russian and Ukrainian at one's home. That full-time employment and bilingual homes are associated with staying overnight in the square suggests that the EuroMaidan protests were more mainstream and cosmopolitan than is often ascribed to such movements.⁴ Neither geography nor partisanship had a statistically significant effect.

In the next section, we provide a brief review of the previous literature on protests and social movements. We then describe the data and report the descriptive statistics from the survey. Following this, we analyze the data to identify which factors are associated with costly participation in a protest. Finally, we discuss what these results mean for the social movement literature and political science more broadly.

Protests and Social Movements

The literature offers four broad explanations of protests and social movements: cultural, political, economic, and educational. The most common explanation, especially among journalists and nationalist politicians, views protests as manifestations of deep-seated animosities, which stem from contrasts in cultural practices among different ethnic and religious groups (e.g., Huntington 1996). Tir and Jasinski (2008, 644) note, for example, that “certain segments of the society may feel a greater affinity to their own group or even to another state than to the state of which they are nominally citizens.” When there is an increase in psychological distance between the state and its citizens, the likelihood of conflict increases. Groups that maintain a high level of psychological distance may engage in secessionist civil wars in response to the perceived differences in values between their moral community and the government of the state they are in (Ferguson and Mansbach 2004; Rosenau 2003). Moreover, differences in cultural practices may be associated with institutional impediments for particular groups upward economic mobility, which increases these groups utility for seeking

⁴Yanukovych, for example, described protesters at EuroMaidan as “disorderly and unsanitary rabble” (Englund 2013).

greater autonomy or independence (Anderson 1983). At the micro-level, cultural arguments make sense in framing a world view, or creating a structural account that defines different baselines regarding the expectation of unconventional political action, but they do not necessarily explain why individuals act when they do.

Political explanations offer a number of alternative accounts. First, they provide a solution to the collective action problem facing groups: a civil organization or party that has the capacity to organize (Beaulieu 2014; Mueller 2013; Tavits 2012*a,b*). Political organizations and parties can exert strong psychological connections with their members, and have been a strong predictor of conventional political behavior, such as voting (Lewis-Beck et al. 2011), or unconventional behavior, such as boycotts or demonstrations (Beaulieu 2014). In addition, Mason (1994) argues that disparate groups within a society may be united in their demands on political issues of economic growth, such as the distribution of resources and the fight against corruption.

Second, previous political action may normalize and regularize political behavior, whether conventional or not. This explanation is consistent with the well known “dissent-repression nexus,” where government violence and protest operate as part of a feedback process (Davenport 1995, 2007; Francisco 1995; Moore 1998). Rasler (1996), for example, argues that while repression stifles dissent in the short-run, it actually increases dissent in the long-run. In addition, some argue that violent and non-violent protest movements differ from one another, though they may be substitute strategies (Chenoweth and Stephan 2011, 2014; Lichbach 1987; Moore 1998).

Economic models argue that political incumbents are evaluated based on the state of the economy (Lewis-Beck 1986; Lewis-Beck, Nadeau and Elias 2008; Powell and Whitten 1993), though this is mediated by political sophistication (Curtis 2014). Brancati (2014) extends this logic from voting to protesting. These ‘pocketbook protests’ do not just seek a government resignation, but also a societal transformation that would improve economic conditions. The argument suggests that economic crises help overcome collective action problems at the individual level (Acemoglu and Robinson 2006), and delegitimize the existing regime (Brancati 2014).

Other economic factors are also important. Mueller (2013) finds that low prospects of

upward mobility are a key factor that motivated protesters in Niger. Mason (1994) and Mason and Murtagh (1985) argue that individuals with higher socio-economic status are more likely to engage in non-violent protests, compared to the individuals at the fringe of society. The argument that individuals in relatively strong positions within society engage in unconventional political behavior is consistent with the ‘relative deprivation’ argument (Gurr 1970). According to this argument, citizens that undertake risky unconventional political action are not the worst off in society, but face the greatest discrepancy between what they actually have and what they think they deserve. Thus, people that have something to lose, or whose rising expectations outpace returns—such as students and those with full-time employment—are more likely to join protests.

Similar to the economic account, the educational model also builds on the logic of relative deprivation. This is especially true in terms of protests advancing greater democratic institutions, as greater education levels are associated with increased tolerance and increased ability to evaluate policy decisions (Lipset 1959; Sanborn and Thyne 2014). Government leaders support education initiatives in order to facilitate economic development, but education programs can also create a surplus workers with increased expectations of wages and standards of living which, if unmet, can create instability. This instability can begin as early as with the spread of primary education, as even at early stages of education, pupils learn to compromise and interact without resorting to violence, which can undermine autocratic rule (Sanborn and Thyne 2014). Moreover, increased education levels lead to expansion of the middle class, which is associated with democratization (Przeworski and Limongi 1997).

Survey: Goals and Behavior of EuroMaidan Protesters

We evaluate each of the above explanations of costly unconventional political participation using survey data on protesters at Maidan Nezalezhnosti (Independence Square) in central Kyiv, collected by the Taras Shevchenko National University of Kyiv on December 13–14, 2013. As discussed above, the data collection time frame provides for a great test of the costly protests theory, due to the widely-known threat of the government-ordered forceful clearing of the square by police. Individuals were approached as they stood in line to enter

the opposition-occupied City Hall, which was used by those in Maidan as a place to use the restroom, warm up on a cold December day, or to grab a light meal.⁵ Since neither the need to use the restroom nor to warm up should be correlated with protester goals or likelihood to stay in Maidan overnight, this sampling strategy produces a random sample of protesters.

112 participants completed the survey, with a response rate of approximately 70%. Surveys were administered in Ukrainian. For those that spoke only Russian or who had difficulty reading the questions, the survey was administered orally in either Russian or Ukrainian as appropriate by one of the interviewers. Fluency in Ukrainian and Russian helped reduce bias in recruiting and eliciting responses from protesters. Participants were told that survey results were confidential and had no identifying information. Overall, respondents were eager to provide answers and even volunteer their opinions and thoughts on the political and economic climate. The candor of respondents suggests their answers were sincere.

Variables and Descriptive Statistics

Table 1 displays the descriptive statistics for all variables, coded from the survey responses. The table is divided into five parts: the first set of variables are the outcome variables, *goals* and *night*, and two demographic variables, *age* and *female*. The remaining four parts of Table 1 are organized by theoretical model.

Respondents' goals are captured by three dichotomous variables: the resignation of the government (*Government Resign*), the signing of the EU Association agreement (*Sign EU agreement*), or fight against corruption (*Anti-Corruption*). *Government resign* is coded as 1 if the respondent's primary goal is for Yanukovych to resign. *Sign EU agreement* is coded as 1 if the respondent's primary goal for Ukraine to reverse its current course and sign the EU Association agreement. *Anti-corruption* is coded as 1 if the respondent's primary goal is for the government to end corruption. Respondents could choose more than one goal.⁶ Each of these goals had majority support among protesters, though the demand that the Yanukovych resign was most widespread (74%). Finally, the variable *Night* is coded as 1 if the respondent intended to stay overnight to participate in the overnight effort to defend

⁵The high temperature was 32°F (Englund 2013).

⁶The survey also included an *other* category, in which respondents could list other grievances.

Table 1: Descriptive Statistics.

| Variable | Mean | Std. Dev. | Min. | Max. | Obs. |
|-----------------------|--------|-----------|------|------|------|
| Age | 33.607 | 14.545 | 16 | 82 | 107 |
| Female | 0.170 | 0.377 | 0 | 1 | 112 |
| Night | 0.545 | 0.500 | 0 | 1 | 112 |
| Goal: Gov. Resign | 0.741 | 0.440 | 0 | 1 | 112 |
| Goal: Sign EU Agr. | 0.589 | 0.494 | 0 | 1 | 112 |
| Goal: Anti-corruption | 0.527 | 0.502 | 0 | 1 | 112 |
| <u>Cultural</u> | | | | | |
| Russian Only | 0.125 | 0.332 | 0 | 1 | 112 |
| Ukrainian Only | 0.705 | 0.458 | 0 | 1 | 112 |
| Russian and Ukrainian | 0.170 | 0.377 | 0 | 1 | 112 |
| East (“Novorossiya”) | 0.183 | 0.389 | 0 | 1 | 109 |
| <u>Political</u> | | | | | |
| Party of Regions | 0.009 | 0.094 | 0 | 1 | 112 |
| Udar | 0.205 | 0.406 | 0 | 1 | 112 |
| Fatherland | 0.080 | 0.273 | 0 | 1 | 112 |
| Svoboda | 0.277 | 0.449 | 0 | 1 | 112 |
| General Opposition | 0.429 | 0.497 | 0 | 1 | 112 |
| Voted | 0.830 | 0.377 | 0 | 1 | 112 |
| Orange Revolution | 0.598 | 0.492 | 0 | 1 | 112 |
| <u>Economic</u> | | | | | |
| Full-time Job | 0.634 | 0.484 | 0 | 1 | 112 |
| Part-time Job | 0.107 | 0.311 | 0 | 1 | 112 |
| Student | 0.170 | 0.377 | 0 | 1 | 112 |
| Unemployed/Other | 0.089 | 0.286 | 0 | 1 | 112 |
| Income: <5k | 0.757 | 0.431 | 0 | 1 | 111 |
| Income: 5k–10k | 0.225 | 0.420 | 0 | 1 | 111 |
| Income: >10K | 0.018 | 0.134 | 0 | 1 | 111 |
| <u>Educational</u> | | | | | |
| High School or less | 0.098 | 0.299 | 0 | 1 | 112 |
| Some College | 0.286 | 0.454 | 0 | 1 | 112 |
| B.A. | 0.357 | 0.481 | 0 | 1 | 112 |
| Graduate School | 0.259 | 0.440 | 0 | 1 | 112 |

Maidan should the government attempt to clear it. Over half of respondents (55%) indicated they would stay in Maidan overnight.

Two primary demographic variables—*age* and *gender*—are included in all theoretical models. *Age* is the respondent’s age measured in years. *Female* is a dichotomous variable where 1 indicates that the respondent identifies as female, and 0 that the respondent identifies as male. Consistent with previous work, our sample suggests protesters tend to be young and

male (Huntington 1968; Mason and Murtagh 1985; Mueller 2013). It is worth noting that the mean and median ages (34 and 29, respectively) are slightly older than the traditional “student” profile, often ascribed to protesters, suggesting a broader societal support for the protests (Bozzoli and Brück 2011; Mason 1994).

The cultural model captures linguistic and regional dimensions. The variable *language* measures the language spoken in the home: *Russian only*, *Ukrainian only*, or both *Russian and Ukrainian*. Each category is binary and exclusive. The language spoken at home helps assess the cultural background of respondents rather than their generational or economic characteristics, which are possibly correlated with the ability to speak both languages.⁷ Despite the overwhelming bilingualism of the population, most protesters (71%) spoke only Ukrainian at home.⁸

The variable *region* is a dichotomous East/West measure. *East Ukraine* is defined as the southern and eastern oblasts (geographical administrative regions), for which Putin’s administration has recently coined the term “Novorossiia.” Russia claims that this area, stretching from the industrial Donbass, to Crimea, and along the southern coast adjacent to the Black Sea to Transnistria in Moldova, is historically Russian, since Catherine the Great conquered the region in the 18th century, though the population remained mostly Ukrainian and much of the region was integrated into Ukrainian Soviet Socialist Republic in 1922.⁹ *East Ukraine* also largely overlaps with the oblasts that Yanukovych carried in the second

⁷Russian, for example, was the *lingua franca* during Ukraine’s time in the USSR, and most people who grew up during that era are able to speak Russian. Since the disintegration of the USSR, however, Ukrainian is increasingly taught in schools and was once the sole official language of Ukraine, though minority languages are supported by the state (Bilaniuk and Melnyk 2008). Russian remains the more prominent language across the country, as 68% self identify as fluent compared to 57% identifying as fluent in Ukrainian, though an overwhelming majority speak both at least satisfactory (Bilaniuk and Melnyk 2008, 346).

⁸There is potential that this finding reflects a degree of social desirability—demonstrating support for an independent Ukraine and a rejection closer ties with Putin’s Russia. The Yanukovych regime is viewed as pro-Russian and its rejection of the EU Association agreement, while simultaneously signing trade deals and accepting large loans from Russia, became a proximate cause of the EuroMaidan protests. One, however, must not overstate the degree of anti-Russian sentiment: most speeches made by activists and politicians at EuroMaidan were given in both Russian and Ukrainian. In addition, recent survey work among Ukrainian soldiers shows little animosity to Russian-speakers in Ukraine (Mironova and Whitt 2014).

⁹Crimea was transferred to Ukrainian Soviet Socialist Republic in 1954. Russia’s claim that Novorossiia is a historically self-governing region is incorrect on many counts. First, the territory known as Novorossia under the Tsars never included the Northeastern region of Kharkiv or the Crimean peninsula. Second, Novorossiia did not exist as an independent country, nor even as a self-administering unit under Tsarist Russia, and never had have a flag: the current flag of Novorossiia is simply a version of the Confederacy flag used by the South during the US Civil War (Kmet 2014).

round of the 2010 presidential election. 18% of respondents were from East Ukraine.

The political model identifies a respondent's political activities, as measured by party identification, whether the respondent voted in the previous presidential election, and whether a respondent participated in the 2004 Orange Revolution.¹⁰ *Party of Regions* is Yanukovich's pro-Russian party. *Udar* is a pro-Europe party led by Klitschko. *Fatherland* is a pro-Europe party associated with the (at the time, jailed) former prime minister Yulia Tymoshenko. *Svoboda* is a nationalist, right-wing party. Respondents without a party are classified as *general opposition*.

It is important to note that political parties in Ukraine are personality driven and membership is volatile. The career of the opposition leader Arseny Yatsenyuk is a typical example. Yatsenyuk entered parliament (the *Rada*) in September 30, 2007, as a member of former President Viktor Yushchenko's Our Ukraine-People's Self-Defense Bloc.¹¹ On December 3, he joined a democratic coalition of Our Ukraine-People's Self-Defense Bloc and Fatherland. He left the coalition in November 2008 and formed his own party, Front of Changes, before running for president in 2010. By October 2012, this party merged with Fatherland for the parliamentary election.¹² Following the EuroMaidan protests and Yanukovich's abdication of office, Yatsenyuk became Prime Minister. 46 days before the October 2014 parliamentary elections, Yatsenyuk again split with Fatherland and formed a new party, People's Front. Given this volatility, it is not surprising to find a plurality of protesters did not identify with any political party (43%). 20% of respondents supported Klitschko's Udar party, while 8% supported the more established Fatherland party. The nationalist, far-right Svoboda party had 28% support.

Voted is a dichotomous variable indicating whether the respondent voted in the previous presidential election. An overwhelming majority (83%) reported voting in the previous election. A handful of respondents indicated that they had previously voted for Yanukovich, but now called for his ouster. *Orange Revolution* is a binary variable coded as 1 if the

¹⁰The Orange Revolution was a population uprising in Ukraine that followed allegations of fraud in the 2004 presidential election, concern with autocratic tendencies on the part of the ruling class, and a lack of freedom of speech (Bozzoli and Brück 2011).

¹¹Yushchenko, along with Tymoshenko, co-led the Orange Revolution, but then had a political falling out.

¹²Yatsenyuk was listed as first on the party list, as party leader Tymoshenko was in prison on what Western government called "political-motivated" charges of embezzlement and abuse of power by the Yanukovich government.

respondent reports participating in the Orange Revolution, of which 60% reported doing. This suggests that, despite evidence of democratic backsliding, the willingness of the public to continue to take to the streets remains high.

The economic model captures of the occupation and income level of protesters. Respondents self-identified as *full-time*, *part-time*, *student*, or *unemployed/other*, with the latter being described as a “temporary” on the survey to avoid negative social desirability. To identify income, we asked if a respondent’s monthly income was *less than 5000 Hryvnia*, *between 5000–10000 Hryvnia*, or *greater than 10000 Hryvnia*. The national average monthly income is 3600 Hryvnia, while 5000 Hryvnia translates to approximately \$385 USD. Our results indicated that most protesters had full-time employment (63%), though they remained relatively poor, with 76% making less than 5000 Hryvnia per month. Students and unemployed made up 17% and 9% of protesters, respectively.

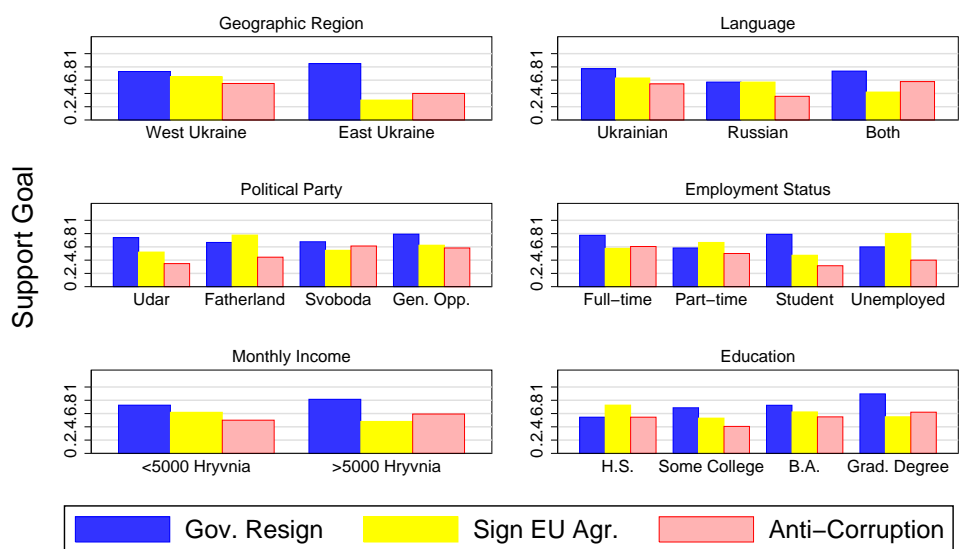
Finally, the education model accounts for a respondent’s level of education: *high school or less*, *some college*, *bachelor’s degree*, or *graduate degree*. We find that a majority of protesters have earned a bachelor’s or graduate degree (62%). Like Sears and McConahey (1973) and Mason and Murtagh (1985), we find that most protesters are highly educated and likely to be employed.

Survey Results

We present a series of bivariate results regarding protester goals and intention to stay overnight in Maidan in Figure 1 and 2. Looking first at Figure 1, we see that geography is associated with deviation in protester goals. Protesters from West Ukraine were more likely to support signing the EU Association agreement and pursuing anti-corruption charges. Protesters from East Ukraine, however, are more likely to demand the government resign, though overall support for this goal is high. It is also clear that those who speak Ukrainian-only at home are more supportive of all goals than Russian-only speakers, though those that speak both at home had the highest level of support that the government resign and pursue anti-corruption policies. Overall, these bivariate results indicate some support for cultural accounts of protest.

There is little variation in support for the government resigning by political party, though

Figure 1: Goals of EuroMaidan Protesters by Cultural, Political, Economic, and Educational Characteristics.

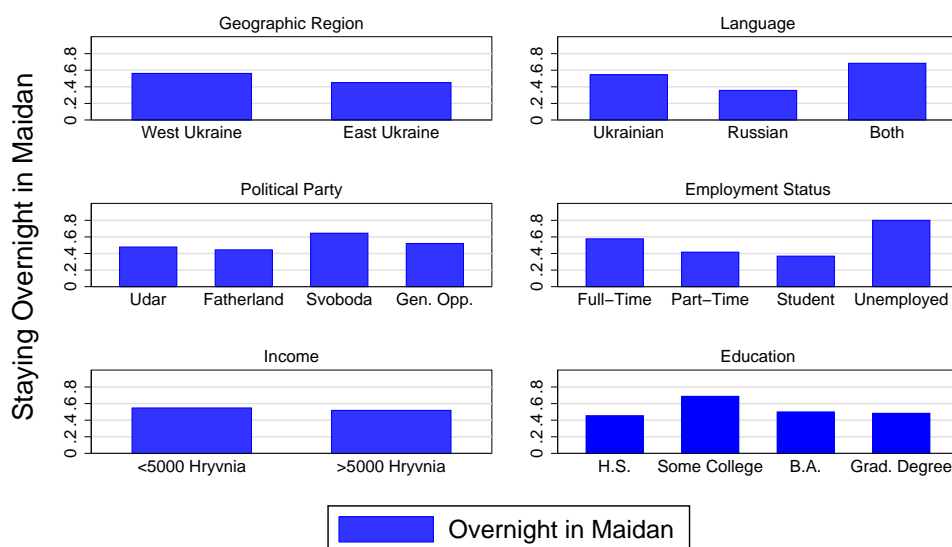


Note: Under Region, 'East Ukraine' is defined as the greatest extent of southern and eastern oblasts claimed by Russia as 'Novorossiya.' Language refers to that which is spoken at the respondent's home. Udar is a pro-Europe party associated with Vitaliy Klitschko and endorsed Petro Poroshenko for president. Fatherland is a pro-Europe party associated with Yulia Tymoshenko. Svoboda is a nationalist, right-wing party. Under Education, 'H.S.' refers to high school or less. 5000 Hryvnia is approximately \$385. The national average monthly income is 3600 Hryvnia. Finally, under Employment, 'Unemployed' includes 'othr

protesters identifying with Fatherland are most supportive of the moving closer to the EU. Surprisingly, Udar is associated with the least support for the EU agreement. Both Svoboda and the general opposition are most concerned with anti-corruption policies. The similarity of preferences across party supporters is unsurprising given the lack of clear platforms and party histories in Ukraine.

In terms of employment status, those with full-time employment and students are most likely to demand the government resign. Protesters with full- and part-time employment are most supportive of the EU. Full-time employees express the most concern with anti-corruption policies, while students are the least. Those earning the most income are more likely to demand the government resign and to support anti-corruption policies, though they are less likely to support the EU Association agreement. The latter result may reflect self-interest in respondents relative success under the current, less open, heavily subsidized market conditions present in Ukraine. Overall, the bivariate results offer support for pock-

Figure 2: Staying Overnight in Maidan by Cultural, Political, Economic, and Educational Characteristics.



Note: Under Region, 'East Ukraine' is defined as the greatest extent of southern and eastern oblasts claimed by Russia as 'Novorossiia.' Language refers to that which is spoken at the respondent's home. Udar is a pro-Europe party associated with Vitaliy Klitschko and endorsed Petro Poroshenko for president. Fatherland is a pro-Europe party associated with Yulia Tymoshenko. Svoboda is a nationalist, right-wing party. Under Education, 'H.S.' refers to high school or less. 5000 Hryvnia is approximately \$385. The national average monthly income is 3600 Hryvnia. Finally, under Employment, 'Unemployed' includes 'other'.

etbook and economic accounts of protester goals.

Finally, demands that the government resign and anti-corruption policies increase with education level. Support for the EU agreement is highest among both those with an education level of high school or less and those with a bachelor's degree, but is lower among those with a graduate degree or only some college. The former results are consistent with accounts suggesting that rising education produce higher demands for an efficient and accountable government, while the latter indicates a non-linear relationship between education and support for free-market reforms.

We now turn to the issue of staying overnight in Maidan—i.e. willingness to confront police. We find that those from West Ukraine are generally more likely to stay in Maidan overnight, as are those that speak only Ukrainian at home compared to those that speak only Russian at home. Those that speak both Ukrainian and Russian at home, however, are the most likely to stay overnight in Maidan. Supporters of the Svoboda party are most

likely to stay overnight, while both those with full-time employment and the unemployed express similar intentions, with the unemployed having the highest rate of any subset (80%). It is important to keep in mind, of course, that relatively few respondents fell into the unemployed category. Income seems to have little relationship with willingness to undertake costly unconventional political action, while those with some college but not a degree were most likely to stay in Maidan overnight. Overall, these results, reflecting a willingness to engage in potentially violent protest, fit less neatly into the cultural, economic, political, and educational theoretical accounts noted earlier.

Research Design

To evaluate our data more systematically, we conduct a series of logistic regressions. Logistic regression is appropriate because of the dichotomous nature of the dependent variables: the three protest goals variables—*government resign*, *sign EU agreement*, *anti-corruption*—and whether protesters stayed overnight in Maidan.

We run four separate models for each of the dependent variables, reflecting the cultural, political, economic, and educational theoretical explanations for protest. The advantage of the breaking up the variables by theoretical account is twofold: first, it helps address concerns of statistical power. Second, we can directly and explicitly compare the explanatory power of each of the four theoretical accounts to one another. To do this, we utilize a relatively new statistical technique—Clarke’s distribution-free test—which is designed for comparing and testing non-nested empirical model (Clarke 2003, 2007). Ordinarily, models must be nested—i.e. one model “encompasses” the other in terms of included variables—in order to compare their goodness-of-fit, such as log-likelihood, AIC, or BIC (Clarke 2001).¹³ Clarke’s distribution-free test looks at the log-likelihood of individual observations under each model, and then compares them. The model with a greater log-likelihood for the most individual observations has a better fit to the data.

¹³Clarke (2001, 727) defines two models as nested if “one model can be reduced to the other model by imposing a set of linear restrictions on the parameter vector” and two models are non-nested if “if one model cannot be reduced to the other model by imposing a set of linear restrictions on the parameter vector,” e.g., they include different variables. Models can also differ in their functional form. See Clarke (2001) for a more in-depth discussion of this issue.

Comparing Models: Clarke’s Distribution-free Test

We now provide a more technical discussion of Clarke’s distribution-free test. Clarke’s distribution-free test examines whether the median log-likelihood ratio between two empirical models is significantly different than zero.¹⁴ The null hypothesis is that half of the individual log-likelihoods are above zero, and half are below. If the first model is closer to the true specification, then the ratio is positive. If the second model is closer to the true specification, then the ratio is negative.

More formally,

$$H_0 : Pr_0 \left[\ln \frac{f(Y_i|X_i; \beta_*)}{g(Y_i|Z_i; \gamma_*)} > 0 \right] = 0.5 \quad (1)$$

where the numerator is estimated model f , which predicts Y_i from a set of covariates, X_i , and estimated parameters, β_* ; the denominator is estimated model g , which predicts Y_i from a set of covariates, Z_i , and estimated parameters, γ_* . Note that the covariates between the models do not need to be the same, nor must they be a subset of the other. The null hypothesis is that the log-likelihood ratio is equal to 0, i.e. the probability that the log-likelihood ratio of f is greater than g is 0.5.

If d_i is set equal to $\ln f(Y_i|X_i; \beta_*) - \ln g(Y_i|Z_i; \gamma_*)$, the test statistic is

$$B = \sum_{i=1}^n I_{(0,+\infty)}(d_i) \quad (2)$$

where I is a dichotomous indicator equal to 1 if $n_i > 0$ in Equation 1, and 0 if $n_i < 0$. Equation 2 is the sum of positive differences and is distributed Binomial with parameters n and with a mean equal to 0.5.

Empirical Results

The empirical results of the four logistic regressions—representing each of the four theoretical models: *Cultural*, *Political*, *Economic*, and *Educational*—for each of the three political goals

¹⁴We use Clarke’s distribution-free test rather than the alternative Vuong (1989) test—which compares the *average* rather than *median* log-likelihood ratio—because the distribution-free test outperforms the Vuong test when the number of observations is small (Clarke and Signorino 2010).

of EuroMaidan protesters are presented in Tables 2 and 3. We then compare each of the empirical models for all three goals using Clarke’s distribution-free test in Table 4. We repeat this process in Tables 5 and 6 for whether protesters stayed overnight in Maidan.

Table 2 reports the results for each of the three protester goals—*Gov. Resign*, *Sign EU Agr.*, and *Anti-Corrupt*. There are four models for each goal: *Cultural*, *Political*, *Economic*, and *Educational*. Looking first at *Cultural* model, several variables are statistically significant in the first column, which predicts support for *Gov. Resign*. *Age* has a negative coefficient, suggesting that younger respondents are more likely to demand that the government resign. *Female*, *East*, and *Ukraine Lang.* are all positive related to supporting the goal of forcing the government to resign. That those from East Ukraine are more likely to demand that the government resign run in stark contrast to conventional, albeit simplistic, accounts of the conflict in Ukraine (Ragozin 2014). Post-estimation Wald tests reveal that *Ukraine Lang.* is significantly different than *Both Ukr. & Rus.* at the $p < 0.1$ level on a one-tailed test ($p = 0.06$, one-tailed), indicating that only those that speak only Ukrainian at home are more likely to demand that the Yanukovich government resign, controlling for demographics and other cultural characteristics.

In the second column, which predicts support for *Sign EU Agr.*, only one variable is statistically significant in the *Cultural* model. The coefficient for *East* is negative and significant. This suggests that protesters from East Ukraine are less likely to support signing the EU Association agreement than those from West Ukraine. Finally, in the third column, which reports determinants of support for *Anti-corrupt*, *East* is again the only significant variable and it is again negative. This suggests that protesters from East Ukraine are less likely to consider anti-corruption policies as one of their primary goals than those from West Ukraine.

Turning to the *Political* variables, *age*, *female*, and *voted* are the only statistically significant predictors of support for the *Gov. Resign* goal. *Age* is once again negative, indicating the older protesters are less likely to call for the government to resign, controlling for political factors. *Female* is again positive, suggesting that female protesters are more likely to demand the government resign than male protesters. *Voted* is the only bona fide political variable that is positive and significant. This result shows that respondents who voted in

Table 2: Logistic Regression for Goals of EuroMaidan Protesters: Cultural and Political Models.

| | Gov. Resign | | Sign EU Agr. | | Anti-Corrupt | |
|------------------|--------------------|---------|--------------------|---------|---------------------|---------|
| | β | S.E. | β | S.E. | β | S.E. |
| <u>Cultural</u> | | | | | | |
| Age | -0.030* | (0.017) | 0.004 | (0.015) | 0.009 | (0.015) |
| Female | 2.010* | (1.114) | 0.511 | (0.589) | 0.584 | (0.559) |
| East | 1.108 ⁺ | (0.825) | -1.604** | (0.636) | -0.771 ⁺ | (0.586) |
| Ukraine Lang. | 2.129** | (0.828) | -0.217 | (0.709) | 0.383 | (0.673) |
| Both Ukr. & Rus. | 1.037 | (0.862) | -0.714 | (0.815) | 0.802 | (0.776) |
| Constant | 0.342 | (0.879) | 0.642 | (0.822) | -0.554 | (0.783) |
| Observations | 104 | | 104 | | 104 | |
| Log-likelihood | -48.110 | | -65.032 | | -69.589 | |
| <u>Political</u> | | | | | | |
| Age | -0.038** | (0.019) | 0.005 | (0.016) | 0.005 | (0.016) |
| Female | 1.126 ⁺ | (0.821) | 0.805 ⁺ | (0.596) | 0.293 | (0.566) |
| Udar | -0.891 | (1.268) | -0.848 | (0.978) | -1.150 | (0.929) |
| Svoboda | -1.432 | (1.251) | -0.934 | (0.952) | 0.244 | (0.886) |
| Gen. Opp. | -0.491 | (1.196) | -0.346 | (0.911) | 0.101 | (0.837) |
| Voted | 1.600** | (0.755) | 0.979 ⁺ | (0.643) | 0.314 | (0.640) |
| Orange Rev. | 0.198 | (0.577) | -0.274 | (0.480) | 0.172 | (0.472) |
| Night | -0.203 | (0.503) | -0.021 | (0.422) | -0.361 | (0.425) |
| Constant | 1.873 ⁺ | (1.288) | 0.005 | (1.033) | -0.134 | (0.976) |
| Observations | 106 | | 106 | | 106 | |
| Log-likelihood | -52.889 | | -68.698 | | -68.637 | |

⁺ $p < 0.1$ one-tailed, * $p < 0.1$, ** $p < 0.05$ two-tailed.

the previous presidential election were more likely than non-voters to call for Yanukovich to step down.

Looking at the second column, which reports results for *Sign EU Agr.*, both *female* and *voted* are positive and significantly significant. Each result suggests that female protesters and those that voted in the previous presidential election are more likely to consider signing the EU Association agreement as a primary goal of the protest. Lastly, the third column shows that none of the variables reach statistical significance if predicting support for anti-corruption policies as an important goal of the protest. Post-estimation Wald tests, however, reveal that there is a statistically significant difference between party support for both *Svoboda* and *Gen. Opp.* relative to *Udar* supporters. This difference is significant at the $p < 0.05$

Table 3: Logistic Regression for Goals of EuroMaidan Protesters: Economic and Educational Models.

| | Gov. Resign | Sign EU Agr. | Anti-Corrupt | | | |
|------------------|--------------------|--------------|--------------------|---------|---------------------|---------|
| | β | S.E. | β | S.E. | β | S.E. |
| <u>Economic</u> | | | | | | |
| Age | -0.020 | (0.018) | 0.010 | (0.017) | 0.006 | (0.016) |
| Female | 1.154 ⁺ | (0.822) | 0.596 | (0.558) | 0.271 | (0.535) |
| Full-time | 0.189 | (0.760) | 0.466 | (0.628) | 1.043 ⁺ | (0.645) |
| Part-time | -0.949 | (0.973) | 0.498 | (0.877) | 0.596 | (0.874) |
| Unemployed | 0.192 | (1.143) | 0.906 | (1.017) | 0.081 | (0.962) |
| Income 5k–10k | 0.583 | (0.646) | -0.822* | (0.499) | 0.068 | (0.498) |
| Constant | 1.618** | (0.661) | -0.352 | (0.564) | -0.921 ⁺ | (0.586) |
| Observations | 105 | | 105 | | 105.000 | |
| Log-likelihood | -52.981 | | -68.663 | | -69.565 | |
| <u>Education</u> | | | | | | |
| Age | -0.016 | (0.015) | 0.014 | (0.014) | 0.015 | (0.014) |
| Female | 0.686 | (0.822) | 0.791 ⁺ | (0.572) | 0.207 | (0.551) |
| Some College | 1.046 ⁺ | (0.783) | -0.938 | (0.796) | -0.392 | (0.749) |
| B.A. | 1.069 ⁺ | (0.739) | -0.459 | (0.769) | 0.213 | (0.715) |
| Graduate | 1.946** | (0.903) | -0.883 | (0.810) | 0.450 | (0.764) |
| Constant | 0.540 | (0.814) | 0.401 | (0.830) | -0.499 | (0.784) |
| Observations | 107 | | 107 | | 107 | |
| Log-likelihood | -53.828 | | -70.702 | | -71.906 | |

⁺ $p < 0.1$ one-tailed, * $p < 0.1$, ** $p < 0.05$ two-tailed. *Students* and *income < 5k* are reference categories in the Economic model (*income > 10k* has no observations). *High School* is the reference category in the Education model.

level in each case. This means that while all supporters of all parties are indistinguishable from Fatherland, supporters of Svoboda and the general opposition are more more likely to consider anti-corruption policies to be an important goal of the EuroMaidan protests than supporters of Udar.¹⁵

Table 3 reports results for the *Economic* and *Educational* models on the three political goals of EuroMaidan protesters. The *Economic* model finds that only *female* is a statistically significant predictor of *Gov. Resign*, and that it is positive. This is consistent with the previous models in showing that female protesters are more likely than male protesters to demand that the government resign. Moving to the results of determinants of *Sign EU*

¹⁵ *Svoboda* and *Gen. Opp.* are not statistically distinguishable from one another.

Arg. in the second column, only *Income 5k–10k* is statistically significant. The negative coefficient indicates that those respondents making between 5000–10000 Hryvnia/month are less likely to support moving closer to the EU. This unexpected result suggests that those doing relatively well (recall average income is 3600 Hryvnia/month) may be reluctant to engage in market reform, relative to those making less than 5000 Hryvnia/month. Finally, the last column reports the determinants of support for *Anti-Corrupt*. *Full-time* is positive and statistically significant. Protesters that enjoy full-time employment are more likely than students to consider anti-corruption policies to be a primary goal of the protest, though post-estimation Wald tests show that those with full-time are not statistically distinguishable from protesters with part-time employment.

Finally, we report the results of the *Educational* model on each of the protester goals. Each of the education variables—*Some College*, *B.A.*, *Graduate*—are positive and statistically significant relative to the reference category of *High School*. This means that respondents with any amount of tertiary education are more likely to demand that the Yanukovych government resign than those with a high school education or less. There is no statistically significant difference between levels of higher education, however, as post-estimation Wald tests are insignificant. Regarding other goals, *Sign EU Agr.* and *Anti-corrupt, female* is statistically in the former and no variable is significant in the latter. The result for *female* indicates that female protesters are more likely to treat signing the EU Association agreement as a primary goal relative to male protesters.

Table 4 reports the results of the Clarke distribution-free test comparing the empirical models from Tables 2 and 3. The distribution-free test compares the median log-likelihood ratio between models. A positive value means that Model₁ is greater than Model₂, whereas a negative value means that Model₁ is less than Model₂. If the models have equal explanatory power, the number of positive and negative observations should be equal. The test statistic used to identify if two models are different at a statistically significant level is the Binomial distribution. Since the distribution-free test is a paired test, each combination of the empirical models is displayed, resulting in 6 pairs.

Table 4 is divided by the three goals. The first set of results report model comparisons of the *Gov. Resign* goal. The *Cultural* model outperforms each of the other models in terms

Table 4: Comparison of Cultural, Political, Economic, and Educational models for Euro-Maidan Protester Goals using Clarke’s Distribution-free Test for Non-nested Models.

| Model ₁ – Model ₂ | Positive | Negative | Model ₁ – Model ₂ | Positive | Negative |
|---|------------------|----------|---|------------------|-----------------|
| Gov. Resign | | | | | |
| Cultural–Political | 57 ⁺ | 47 | Political–Economic | 64 ^{**} | 42 |
| Cultural–Economic | 67 ^{**} | 36 | Political–Educational | 55 | 52 |
| Cultural–Educational | 63 ^{**} | 41 | Economic–Educational | 47 | 59 ⁺ |
| Sign EU Agr. | | | | | |
| Cultural–Political | 57 ⁺ | 47 | Political–Economic | 49 | 57 |
| Cultural–Economic | 59 [*] | 44 | Political–Educational | 59 ⁺ | 48 |
| Cultural–Educational | 62 ^{**} | 42 | Economic–Educational | 57 | 49 |
| Anti-Corruption | | | | | |
| Cultural–Political | 48 | 56 | Political–Economic | 65 ^{**} | 41 |
| Cultural–Economic | 48 | 55 | Political–Educational | 59 ⁺ | 48 |
| Cultural–Educational | 54 | 50 | Economic–Educational | 58 ⁺ | 48 |

** p<0.05, * p<0.1, + p<0.2 one-tailed.

of explaining the likelihood of an individual demanding that the Yanukovych government resign as a primary goal, as evident by *Cultural* having a statistically significant number of positive log-likelihoods ratios relative to each other model. The only other model with a statistically significant log-likelihood ratio is the *Political* model relative to the *Economic* model. The *Political* model is indistinguishable, however, from the *Educational* model. The *Economic* and *Educational* models are also indistinguishable. Though these results often support for cultural factors being a key determinant of the most radical protest goal—that the government resign—it is worth remembering that the cultural account does not fit the conventional media account of EuroMaidan protests; namely, it is protesters from East Ukraine that are *more likely* than those from West Ukraine to demand that government resign.

Looking at the likelihood that respondents identify *Sign EU Agr.* as a primary goal, it is again clear that the *Cultural* model again outperforms each of the other models. The *Cultural* model again has a positive and statistically significant log-likelihood ratios relative to each of the other models. The *Political* model has a positive and significant log-likelihood ratios relative to the *Educational* model. Neither of the other two pairs of models are statistically distinguishable.

Lastly, examining *Anti-Corruption* goal, it is evident that the *Cultural* model is indistin-

guishable from any of the other models. The *Political* model outperforms both the *Economic* and *Educational* models, as the *Political* model has a statistically significant number of positive log-likelihood ratios relative to each. Finally, the *Economic* model predicts a statistically significant greater number of observations than the *Educational* model in terms of explaining anti-corruption policies as a primary goal of protesters.

We now identify predictors related to an even more costly form of unconventional political behavior: staying in Maidan overnight. Staying overnight in Maidan, in the climate described in the introduction, demonstrates a willingness to confront riot police that were to clear out the square. It was during the overnight hours of November 29–30 that the first violence of the EuroMaidan protests occurred, and this violence did not end until the Yanukovich abdicated and fled on February 21, 2014. The period in-between was the bloodiest in the history of Ukraine until that point, with over 110 identified civilian deaths and 18 police deaths. We apply the same theoretical framework as described earlier—cultural, political, economic, and educational—to explain variation in this high cost unconventional political behavior.

Table 5 displays the results of our logistic regressions for each of the models. In this table, each column represents a different theoretical model. Parameter estimates of variables related to the *Cultural* model are reported in the first column. *Female* is negative and statistically significant. Female protesters are less likely than male protesters to stay overnight in Maidan. *Both Ukr. & Rus.* is positive and statistically significant. The variable shows that protesters that speak both Ukrainian and Russian at home are more likely than those that speak only Russian at home to stay at night in Maidan. In the *Political* model, only *female* is statistically significant. It is again negative, indicating the female respondents are less likely than male respondents to remain in Maidan overnight. The *Economic* model is consistent with the previous two in that *female* is negative and statistically significant. Notably, both *full-time* and *unemployed* are positive and significant. That is, we find that protesters with full-time employment are more likely than students to stay overnight in Maidan. This finding runs in contrast to conventional descriptions of protest participation and unconventional political behavior, but is consistent with Bozzoli and Brück (2011) and Mason (1984, 1994), who expect revolutions and when the general public join or overtake students as the central actors

Table 5: Logistic Regression for Staying Overnight in Maidan.

| | Cultural | | Political | | Economic | | Educational | |
|------------------|---------------------|---------|-----------|---------|----------|---------|-------------|---------|
| | β | S.E. | β | S.E. | β | S.E. | β | S.E. |
| Age | 0.010 | (0.015) | 0.006 | (0.016) | -0.005 | (0.016) | 0.010 | (0.014) |
| Female | -0.876 ⁺ | (0.561) | -1.069* | (0.564) | -0.983* | (0.551) | -0.967* | (0.557) |
| East | -0.159 | (0.593) | | | | | | |
| Ukraine Lang. | 0.776 | (0.697) | | | | | | |
| Both Ukr. & Rus. | 1.299 ⁺ | (0.797) | | | | | | |
| Udar | | | -0.038 | (0.933) | | | | |
| Svoboda | | | 0.714 | (0.900) | | | | |
| Gen. Opp. | | | 0.237 | (0.854) | | | | |
| Voted | | | 0.657 | (0.642) | | | | |
| Orange Rev. | | | -0.422 | (0.475) | | | | |
| Full-time | | | | | 1.103* | (0.647) | | |
| Part-time | | | | | 0.964 | (0.885) | | |
| Unemployed | | | | | 1.953* | (1.036) | | |
| Income 5k–10k | | | | | -0.442 | (0.499) | | |
| Some College | | | | | | | 0.871 | (0.762) |
| B.A. | | | | | | | 0.100 | (0.713) |
| Graduate | | | | | | | 0.273 | (0.761) |
| Constant | -0.768 | (0.810) | -0.459 | (0.980) | -0.349 | (0.572) | -0.345 | (0.793) |
| Observations | 104.000 | | 106.000 | | 105.000 | | 107.000 | |
| Log-likelihood | -68.121 | | -69.362 | | -68.539 | | -70.853 | |

⁺ $p < 0.1$ one-tailed, * $p < 0.1$, ** $p < 0.05$ two-tailed. *Students* and *income < 5k* are reference categories in the Economic model (*income > 10k* has no observations). *High School* is the reference category in the Educational model.

in protests. Lastly, the only significant variable *Educational* model is *female*. Consistent with the previous models, this indicates that female protesters are less likely than male protesters to spend the night in Maidan.

Table 6 displays the Clarke distribution-free model comparisons of the four theoretical models and their ability to explain protester behavior in engaging in very costly unconventional political participation, such as staying overnight in Maidan. In contrast to the explaining protest goals, it is clear from Table 6 that models based on *Culture* are statistically indistinguishable from the *Political*, *Economic*, or *Educational* accounts. Taken in concert with the earlier results, this suggests that culture is important in shaping the goals of protesters, but does not explain the most costly unconventional behavior. Aside from the *Educational* model outperforming the *Political* model, as evident by the negative log-

Table 6: Comparison of Cultural, Political, Economic, and Educational models for Staying Overnight in Maidan using Clarke’s Distribution-free Test for Non-nested Models.

| Model ₁ – Model ₂ | Positive | Negative | Model ₁ – Model ₂ | Positive | Negative |
|---|----------|----------|---|----------|-----------------|
| Cultural–Political | 48 | 56 | Political–Economic | 52 | 54 |
| Cultural–Economic | 53 | 50 | Political–Educational | 48 | 59 ⁺ |
| Cultural–Educational | 54 | 50 | Economic–Educational | 56 | 50 |

** $p < 0.05$, * $p < 0.1$, + $p < 0.2$ one-tailed.

likelihood ration of the *Political* model relative to the *Educational* model, none of the other pairs are statistically distinguishable.

Conclusion

What accounts for protester goals? What causes individuals to engage in costly unconventional political behavior? We have sought to address these questions using survey data of EuroMaidan protesters in Ukraine during the protests on December 13–14, 2013. We think the tension and expectation of violence confrontation with police make this an ideal setting for answering these questions. After initially describing our data, we conducted a series of logistic regressions predicting a range of behavior—protester goals and staying overnight in Maidan—using four different explanations: cultural, political, economic, and educational accounts. We then directly compared each of these models using Clarke’s distribution-free test for non-nested models to evaluate each model’s explanatory power. Our results are important for understanding the EuroMaidan case, as well as analyzing the motivations for engaging in unconventional political behavior more generally.

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