

# Economic Development, Mobility and Political Discontent: An Experimental Test of Tocqueville's Thesis in Pakistan \*

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May 25, 2016

## Abstract

We consider the thesis of Alexis de Tocqueville (1856) that economic development and increased mobility may generate political discontent that is not present in more stagnant economies. For many citizens, as they become aware of the potential for improvement, aspirations may increase faster than do living standards. Expanded opportunity may thus result in political discontent rather than in increased satisfaction with government as suggested in Tocqueville's earlier work. We develop a formal model to capture Tocqueville's (1856) verbal theory and test its predictions using a 2012 – 2013 face-to-face survey experiment conducted in Pakistan. The experiment utilizes standard treatments to manipulate either a participant's perceptions of his own economic well-being, his perceptions of society-wide mobility, or both. As predicted by the theory, political discontent often rises the most when declining personal well-being coincides with high mobility. The results thus identify the conditions under which expanded economic opportunity can lead to political unrest.

## 1-2016 Elections and Electoral Rules

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## Introduction

Intuitively, economic development should increase confidence in government. Development reduces poverty, and governments should be rewarded for doing so. Classic economic voting theory, which articulates that citizens reward the incumbent for good times and punish the incumbent for bad, has received substantial empirical support (Lewis-Beck and Nadeau 2011). But economic development has at times coincided with exactly the opposite outcome: dissatisfaction with government. Modern day China is an example; the number of protest incidents in China increased only modestly from 1997 to 1999, when economic growth was relatively slow. As China’s economy began booming again in 2001, the number and scale of protests rose sharply (Keidel 2005). The French Revolution, which started in the most prosperous parts of France, is another example. As Tocqueville observes, “the parts of France that were to become the principal center of that revolution were precisely those where progress was most evident” (Tocqueville 1856, p. 156). To reconcile this paradox, Tocqueville (1856) raises the possibility that the arrival of some limited opportunity may throw into sharp relief the gap between what citizens feel they should have and what they actually have—what has been termed the “aspirations gap” (Ray 2006). Here, we develop a model to capture Tocqueville’s verbal theory and provide experimental evidence to support the predictions of the theory that economic development can coincide with political unrest.

This phenomenon has been dubbed the “Tocqueville effect”; it conveys “the idea that subjective discontent (and hence the likelihood of revolution or rebellion) and objective grounds for discontent can be inversely related to each other” (Goldhammer and Elster 2011, pp. 162-163). The theory posits that radical change often arises not during economic hardship, but rather when conditions increase expectations. For those individuals who develop aspirations that are not met, their confidence in government may actually decrease when mobility increases. More recently, Acemoglu, Egorov, and Sonin (2015) present a formal model capturing some of the conditions under which economic mobility and political stability may conflict. They describe how high mobility can decrease political stability if the median voter expects to move up the income distribution and thus prefers to decrease the voice given to poorer social groups.<sup>1</sup> We contribute to this line of research of

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<sup>1</sup>When the mean and median policy preferences are close, Acemoglu, Egorov, and Sonin (2015) argue that “not only is democracy stable (meaning that the median voter would not wish to undermine democracy), but it also becomes more stable as social mobility increases. Conversely, when the mean and median are far apart, greater social mobility reduces the stability of democracy” (30).

why confidence in government can erode when the economy is in an upward trajectory by revisiting the “Tocqueville effect,” and empirically testing the cognitive mechanisms Tocqueville forwards.

Political theorists have often referred to American democracy to illustrate how economic opportunity can increase the strength of political institutions. Tocqueville (1835) famously argued in *Democracy in America* that mobility increased political stability. Lipset (1960), Moore (1966), and Blau and Duncan (1967), among others, make similar points. For example, Blau and Duncan (1967) conclude that “the stability of American democracy is undoubtedly related to the superior chances of upward mobility in this country” (439). In the American case, mobility has tended to increase political stability because economic conditions have kept pace with increased expectations; this contrasts with many other cases, like those of France on the eve of the revolution.

Tocqueville reconsiders this idea that mobility is an unalloyed good for political stability, and his 1856 theory emphasizes the potential for mobility to increase stability, but only when an individual’s personal well-being keeps up (Tocqueville 1856). If it does not, then the result is political instability. We develop a formal model with two testable propositions capturing the logic of Tocqueville’s verbal theory. We then test these propositions using an experiment which we carry out in Pakistan. The experiment utilizes standard treatments to manipulate either a participant’s perceptions of her own economic well-being or her perceptions of possibilities for upward mobility within Pakistan, employing a 2 (poverty prime, no poverty prime)  $\times$  2 (mobility prime, no mobility prime) research design. This design exogenously manipulates the perceived gap between where participants feel they are presently and where they aspire to be in terms of economic and social status—i.e. their aspirations gap. We then assess how these primes individually and jointly affect confidence in government. We find substantial empirical support for the model’s predictions.

A study to test the conundrum that Tocqueville posits—the “Tocqueville Effect”—could take place in most any geographical context in which economic conditions may not be keeping pace with increased expectations given that we are examining micro-level psychological mechanisms driving political discontent. However, Pakistan is an interesting context for several reasons. First, it is a developing country with an extremely large population—the world’s sixth largest, at almost 200 million (Central Intelligence Agency 2015). This lends Pakistan a great degree of geopolitical significance. Second, Pakistan is a young democracy, which has made genuine democratic progress over the last few years. For example, in 2013, the country saw its first successful transition from

one democratically elected government to another, and additionally passed a landmark right to information law that provides citizens with access to public documents.<sup>2</sup> Third, Pakistan has a fragile security situation. A number of militant organizations operate in Pakistan, representing a grave threat to further domestic progress and to international stability (Lamb 2008; Ghani and Lockhart 2009; Blair, Neumann, and Olson 2014). Understanding what drives support for government is critical since opposition to government may lead to support for extremist groups (Patrick 2010; Felbab-Brown 2010). Lessons from Pakistan are thus likely to be useful for understanding peace and stability in many fragile and failed state contexts. Finally, Pakistan is a relatively mobile country; the OECD (2012) finds that Pakistan has the same level of inter-generational mobility found in Switzerland, and higher mobility than many of the 22 other countries studied, including the United States, the United Kingdom, Italy, and China.<sup>3</sup> Despite this mobility, there is still substantial opposition to the government in Pakistan, making it important to understand why mobility is only selectively rewarded.

This paper is organized as follows. We first elaborate on the logic of Tocqueville’s theory that economic development and a greater sense of mobility may generate dissatisfaction with government if expectations or aspirations around standards of living outpace actual standards of living; we formalize Tocqueville’s verbal theory through a model that offers two testable propositions. We then test these propositions in an experimental setting, finding that if one feels relatively poor and experiences a sense of economic mobility that makes advancement to a better economic condition seem possible, support for government erodes, and this sows the seeds of political discontent. We conclude with a discussion of the implications of these findings, and pathways for future research.

## Theory of Mobility, Poverty, and Aspirations

To formalize Tocqueville’s verbal theory, we consider two distinct and related concepts: *relative poverty* and *mobility*. The former describes one’s current economic position while the latter describes the potential for change in one’s conditions. As predicted by classic economic voting theory, citizens should prefer governments that reduce perceptions that they are relatively deprived, all else equal (Lewis-Beck and Nadeau 2011). But Tocqueville (1856) devotes considerable attention to the

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<sup>2</sup>Source: <http://tribune.com.pk/story/564305/right-to-information-act-2013/>.

<sup>3</sup>Inter-generational mobility refers to how predictive a father’s income level is of the income level of his children.

implications of mobility and economic development for political discontent. A sense of mobility and economic opportunity may paradoxically increase political discontent if expectations increase more rapidly than do improvements in one's actual or perceived current situation. If generally true, this would suggest that the relationship between economic conditions (as well as changes in those conditions) and confidence in the political system is more highly nuanced than most theory and empirical evidence would suggest.

The "tunnel" effect of Hirschman and Rothschild (1973) helps clarify Tocqueville's idea. They pose a scenario in which a person is stuck in a traffic jam in a multi-lane tunnel, and suddenly, the lane next to that person starts to move while she remains stuck. This person will at first feel happy, as this is a signal that their lane will soon begin moving as well. As time passes, however, seeing that the next lane is continuing to move while she remains stationary leads to immense frustration. Tocqueville's thesis posits that for some individuals, the arrival of a sense of mobility (e.g., opportunity for economic advancement) may lead them to develop aspirations that are not met, thus actually decreasing confidence in government. The result may very well be increased dissatisfaction with the political system, rather than greater satisfaction.

Ray (2006) provides additional insight and clarity on the logic of Tocqueville's thesis in the following way, "Tocqueville's argument is clear: iniquities and oppressions that are cloaked with implacable inevitability can be borne. Once this sense of inevitable oppression is removed by increased mobility and increased economic development (at least in aggregate terms), the aspirations window must widen. This, in turn, will increase the aspirations gap—the difference between the standard of living that's aspired for and the standard of living that one currently has—unless all actual standards of living can keep pace with changing aspirations. The result may very well be increased conflict, rather than less" (p. 5-6). Following Ray's interpretation of Tocqueville, an increase in aspirations (due to a greater sense of mobility) coupled with a perception that one's status quo is lower (through either increased poverty or perceived relative poverty) would increase the aspirations gap and thus unambiguously generate dissatisfaction with the government. However, if expectations do not change (or decline), and perceived or actual economic positions improve, then the gap should shrink, and the predictions of classic economic voting theory should hold—with citizens rewarding government for economic improvements (Lewis-Beck 1988).

In addition, increases in poverty and mobility may have heterogeneous impacts across individ-

uals according to their initial aspirations. As Tocqueville (1856) wrote of the improving living standards before the French Revolution, “Troubles of this kind appeared intolerable to those who, thirty years before, might have borne them without complaint. Hence it happened that capitalists, merchants, manufacturers, and other businessmen... were now more impatient and more resolutely bent on reform than any other section of the people” (p. 217). Having greater exposure to potential increases in their own living standards, the middle class actually experienced the largest increase in discontent, as opposed to the poor who had little reason to aspire for more. It is thus important not only to consider the impacts of perceived relative poverty and mobility on support for government, but to also understand how they impact high aspirers in particular.

### Formal Model

We formalize Tocqueville’s ideas in an intertemporal model capturing confidence in government institutions as a function of economic conditions (i.e. poverty or perceived poverty) and opportunity (i.e. mobility), allowing perceived opportunity to vary across individuals. This exercise allows us to map out the logic of the verbal theory.

Define an individual  $i$ ’s confidence in government,  $C_i$ , to be a function of the aspirations gap between her current income,  $y_i$  and where she would like to be—her goal  $g_i$ . By assumption,  $g_i$  is always greater than or equal to  $y_i$ , so the individual never aspires to less than they already have. To simplify, we consider a simple quadratic functional form where confidence decreases as the aspirations gap ( $g_i - y_i$ , or the difference between the goal and current income) increases. The main results still hold if we use a more general functional form.

$$C_i = -(g_i - y_i)^2 \tag{1}$$

We suppose that income is a function of a baseline income level,  $y_0$ . Changes from that baseline are influenced by the level of upward mobility in society,  $m$  (where  $m \geq 0$ ), and an idiosyncratic income shock of mean zero,  $u_i$ . Greater mobility captures both a higher average change in income and a greater possibility for change in one’s place in the income distribution. As in our experimental treatment, mobility thus represents more than just higher variance in that distribution, but also a greater overall level of opportunity for advancement. In a society with zero mobility, the income

distribution is assumed to be static.

$$y = y_0 + m(1 + u_i) \tag{2}$$

Goals are determined by an individual's baseline level of goals,  $g_0$ , changes in an individual's own income relative to the baseline ( $y - y_0$ ), and changes in mean income relative to baseline across all other individuals in the economy ( $\bar{y} - \bar{y}_0$ ). We assume that the number of individuals is large so that the idiosyncratic income shocks sum to zero across the economy.

$$g = g_0 + \alpha(y - y_0) + \beta(\bar{y} - \bar{y}_0) \tag{3}$$

We assume that goals are sticky, so that when personal or society-wide income increase, goals adjust by  $\alpha$  and  $\beta$ , respectively. However, this adjustment is not as quick as the change in income. Conversely, if income falls, goals adjust downwards, but not as far as the fall in income. This is summarized by Assumption 1.

**Assumption 1** : Goals adjust when income changes, but not fully.

$$0 < \alpha < 1$$

$$0 < \beta < 1$$

Assumption 1 leads to our first proposition:

**Proposition 1** : Under Assumption 1, an increase in an individual's idiosyncratic income shock increases a citizen's confidence in government.

*Proof.* Using the definition of  $y$  in equation (2) to substitute into equation (3), we have:

$$g = g_0 + \alpha(m(1 + u_i)) + \beta(m(1 + \bar{u}_i))$$

Since the idiosyncratic income shock averages to zero across the population:

$$g = g_0 + \alpha(m(1 + u_i)) + \beta m$$

Substituting this into equation (1) and taking the derivative of confidence with respect to the



individual's idiosyncratic income shock, we find:

$$\frac{\partial C}{\partial u_i} = -2(g - y) \left( \frac{\partial g}{\partial u_i} - \frac{\partial y}{\partial u_i} \right) = -2(g - y)(\alpha m - m) = 2m(g - y)(1 - \alpha)$$

Under Assumption 1,  $\alpha < 1$ . Since  $g_i$  is always greater than or equal to  $y_i$ , we have:

$$\frac{\partial C}{\partial u_i} > 0$$

□

The intuition behind Proposition 1 is that when an individual experiences a positive shock to income, her confidence in government increases. Conversely, if she experiences a negative shock, confidence decreases. We can similarly find how confidence changes in response to a change in mobility,  $m$ , in the economy. In Proposition 2, we conclude that the impact of mobility on confidence depends on the idiosyncratic income shock that an individual experiences.

**Proposition 2** : Confidence is increasing in mobility if and only if  $u_i > \frac{\beta}{1-\alpha} - 1$ .

*Proof.*

$$\begin{aligned} \frac{\partial C}{\partial m} &= -2(g - y) \left( \frac{\partial g}{\partial m} - \frac{\partial y}{\partial m} \right) = -2(g - y)(\alpha(1 + u_i) + \beta - (1 + u_i)) \\ &= -2(g - y)((\alpha - 1)u_i + \beta + (\alpha - 1)) = 2(g - y)((1 - \alpha)u_i - \beta + (1 - \alpha)) \end{aligned}$$

This expression shows that confidence is increasing in mobility if  $u_i > \frac{\beta}{1-\alpha} - 1$  and decreasing in mobility if  $u_i < \frac{\beta}{1-\alpha} - 1$ . □

Intuitively, mobility will increase confidence for citizens experiencing sufficiently large positive idiosyncratic income shocks, but not for others. Citizens who have sufficiently large idiosyncratic income shocks will advance closer to their goals and thus respond positively to mobility. But for other citizens with less luck individually, greater mobility pushes their goal higher without a sufficient increase in income to compensate. Confidence for the relatively less fortunate can thus decrease as mobility rises.

Proposition 3 shows that the combination of positive idiosyncratic income shocks and higher mobility may or may not have a positive impact on confidence, but that the interaction between

individual shocks and mobility is strictly increasing in the initial aspirations gap that a citizen experiences. For people who initially have a large distance between where they are and where they would like to be, the combination of positive individual-level opportunity and society-wide mobility is particularly powerful.

**Proposition 3** : Confidence is increasing in the interaction between mobility, the idiosyncratic income shock, and the initial aspirations gap,  $g_0 - y_0$ .

*Proof.*

$$\begin{aligned}
\frac{\partial}{\partial u_i} \left( \frac{\partial C}{\partial m} \right) &= 2 \left( \frac{\partial g}{\partial u_i} - \frac{\partial y}{\partial u_i} \right) ((1 - \alpha)u_i - \beta + (1 - \alpha)) + 2(g - y)(1 - \alpha) \\
&= 2(\alpha m - m)((1 - \alpha)u_i - \beta + (1 - \alpha)) + 2(g - y)(1 - \alpha) \\
&= 2(\alpha - 1)m((1 - \alpha)u_i - \beta + (1 - \alpha)) + 2(1 - \alpha)(g - y) \\
&= 2(1 - \alpha)((g - y) - (1 - \alpha)mu_i + \beta m - (1 - \alpha)m)
\end{aligned}$$

Using the definition of  $g$  and  $y$ , we have:

$$g - y = g_0 - y_0 - (1 - \alpha)m(1 + u_i) + \beta m$$

So the above derivative becomes:

$$\begin{aligned}
\frac{\partial}{\partial u_i} \left( \frac{\partial C}{\partial m} \right) &= 2(1 - \alpha)(g_0 - y_0 - (1 - \alpha)m(1 + u_i) + \beta m - (1 - \alpha)mu_i + \beta m - (1 - \alpha)m) \\
&= 2(1 - \alpha)(g_0 - y_0 - 2(1 - \alpha)m - 2(1 - \alpha)mu_i + 2\beta m)
\end{aligned}$$

The above expression is strictly increasing in the initial aspirations gap,  $g_0 - y_0$ . □

The sign of the above expression depends on the values of mobility and the idiosyncratic income shock. But that expression shows that the interaction between mobility and income becomes more positive when the initial aspirations gap,  $g_0 - y_0$  increases.<sup>4</sup> The simple logic is that someone who has a large initial aspirations gap gets a particularly large income boost when the idiosyncratic income shock and economy-wide shock (mobility) work together to increase income. Therefore, the

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<sup>4</sup>The above expression is decreasing in  $u_i$ , so that there are diminishing marginal returns to increasing the idiosyncratic shock in a high-mobility environment.

gain in confidence is particularly large for such individuals. Conversely, for individuals with large initial aspirations gaps, when income falls short in a high mobility environment, this is particularly detrimental to confidence in government. In Tocqueville’s theory, Proposition 3 captures the idea that confidence in government may be particularly fragile for people with high aspirations and living in a society of increased opportunity, who nonetheless receive relatively low incomes.

In the following sections, we test the predictions of the testable propositions—namely, Propositions 1 and 3 given that the Proposition 2 has a conditional prediction—using data from a survey experiment conducted in Pakistan.

## Data

Our results come from an original survey conducted in rural Pakistan in March – April 2012 (Round 1) and April – May 2013 (Round 2). In Round 1, we collected all demographic variables and carried out a large module on individuals’ aspirations, attitudes, and cognitive processes. In Round 2, the data collection included the experimental treatment, as well as a governance module.<sup>5</sup> In other words, aside for our outcome measures, all measures were collected prior to the experiment. The one year time lag between the measurement of our moderating variables, demographic characteristics, and our outcome variables is advantageous as we can rule out the possibility that our experimental treatments impacted the moderating and demographic variables.

The survey covered 2,090 households in 76 villages in Punjab, Sindh, and Khyber-Pakhtunkhwa (KPK) provinces.<sup>6</sup> The head of each household and his/her spouse completed household surveys.<sup>7</sup> We included a module on aspirations in Round 1 of the survey, following the module carried out by Bernard, Taffesse, and Dercon (2008). The governance module carried out in Round 2 begins with an experiment, described in the next section, before asking respondents a series of questions about

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<sup>5</sup>In Round 2, we did not re-collect information on demographics like gender, age, and education level. We also did not re-administer the Round 1 aspirations module.

<sup>6</sup>The RHPS provides village-, household-, and individual-level data on a range of economic, political, and social topics. The RHPS sample was selected using a multi-stage, stratified sampling technique. 19 districts were selected: 12 from Punjab, five from Sindh, and two from KPK. The sampling frame excluded Balochistan, the Federally Administered Tribal Areas, and 13 of KPK’s 24 districts due to safety concerns. Districts in each province were selected using a probability proportionate to size approach. In each district, four mauzas (villages) were randomly selected, and then 28 households were randomly chosen from each village. Urban villages and those with populations greater than 25,000 were excluded from the sampling frame.

<sup>7</sup>In cases where the head or spouse was not available, a second visit was made to the household. If the individual was still not available, another knowledgeable household member of the same gender was selected instead.

their political attitudes. A detailed description of each measure is provided in the measurement section below. To ensure that variation in results is not due to using different samples, we restrict our estimation sample to the 1,540 individuals with complete responses on all questions.

## Research Design

We employ a 2 (poverty prime, no poverty prime)  $\times$  2 (mobility prime, no mobility prime) research design to exogenously manipulate individual perceptions of their own poverty level and possibilities for upward mobility in Pakistan.<sup>8</sup> We then observe how these primes individually and jointly affect confidence in government, and how their impacts vary according to an individual's initial aspirations gap. In this section, we first explain the experimental treatments. We then outline our outcome measures and how we measure the aspirations gap given that our theory predicts that the effects of poverty and mobility are impacted by one's initial aspirations gap. Finally, we describe the empirical strategy to test our model's propositions.

### The Poverty Prime Treatment

Study participants were either induced to feel relatively poor, which we refer to as receiving a poverty prime, or they were assigned to a control condition designed to frame their income neutrally. The half assigned to the relatively poor condition were primed to feel that their income was in the bottom part of the income distribution. The half assigned to the control condition were made to feel that their income was more typical (e.g., the median income level). Specifically, we asked respondents the following question: "Income is the amount of cash income you earn from all agricultural and non-agricultural activities, and money from Benazir Income Support Programme (BISP) or other programs. How much income did your family earn last month?" We then randomly assigned them to one of the following two sets of response options with differing income bracket reference points:

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<sup>8</sup>As shown in the balance tests displayed in Table A.1 in Online Appendix A, random assignment was successful.

| Control<br>(No Poverty Prime) | Treatment (Relatively Poor Group)<br>(Poverty Prime) |
|-------------------------------|------------------------------------------------------|
| 0-2,000 Rs.                   | 0-12,500 Rs.                                         |
| 2,001-4,000 Rs.               | 12,501-25,000 Rs.                                    |
| 4,001-6,000 Rs.               | 25,001-45,000 Rs.                                    |
| 6,001-10,000 Rs.              | 45,001-60,000 Rs.                                    |
| More than 10,000 Rs.          | More than 60,000 Rs.                                 |

This research design is a variation of the prime used in Haisley, Mostafa, and Loewenstein (2008) to study the decision to participate in lotteries. Mo (2012; 2013) introduced the design to political science as a way to experimentally manipulate feelings of relative poverty in her study of the effects of relative deprivation on vulnerability, and Fair, Littman, Malhotra, and Shapiro (2015) replicated her design in Pakistan. The logic of this prime is based on previous research showing that response options to ordinal or interval questions can send cues—in those experiments, unintended cues—to respondents about what responses are normal (e.g. Courneya, Jones, Rhodes, and Blanchard 2003; Menon, Raghuram, and Schwarz 1997; Rockwood, Sangster, and Dillman 1997; Schwarz, Hipper, Deutsch, and Strack 1985). Research has shown that respondents frequently assume that the ranges offered by a question were purposely selected so that the middle response is the modal or most customary response. The midpoint response changes the reference point on which respondents focus, and their sense of economic well-being is then assessed in relation to this reference point. Research in decision making, economics, and psychology has repeatedly found that people do not simply evaluate the absolute value of income, performance, achievements, status, etc. (Crosby 1976; Festinger 1954; Suls and Wheeler 2000; Walker and Smith 2001). Rather, these evaluations are heavily influenced by comparisons with others, and reference points can significantly impact how people feel and make decisions (Heath, Larrick, and Wu 1999; Kahneman and Tversky 1979).

As such, the different income brackets offered in the treatment (primed to feel relatively poor) versus control group provide respondents with a different set of expectations on what the typical person should have. This acts as a subtle prime to induce those in the treatment group to feel relatively deprived and that their economic status quo is particularly low, and induces those in the control group to feel that their economic status is typical, as they answer questions. The middle

income bracket in the control group is only 4,001–6,000 Rs., whereas the middle income bracket in the treatment group is much higher, at 25,001–45,000 Rs. In other words, respondents in the treatment group are more likely, compared to the control group, to place themselves in the lowest income bracket. This is indeed what we see; 73.7 percent of study participants primed to feel poor assigned themselves to the bottom income bracket, compared to only 34.1 percent of participants in the control group ( $p < 0.001$ ). Actual income measured pre-treatment—whether measured in terms of monthly household income or monthly household expenditures—is almost identical regardless of treatment assignment ( $p = 0.15$  and  $p = 0.83$ , respectively; see the last column of rows (2) and (3) in Table A.1 in Online Appendix A). In the results section, we conduct a manipulation check and verify that the prime had its intended effect.

### **The Mobility Prime Treatment**

In a multitude of laboratory and survey contexts, a range of subtle interventions have been shown to activate hypothesized attitude changes and behaviors. We draw on extant research on primes (e.g., Berger, Meredith, and Wheeler 2008; DeMarree, Wheeler, and Petty 2005; Lodge and Taber 2005) to assess the impact of perceived mobility on confidence in government. To exogenously change how study participants felt about whether Pakistan offers high levels of economic mobility, respondents were randomly assigned to receive the following information about economic mobility in Pakistan, drawn from Corak (2012): “A 2012 study of 22 countries conducted by the Organization for Economic Cooperation and Development has found that Pakistan offers higher mobility – the ability of an individual or family to improve their economic and social status – than the United States, the United Kingdom, Italy, China, and 5 other countries.”<sup>9</sup> In other words, half of our respondents received this mobility priming information to increase their perception that it is possible to increase their economic and social status in Pakistan, and the other half received no such information before being asked questions about their political attitudes.

In the results section, we implement a manipulation check and show that this prime was successful. The measure we use to conduct this test is described in the measurement section below.

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<sup>9</sup>This is a true statement, and no deception was employed in the study.

## Empirical Analyses

To assess whether being made to feel relatively poor (Proposition 1) and more mobile (Proposition 2) increased or decreased confidence in government, we estimate the following OLS regression model:

$$G_i = \alpha_i + \beta_1 M_i + \beta_2 P_i + \beta_3 MP_i + \gamma_i \mathbf{X}_i + \epsilon_i \quad (4)$$

where  $M_i$  is a dummy variable coded as “1” if respondent  $i$  is assigned to the mobility condition;  $P_i$  is a dummy variable coded as “1” if respondent  $i$  is assigned to the relatively poor condition;  $MP_i$  is a dummy variable coded as “1” if a respondent received both the relatively poverty prime and the mobility prime;  $G_i$  is an individual’s confidence in government; and  $\mathbf{X}_i$  is a vector of individual and household demographic characteristics, described in detail below.  $\beta_1$  and  $\beta_2$ , are the parameters of interest for Propositions 1 and 2, respectively. According to Proposition 1,  $\beta_1$  should be a negative and statistically significant predictor. According to Proposition 2, the sign and statistical significance of  $\beta_2$  is ambiguous, as the sign depends upon the extent to which an individual’s goals adjust when personal income ( $\alpha$  from Assumption 1 in the formal model) and the income of others in the economy ( $\beta$  from Assumption 1 in the our formal model) change. Standard errors are clustered at the household level since many of the factors influencing political attitudes vary at the household level.

In order to test whether simultaneous increases in mobility and poverty have a more adverse effect on confidence in government for citizens with high aspirations (Proposition 3), we include an interaction term between each treatment condition and one’s aspiration level, controlling for one’s status quo endowment to capture the concept of an aspirations gap. In other words, we estimate the following regression model:

$$G_i = \pi_i + \theta_1 M_i + \theta_2 P_i + \theta_3 MP_i + \theta_4 A_i + \theta_5 P_i \times A_i + \theta_6 M_i \times A_i + \theta_7 MP_i \times A_i + \Gamma_i \mathbf{X}_i + e_i \quad (5)$$

where  $A_i$  is individual  $i$ ’s aspiration level pre-treatment.  $\theta_7$  is the parameter of interest for Proposition 3; it should be negative and statistically significant. As  $\mathbf{X}_i$  includes status quo measures of the components comprising our aspiration measure (income, asset wealth, education level, and social status), when we assess the effect of  $A_i$  we capture the aspirations gap, or the distance between

what individuals already have and what they aspire to have.  $\pi_i$  and  $e_i$  are the constant term and the error term, respectively. Again, standard errors are clustered at the household level.<sup>10</sup>

## Measurement

Table 1 provides summary statistics of our measures of government confidence, aspiration level, pre-treatment demographic controls, and measures employed for our manipulation checks. Households are nearly evenly divided between our four study arms: control, poverty prime, mobility prime, and both primes (see rows (2)-(5) of Table 1). About 30 percent of the sample is female, while 70 percent is male, reflecting a higher response rate for men, more willingness to freely articulate opinions and beliefs among men in Pakistan, as well as lower rates of attrition for men between rounds.<sup>11</sup> 92 percent of respondents are married, 44 percent have received no formal education, and the average household has 6.2 members.

### Outcome Measure: Confidence in Government

We measure confidence in government using the answers to four questions aimed at eliciting individuals' degree of support for the political system and efforts of government actors. The first question asked, "In your opinion, to what extent do you think that one should support the political system of Pakistan?" Individuals were asked to select either not at all (0), a little (1), somewhat (2), a lot (3), or a great deal (4). We re-scaled this to be a 0–1 variable by dividing the individual's selected answer by 4. A re-scaled score of 0.5 therefore indicates a belief that one should support the political system of Pakistan somewhat. The mean of this variable is 0.37.

The second question asks, "What is your overall level of satisfaction with the government?" The third question asks, "How satisfied are you with the government's efforts to provide your community with access to schools and health facilities?" Finally, the fourth question asks, "How satisfied are you with the government's efforts to provide security for your community?" The response choices to all three of these latter questions are as follows: extremely dissatisfied (0), moderately dissatisfied (1), slightly dissatisfied (2), neither satisfied nor dissatisfied (3), slightly satisfied (4), moderately

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<sup>10</sup>We examine whether all results are sensitive to the inclusion or exclusion of district or village fixed effects.

<sup>11</sup>Requesting to interview a specific female member of a household can be challenging in the Pakistan context, where males are wary of leaving women alone with enumerators. We partially addressed this problem by employing female enumerators, but still experienced a significantly higher attrition rate between sample rounds for women.



satisfied (5), and extremely satisfied (6). We also re-scaled each of these 7-point scale questions to be 0–1 variables, in this case by dividing the individual’s selected answer by 6. A re-scaled score of 0.5 indicates neither satisfaction nor dissatisfaction with the government. The means of these variables are 0.38, 0.41, and 0.45, respectively (see Table 1).

When one measures the same phenomenon in several different ways, there is a high risk of detecting some significant effects merely due to chance (Benjamini and Hochberg 1995; Benjamini, Krieger, and Yekutieli 2006). This is the problem of multiple hypothesis testing, and it carries the risk of one falsely concluding that there is a statistically significant empirical finding when there is not. We circumvent this problem by combining our four measures of satisfaction with government into a single index, computed by taking an average of the four underlying variables.<sup>12</sup> Moreover, the advantage of an averaged measure is that it nets out measurement error associated with any one of the index components (Ansolabehere, Rodden, and Snyder 2008). Our government confidence index has a mean of 0.40 and a standard deviation of 0.23. If we detect significant changes in this index, we can be relatively confident that they reflect true changes in confidence in government, as opposed to errors in the measurement of a single dimension yielding a spurious correlation. We consider each of the four measures separately as a robustness check.

### **Aspiration Level**

We measure an individual’s pre-treatment aspiration level using an index similar to that used by Bernard and Seyoum Taffesse (2014). The index is constructed using respondents’ answers to questions about their aspirations along four dimensions: income, asset wealth, education, and social status. Specifically, respondents were asked to report the level of personal income, the value of assets, the level of education (re-coded as desired years of education), and the level of social status (on a 10-step ladder of possibilities) they would like to achieve. While there is a potentially infinite number of dimensions on which an individual could aspire, we argue that these four capture a large and important share of aspirations. Question wording can be found in Online Appendix B.

We combined these four aspiration levels into an index using the following methodology. First, we normalized each respondent’s aspiration level on each dimension by subtracting the average level for individuals in the same district (there are 19 districts in our sample), and then dividing

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<sup>12</sup>The Cronbach’s alpha value for internal consistency is 0.75.

this difference by the standard deviation for individuals in the same district.<sup>13</sup> We examine the individual’s aspirations relative to the district, as an individual’s aspiration levels are affected by a process of social comparison with others in the individual’s social environment or *reference group* (e.g., Festinger 1954; Merton and Rossi 1950; Suls and Wheeler 2000). We then asked each individual to allocate 20 beans across the four dimensions according to their relative importance, and weighted each dimension by the share of beans placed on it. This yields the following index:

$$\text{Aspiration Level} = \sum_{n=1}^4 \left( \frac{a_n^i - \mu_n^d}{\sigma_n^d} \right) w_n^i \quad (6)$$

where  $a_n^i$  is the aspired outcome of individual  $i$  on dimension  $n$  (income, asset wealth, education, or social status); and  $\mu_n^d$  is the average aspired outcome in district  $d$  for outcome  $n$ . The standard deviation of aspired outcomes in district  $d$  for outcome  $n$  is  $\sigma_n^d$ . Finally,  $w_n^i$  is the weight individual  $i$  places on dimension  $n$ , and these four weights sum to 1.<sup>14</sup> Poverty and economic opportunities vary widely across districts. To the extent that the district average aspiration level represents what is typically possible to achieve in a district, our measure of aspirations captures the distance between what is generally possible and what an individual aspires to achieve.

Table 1 includes summary statistics for our aspiration level index. The average individual has an aspiration level of 0.10, with a standard deviation of 0.67. The aspiration level takes both negative and positive values given it is a normalized measure, and its mean is close to 0.<sup>15</sup>

## Demographic Characteristics

We consider several demographic controls in all analysis that consider aspiration levels.<sup>16</sup> We aimed to control for those features of an individual that should have a direct impact on their aspiration level, as measured by our aspiration index. These include their current logged household income, logged household asset wealth, social status (on a 1 through 10 scale), and education

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<sup>13</sup>The resulting, normalized outcome represents the number of standard deviations from the district average that an individual’s aspired level is located. Respondents with an aspiration level for a particular outcome above their district’s average have a positive value on the normalized outcome, while those with a level below the average have a negative value.

<sup>14</sup>Note that the index is a weighted average of four normally distributed variables with mean 0 and standard deviation 1. However, it is not itself distributed normally with mean 0 and standard deviation 1.

<sup>15</sup>While the aspiration level is a weighted average of four N(0,1) variables, it is not itself distributed N(0,1).

<sup>16</sup>All of these measures were collected at the time of our Round 1 (2012) survey to ensure these measures are 1) all pre-treatment measures; and 2) collected when questions on aspiration levels were asked.

level (no formal education, primary education, middle education, high/intermediate education, and post-secondary education).<sup>17</sup> Inclusion of these controls lends our aspiration index measure the interpretation of reflecting an aspirations gap, since it measures aspirations after accounting for status quo endowments.

Given our reliance on randomization of treatment in the context of an experiment, we can identify the causal impacts of our poverty and mobility primes without the need for other controls. Nonetheless, including several controls can increase the precision of our estimates, in case there are small imbalances across treatment arms. Indeed, as shown in the balance tests in Table A.1 in Online Appendix A, we have select cases of imbalance. For example, those that received the mobility prime have slightly higher incomes than do those that did not receive any prime, and those that received both primes also have slightly higher incomes than do those that received no prime. Also, those that received both primes have fathers with slightly more education than do those that did not receive any prime or those that received only the mobility prime. Nevertheless, out of 30 joint tests of imbalance, there are only two cases of imbalance between treatment groups (i.e., where  $p < 0.10$ ), which suggests that random assignment was highly successful.

We control for a measure of the individual’s level of trust in others, and their degree of envy of others, given that they may be correlated with attitudes toward government and our poverty and mobility treatments.<sup>18</sup> We also control for key demographic characteristics that might influence political opinions. These include their father’s education level (in years), mother’s education level (in years), gender,<sup>19</sup> age group (18–25, 25–35, 35–45, 45–55, and over 55), ethnicity,<sup>20</sup> and household size. Finally, we estimate specifications with district fixed effects and village fixed effects.

## Manipulation Checks

Our analysis of how priming individuals to feel relatively poor and/or mobile impacts their attitudes toward the government assumes that our experiment had its intended effect. That is, priming individuals to feel relatively poor made them feel relatively poorer than they otherwise

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<sup>17</sup>Question wording for these questions can be found in Online Appendix B.

<sup>18</sup>Trust and envy are both measured as indices computed based on a grouping of questions that were normalized (by subtracting the sample mean and then dividing by the sample standard deviation) and then averaged over the group. In the case of trust, there were 12 questions. In the case of envy, there were 3 questions. A complete list of questions is available in Kosec and Khan (2016).

<sup>19</sup>Female is coded as 1.

<sup>20</sup>We include fixed effects for each ethnic group.

would, and priming individuals to feel mobile made them feel more mobile and able to improve on their current position than they otherwise would. Evidence from Mo (2012; 2013) in Nepal, which was then replicated in Pakistan by Fair et al. (2015)—as well as the diagnostic statistics on our poverty prime that we presented in the previous research design section on the poverty prime treatment—suggest that our experimental method of priming individuals to feel poor had the intended effect. We are able to gain further verification that our treatment had the intended effect by examining whether the poverty prime only affected those who did not feel poor to begin with. A prime to make one feel relatively poor should not work on those who felt relatively poor to begin with. As such, any effects we detect due to the poverty prime should occur among those who did not feel relatively poor already. For this exercise, we can leverage the following question collected prior to the experiment: “[*Show the picture of a ladder*] Please look at this ladder, which has 10 steps. Suppose we say that the top of this ladder represents the best possible life for you and the bottom step represents the worst possible life for you. Where on the ladder do you feel you personally stand at present?” This variable is measured on a 10 point scale ranging from 1 to 10. The median and mean response is 5, the mid-point of the scale, and given 10 means the “best possible life” and 1 means the “worst possible life,” those that feel relatively neither great nor bad will gravitate to 5. As such, we divided our sample into two categories—those that should feel the prime (i.e., those who did not already feel relatively poor, and hence, would say they are high on the ladder of well-being, before the prime) and those that should not feel the prime (i.e., those who already felt relatively poor before the prime, and hence, would place themselves as low on the ladder of well-being)—based on those who choose a number of less than 5 and those who choose 5 or better.

We do not know of any existing studies priming individuals to feel mobile. Fortunately, however, we can statistically check that the mobility prime had the intended effect. We are able to do so given that we asked all respondents the following question related to their perceived level of mobility after receiving the mobility and/or poverty prime: “In your opinion, to what extent do people in Pakistan get rewarded for their intelligence and skills?” Again, this variable is measured on a scale from 0 to 1, where 0 indicates not at all, and 0.25, 0.5, 0.75, and 1 respectively indicate a little, somewhat, a lot, and a great deal. The mean of this measure is 0.40, reflecting that individuals tend to believe that mobility is not particularly high in Pakistan. An analysis of this questions

allows us to examine whether or not the mobility prime actually caused individuals to report that they feel more mobile.

## Results

Our main regression results that test the “Tocqueville Effect” appear in Table 2, where the outcome is our government confidence index. Column (1) shows our baseline results.<sup>21</sup> Those randomly assigned to receive only the poverty prime, which causes individuals to feel relatively poor, report significantly lower satisfaction with government than do those who received no primes; this is consistent with Proposition 1 ( $p = 0.04$ ). Receiving only the poverty prime leads to a 3.4 percentage point reduction in government satisfaction (see column (1) of Table 2); this is a sizable, 8.5 percent decrease relative to the mean value of the government confidence index. This effect size is especially large in light of this being a survey experiment; rather than actually making individuals relatively poorer, our treatment subtly primes them to feel this way. One might expect even larger impacts on confidence in government if we actually and permanently changed individuals’ relative welfare. This suggests that if anything, our estimates are lower bounds on the magnitude of the impacts on confidence in government resulting from feeling relatively poor. The magnitude and significance of this result is not sensitive to the inclusion of district or village fixed effects or demographic control variables (columns (2)–(4)), which provides reassurance that the randomized experiment was implemented correctly.<sup>22</sup>

Receiving only the mobility prime leads to no substantive change in the government confidence index ( $\beta = -0.014$ ;  $p = 0.38$ ; see column (1) of Table 2), and this effect is further statistically insignificant at conventional levels. This result is consistent with Proposition 2 of our formal model, which shows that mobility has a positive effect on government confidence for some and a negative effect for others. Finally, we see no significant impact on government confidence for those who received both primes ( $\beta = 0.007$ ;  $p = 0.70$ ). The negative impact on confidence in government of being primed to feel relatively poor is, on average, neutralized when individuals are

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<sup>21</sup>Regression results equivalent to column (1) of Table 2 for each of the confidence measures that make up the index are shown in columns (1), (3), (5), (7), and (9) in Table A.2 in Online Appendix A. We also visualize these results in Figure A.1 in Online Appendix A.

<sup>22</sup>The effect size ranges from 3.2 to 3.6 percentage points depending on the specification, and effects are statistically significant regardless of the specification ( $p$ -values range from 0.02 to 0.04).

simultaneously primed to feel mobile. Again, the findings in column (1) are robust to the inclusion of district or village fixed effects and demographic controls.

When we interact each of our three treatment arm dummies (receipt of the mobility prime, poverty prime, and both primes) with the individual’s aspiration level, we see evidence consistent with Proposition 3, which captures the main thesis of Tocqueville (1856). Specifically, this thesis predicts that confidence in government among high-aspiring citizens declines when their perceived relative position decreases and perceived mobility increases, since these are the citizens that experience the greatest aspirations gap when they are made to feel both relatively poor and mobile. As shown in column (1) of Table 3 and visualized in Figure 1(d),<sup>23</sup> this is precisely what we find. Among those with relatively high aspiration levels (and hence large aspirations gaps), receiving both primes has a large and significant negative impact on confidence in government—specifically, a 6.6 percentage point reduction in satisfaction for every one-unit increase in aspirations ( $p = 0.007$ ; see column (1) of Table 3). This is a large, 16.4 percent decrease in government confidence relative to the mean of the index. This negative effect is statistically significant for each of the four individual measures that make up the government confidence index as well, as shown in Figure 2.<sup>24</sup> Moreover, these findings are robust to the inclusion of district or village fixed effects and demographic controls. We take this as strong evidence supporting Proposition 3 and Tocqueville’s verbal hypothesis.

As in our results without interactions with the aspirations gap, receiving the mobility prime alone once again has an economically and statistically insignificant effect on confidence in government—and this effect also does not vary with the aspirations gap (see row (4) of Table 3 and Figure 1(b)). Additionally, receiving the poverty prime alone is once again associated with lower satisfaction with government (see row (2) of Table 3), and this effect does not vary according to the individual’s aspirations gap (see Figure 1(c)).

By examining the coefficients on receiving both primes, and on receiving both primes interacted with the aspirations gap, we see that for the nearly 40 percent of the sample with the highest

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<sup>23</sup>We consider the association between aspiration level and the government confidence index for each of the four conditions separately—(1) receipt of no prime (Figure 1(a)); (2) receipt of only the mobility prime (Figure 1(b)); (3) receipt of only the poverty prime (Figure 1(c)); and (4) receipt of both primes (Figure 1(d)).

<sup>24</sup>Regression outputs for each of the four measures are shown in columns (2), (4), (6), (8), and (10) in Table A.2 in Online Appendix A, and the interaction term for these regression analyses are displayed in Figure 2.

aspirations gaps,<sup>25</sup> receiving both primes has a negative impact on confidence in government.<sup>26</sup> This is a sizable and intuitive share of the sample for which Tocqueville’s thesis holds: it is those who, by virtue of having sufficiently high aspirations gaps, are able to have their sense of mobility and perceived relative poverty updated by our experiment. For the other 60 percent of the sample with relatively low aspirations gaps, receiving both the mobility and poverty primes has either no effect or a positive effect on government satisfaction. It may be the case that for individuals with low aspirations after controlling for status quo endowments (i.e. with large aspirations gaps), no amount of priming can alter or impact their perception that they are deprived and immobile.

It is important to consider context when interpreting our results. Our study was carried out in rural Pakistan, where even those with *relatively* high aspirations may have quite low aspirations when compared with those in a non-developing country context, or with those in the urban or more developed sections of a developing country like Pakistan. Thus, that Tocqueville’s thesis holds for 40 percent of the sample (those with the highest aspirations gaps in our relatively deprived setting) is rather remarkable; it suggests that in other contexts, we might expect an even larger share of the population to have their confidence in government reduced by simultaneously being primed to feel relatively poor and mobile.

## Manipulation Check Results

Finally, we assess whether we can interpret the effects we see from the poverty prime and mobility prime as reflecting an increased perception that one’s status quo endowment is relatively low compared to that of others and shifts in perceived mobility, respectively. To do so, we repeat the analyses of Table 2 and Table 3 for two samples: (A) those who already feel low on a ladder of subjective well-being, and as such, should not feel the effects of a prime designed to trigger feelings of relative poverty, and (B) those who feel well-off on a ladder of subjective well-being, and as such, have room for their subjective well-being to fall in response to the prime. Columns (1)–(6) of Table

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<sup>25</sup>Specifically, an aspiration level of above 0.21 in our specification which controls for the present day level of (i.e. the individual’s status quo for) each of the areas in which we ask individuals about their aspirations.

<sup>26</sup>When considering column (1) of Table 3,  $0.21 \times -0.066 + 0.014 = 0.00014$ , where 0.014 is the coefficient on receiving both primes, while -0.066 is the coefficient on receiving both primes interacted with aspirations. The net effect of the two primes on government confidence is negative when the variable measuring the aspirations gap is less than 0.21.

A.3 in Online Appendix A consider group (A), while columns (7)–(12) consider group (B).<sup>27</sup> As expected, we see that the negative effect of the poverty prime (test of Proposition 1), as well as the interaction between receipt of both the poverty and mobility prime and one’s aspirations gap (test of Proposition 3) are *only* seen for group (B)—the group with initially high levels of subjective well-being. When we consider the impact of receiving the poverty prime (test of Proposition 1), effect sizes for group (B) range from -4.1 to -4.8 percentage points and are statistically significant. In contrast, effect sizes for the group which had low subjective well-being before the prime (group (A)) range from -0.6 to -1.4 percentage points and are statistically insignificant. The difference between the impact on group (A) and the impact on group (B) is always highly statistically significant ( $p < 0.01$ ). In short, receiving the poverty prime lowers one’s confidence in government, but this is only the case for those who we would actually expect to have their beliefs updated by the prime: those with initially high subjective well-being. When we next consider the interaction between the aspirations gap and the dummy for receiving both the mobility and poverty primes (test of Proposition 3), we find that it is also only statistically significant for group (B). The magnitude of the interaction term for group (A) ranges from -0.001 to 0.004 and is in all cases statistically insignificant, while for group (B) it ranges from -0.094 to -0.062 and is always statistically significant. Again, the difference between these two sets of magnitudes is always highly statistically significant ( $p < 0.01$ ). Proposition 3 and Tocqueville’s verbal hypothesis are supported by the data, and these effects are intuitively driven by those for whom we would expect the primes to have the greatest impact.

Additionally, we examine the effect of the mobility prime experiment on a measure to assess mobility. Table A.4 in Online Appendix A examines the effect of being primed to feel mobile (by having been read our mobility script as part of the experiment) on an outcome variable indicating the extent to which an individual feels that people in Pakistan are rewarded for their intelligence and skills. As we see in column (1), receiving our mobility prime leads to a 3.6 percentage point increase ( $p = 0.01$ ) in this outcome variable. As this variable’s mean is 0.40, a 0.036 point increase represents a 9 percent increase relative to the mean value. The size of this effect is largely unchanged when we add district fixed effects (column (2)), a battery of pre-treatment control measures (column (5)),

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<sup>27</sup>Columns (1) and (7), (2) and (8), and (3) and (9) in Table A.3 in Online Appendix A reproduce columns (1), (2), and (4) in Table 2, respectively. Columns (4) and (10), (5) and (11), and (6) and (12) of Table A.3 in Online Appendix A reproduce columns (1), (2), and (4) in Table 3, respectively.



and village fixed effects (column (6)). We take this as evidence that our mobility prime had its intended effect. Moreover, we find no differential impacts of our primes according to an individual’s aspiration level (and hence gap), as shown in columns (3) – (6) in Table A.4 in Online Appendix A.<sup>28</sup> Similarly, we find no evidence that the effect of the poverty prime on feelings of mobility varies with one’s aspirations gap.<sup>29</sup>

## Conclusion

Using an original dataset and experiment carried out in Pakistan during 2012–2013, we present strong evidence in favor of a theory articulated by Tocqueville (1856). Specifically, Tocqueville suggests that discontent with government can increase even when economic development creates opportunities for economic and social mobility which enhance many citizens’ welfare. In short, the perception of opportunities for advancement reduces the feeling that one’s current state of deprivation is inevitable. This may increase expectations of some citizens beyond what is possible for growth to deliver. We formalize these insights by presenting a theoretical model of the impacts of perceived poverty and economic mobility—which alter people’s perceptions of where they are in the economic distribution and where they want to be—on confidence in government. Our experimental evidence supports that model, and thus Tocqueville’s theory.

The experiment has the key advantage that it generates perceptions of higher relative poverty and higher mobility which are exogenous to our attitudinal outcomes related to confidence in government. However, it has the disadvantage that we subtly create only the (likely temporary) perception that one is relatively poor. Perceptions of relative poverty may have a different effect than does actually falling into deeper levels of poverty. Further research is needed on how confidence in, and support for, government varies with the combination of increases in one’s actual relative poverty level and increases in one’s perceived mobility. Such research could, for example, consider

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<sup>28</sup>Columns (3) and (4) in particular replicate columns (1) and (2) but add a control for an individual’s aspiration level adjusting for present day socio-economic status levels to capture aspirations gaps, as well as its interaction with each of the two primes.

<sup>29</sup>In other words, we do not find significant interaction terms between either of the two primes and our measure of aspiration levels adjusted for present day socio-economic status. The interaction between the mobility prime and the aspiration level is never statistically significant. While the interaction between the poverty prime and the aspiration level is weakly significant in column (3), this significance disappears when we include district fixed effects, pre-treatment demographic control measures, or village fixed effects. As such, any significance of the interaction term between the poverty prime and aspiration levels is not robust.

a natural experiment such as a natural disaster that impacts relative poverty levels for some subset of a population.

Overall, our findings constitute an important theoretical and empirical contribution to the literature on drivers of support for government. They help make sense of the somewhat paradoxical claim articulated by Tocqueville (1856): that economic development and mobility do not always lead to increased confidence in government, and may potentially erode it, triggering greater opposition rather than support for their political leaders and system. They also help us understand *which* citizens are most likely to oppose government when made to feel both relatively poor and mobile; specifically, it is those with the highest aspiration levels to begin with, whose aspirations gaps accordingly increase the most when made to feel both relatively poor and mobile. From an academic perspective, this helps us better understand not only when acts of opposition to the government are most likely to emerge, but also which groups of citizens are most likely to join in such opposition and why. From a policy perspective, such information is useful for preventing state failure and designing responsive public policies that include citizens in the development process.

Table 1: Summary Statistics

| Variable                                   | Obs   | Mean   | Std. Dev. | Min    | Max    |
|--------------------------------------------|-------|--------|-----------|--------|--------|
| <b>Assignment</b>                          |       |        |           |        |        |
| Control                                    | 1,540 | 0.244  | 0.429     | 0      | 1      |
| Mobility Prime                             | 1,540 | 0.259  | 0.438     | 0      | 1      |
| Poverty Prime                              | 1,540 | 0.249  | 0.432     | 0      | 1      |
| Mobility + Poverty Primes                  | 1,540 | 0.249  | 0.432     | 0      | 1      |
| <b>Outcome Measures</b>                    |       |        |           |        |        |
| Government (Gov't) Confidence Index        | 1,540 | 0.402  | 0.227     | 0      | 1      |
| Overall Satisfaction with Gov't            | 1,540 | 0.381  | 0.326     | 0      | 1      |
| Satisfaction with Gov't Community Services | 1,540 | 0.408  | 0.303     | 0      | 1      |
| Satisfaction with Gov't Security Services  | 1,540 | 0.451  | 0.296     | 0      | 1      |
| Support of Political System                | 1,540 | 0.369  | 0.272     | 0      | 1      |
| <b>Pre-Treatment Measures</b>              |       |        |           |        |        |
| Aspiration Level                           | 1,540 | 0.103  | 0.671     | -2.062 | 6.536  |
| Log(HH Income)                             | 1,540 | 11.266 | 0.955     | 7.601  | 15.425 |
| Log(HH Assets)                             | 1,540 | 11.680 | 1.457     | 5.704  | 15.398 |
| Social Status                              | 1,540 | 4.895  | 1.817     | 0      | 10     |
| Primary Education (grades 1-5)             | 1,540 | 0.191  | 0.393     | 0      | 1      |
| Middle Education (grades 6-8)              | 1,540 | 0.084  | 0.277     | 0      | 1      |
| Secondary Education                        | 1,540 | 0.145  | 0.352     | 0      | 1      |
| Tertiary Education                         | 1,540 | 0.025  | 0.157     | 0      | 1      |
| Mother's Education (Years)                 | 1,540 | 0.152  | 0.907     | 0      | 12     |
| Father's Education (Years)                 | 1,540 | 1.006  | 2.520     | 0      | 16     |
| Trust in Society/Government                | 1,540 | 0.065  | 0.567     | -2.071 | 2.031  |
| Envy                                       | 1,540 | -0.008 | 0.865     | -0.866 | 1.163  |
| Female                                     | 1,540 | 0.306  | 0.461     | 0      | 1      |
| Age 18-25                                  | 1,540 | 0.093  | 0.290     | 0      | 1      |
| Age 25-35                                  | 1,540 | 0.268  | 0.443     | 0      | 1      |
| Age 35-45                                  | 1,540 | 0.266  | 0.442     | 0      | 1      |
| Age 45-55                                  | 1,540 | 0.212  | 0.409     | 0      | 1      |
| Married                                    | 1,540 | 0.927  | 0.261     | 0      | 1      |
| HH size                                    | 1,540 | 6.208  | 2.924     | 2      | 35     |
| ethnicity: Sindhi                          | 1,540 | 0.235  | 0.424     | 0      | 1      |
| ethnicity: Pakhtoon                        | 1,540 | 0.058  | 0.233     | 0      | 1      |
| ethnicity: Baloch                          | 1,540 | 0.074  | 0.262     | 0      | 1      |
| ethnicity: Urdu                            | 1,540 | 0.038  | 0.192     | 0      | 1      |
| ethnicity: Shina                           | 1,540 | 0.047  | 0.211     | 0      | 1      |
| ethnicity: Saraiki                         | 1,540 | 0.218  | 0.413     | 0      | 1      |
| ethnicity: Mevati                          | 1,540 | 0.001  | 0.025     | 0      | 1      |
| ethnicity: Hindko                          | 1,540 | 0.011  | 0.105     | 0      | 1      |
| ethnicity: Marwari                         | 1,540 | 0.010  | 0.098     | 0      | 1      |
| ethnicity: Hazarwal                        | 1,540 | 0.048  | 0.214     | 0      | 1      |
| ethnicity: Kashmiri                        | 1,540 | 0.000  | 0.000     | 0      | 0      |
| <b>Manipulation Check</b>                  |       |        |           |        |        |
| Perceived Mobility                         | 1,540 | 0.399  | 0.277     | 0      | 1      |
| Subjective Well-Being                      | 1,540 | 5.005  | 1.902     | 1      | 10     |

Table 2: Impact of Mobility and Relative Poverty on Government Confidence

|                           | (1)                 | (2)                 | (3)                 | (4)                  |
|---------------------------|---------------------|---------------------|---------------------|----------------------|
| Mobility Prime            | -0.014<br>(0.016)   | -0.013<br>(0.015)   | -0.015<br>(0.015)   | -0.012<br>(0.015)    |
| Poverty Prime             | -0.034**<br>(0.016) | -0.033**<br>(0.015) | -0.036**<br>(0.015) | -0.032**<br>(0.015)  |
| Mobility + Poverty Primes | 0.007<br>(0.017)    | 0.008<br>(0.015)    | 0.006<br>(0.015)    | 0.004<br>(0.015)     |
| Aspiration Level          |                     |                     | 0.000<br>(0.010)    | -0.002<br>(0.011)    |
| Log(HH Income)            |                     |                     | -0.001<br>(0.008)   | -0.003<br>(0.008)    |
| Log(HH Assets)            |                     |                     | 0.002<br>(0.005)    | 0.003<br>(0.005)     |
| Social Status             |                     |                     | -0.004<br>(0.004)   | -0.003<br>(0.004)    |
| Primary Education         |                     |                     | -0.024*<br>(0.015)  | -0.018<br>(0.015)    |
| Middle School Education   |                     |                     | -0.027<br>(0.023)   | -0.023<br>(0.022)    |
| Secondary Education       |                     |                     | 0.037*<br>(0.020)   | 0.044**<br>(0.020)   |
| Tertiary Education        |                     |                     | 0.029<br>(0.045)    | 0.031<br>(0.043)     |
| Mother's Education        |                     |                     | -0.012**<br>(0.006) | -0.010*<br>(0.006)   |
| Father's Education        |                     |                     | 0.001<br>(0.002)    | 0.000<br>(0.003)     |
| Trust                     |                     |                     | -0.020*<br>(0.011)  | -0.034***<br>(0.013) |
| Envy                      |                     |                     | 0.013*<br>(0.007)   | 0.011<br>(0.007)     |
| Female                    |                     |                     | 0.004<br>(0.016)    | 0.007<br>(0.016)     |
| Aged 18-25                |                     |                     | -0.018<br>(0.024)   | -0.025<br>(0.024)    |
| Aged 25-35                |                     |                     | -0.011<br>(0.018)   | -0.017<br>(0.018)    |
| Aged 35-45                |                     |                     | -0.012<br>(0.018)   | -0.017<br>(0.018)    |
| Aged 45-55                |                     |                     | -0.032*<br>(0.018)  | -0.041**<br>(0.018)  |
| Married                   |                     |                     | 0.018<br>(0.022)    | 0.012<br>(0.022)     |
| HH size                   |                     |                     | 0.000<br>(0.002)    | -0.000<br>(0.002)    |
| Constant                  | 0.413***<br>(0.012) | 0.387***<br>(0.058) | 0.381***<br>(0.114) | 0.168*<br>(0.101)    |
| Ethnicity Fixed Effects   | No                  | No                  | Yes                 | Yes                  |
| District Fixed Effects    | No                  | Yes                 | Yes                 | No                   |
| Village Fixed Effects     | No                  | No                  | No                  | Yes                  |
| Observations              | 1,540               | 1,540               | 1,540               | 1,540                |
| R-squared                 | 0.005               | 0.140               | 0.166               | 0.235                |

Notes: Robust standard errors are in parentheses and clustered at the household level. \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .

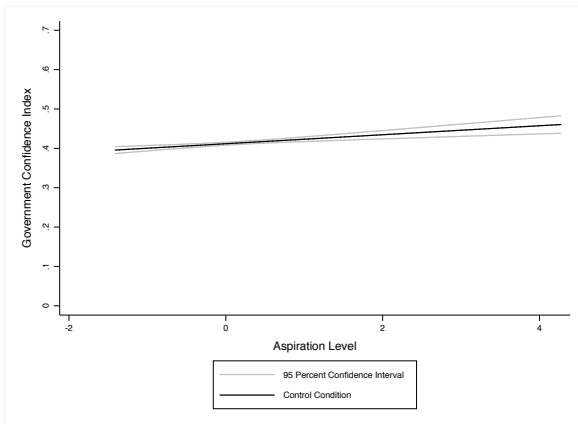
Table 3: Impact of Mobility and Relative Poverty on Government Confidence by Aspiration Level

|                                              | (1)                  | (2)                 | (3)                 | (4)                  |
|----------------------------------------------|----------------------|---------------------|---------------------|----------------------|
| Mobility Prime                               | -0.012<br>(0.016)    | -0.012<br>(0.015)   | -0.014<br>(0.015)   | -0.012<br>(0.015)    |
| Poverty Prime                                | -0.033**<br>(0.016)  | -0.033**<br>(0.015) | -0.035**<br>(0.015) | -0.033**<br>(0.015)  |
| Mobility + Poverty Primes                    | 0.014<br>(0.017)     | 0.012<br>(0.016)    | 0.011<br>(0.016)    | 0.009<br>(0.015)     |
| Aspiration Level                             | 0.031*<br>(0.016)    | 0.011<br>(0.015)    | 0.014<br>(0.016)    | 0.008<br>(0.016)     |
| Mobility Prime X Aspiration Level            | -0.007<br>(0.024)    | -0.007<br>(0.022)   | -0.006<br>(0.022)   | -0.003<br>(0.022)    |
| Poverty Prime X Aspiration Level             | -0.011<br>(0.021)    | -0.005<br>(0.020)   | -0.006<br>(0.020)   | 0.002<br>(0.020)     |
| Mobility + Poverty Primes X Aspiration Level | -0.066***<br>(0.024) | -0.049**<br>(0.023) | -0.047**<br>(0.023) | -0.045**<br>(0.022)  |
| Log(HH Income)                               | -0.018***<br>(0.007) | -0.003<br>(0.007)   | -0.001<br>(0.008)   | -0.002<br>(0.008)    |
| Log(HH Assets)                               | -0.004<br>(0.004)    | 0.002<br>(0.005)    | 0.002<br>(0.005)    | 0.003<br>(0.005)     |
| Social Status                                | -0.009***<br>(0.003) | -0.004<br>(0.004)   | -0.004<br>(0.004)   | -0.003<br>(0.004)    |
| Primary Education                            | -0.047***<br>(0.015) | -0.028**<br>(0.014) | -0.024*<br>(0.014)  | -0.018<br>(0.015)    |
| Middle School Education                      | -0.049**<br>(0.023)  | -0.034<br>(0.022)   | -0.028<br>(0.023)   | -0.024<br>(0.022)    |
| Secondary Education                          | 0.033*<br>(0.019)    | 0.031<br>(0.019)    | 0.039**<br>(0.020)  | 0.046**<br>(0.020)   |
| Tertiary Education                           | 0.045<br>(0.048)     | 0.029<br>(0.045)    | 0.034<br>(0.045)    | 0.037<br>(0.044)     |
| Trust                                        |                      |                     | -0.011**<br>(0.006) | -0.010*<br>(0.006)   |
| Envy                                         |                      |                     | 0.001<br>(0.002)    | 0.000<br>(0.002)     |
| Female                                       |                      |                     | -0.020*<br>(0.011)  | -0.034***<br>(0.013) |
| Aged 18-25                                   |                      |                     | 0.013*<br>(0.007)   | 0.011<br>(0.008)     |
| Aged 25-35                                   |                      |                     | 0.005<br>(0.016)    | 0.008<br>(0.016)     |
| Aged 35-45                                   |                      |                     | -0.020<br>(0.024)   | -0.028<br>(0.024)    |
| Aged 45-55                                   |                      |                     | -0.011<br>(0.018)   | -0.017<br>(0.018)    |
| Married                                      |                      |                     | -0.013<br>(0.018)   | -0.019<br>(0.018)    |
| Mother's Education                           |                      |                     | -0.032*<br>(0.018)  | -0.041**<br>(0.018)  |
| Father's Education                           |                      |                     | 0.017<br>(0.022)    | 0.010<br>(0.022)     |
| HH size                                      |                      |                     | 0.000<br>(0.002)    | -0.000<br>(0.002)    |
| Constant                                     | 0.411***<br>(0.012)  | 0.386***<br>(0.058) | 0.379***<br>(0.112) | 0.176*<br>(0.096)    |
| Ethnicity Fixed Effects                      | No                   | No                  | Yes                 | Yes                  |
| District Fixed Effects                       | No                   | Yes                 | Yes                 | No                   |
| Village Fixed Effects                        | No                   | No                  | No                  | Yes                  |
| Observations                                 | 1,540                | 1,540               | 1,540               | 1,540                |
| R-squared                                    | 0.037                | 0.151               | 0.169               | 0.239                |

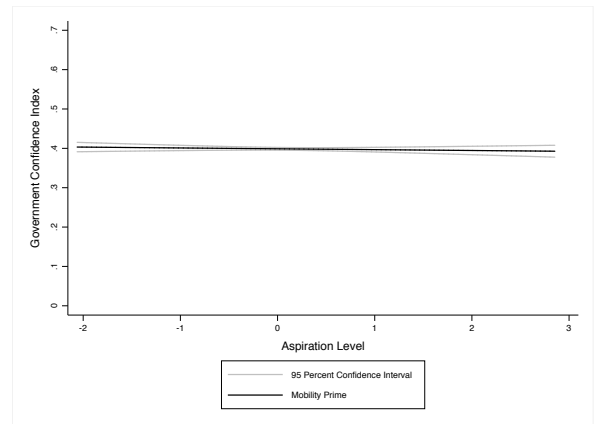
Notes: Robust standard errors are in parentheses and clustered at the household level. \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .

Figure 1: Effect of Aspiration Level on Government Confidence Index by Condition

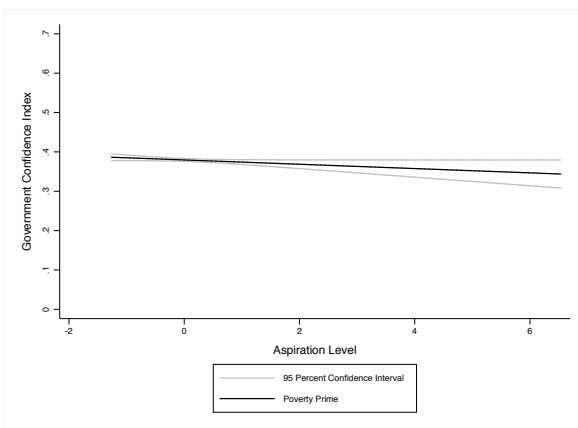
(a) Control Condition



(b) Mobility Prime



(c) Poverty Prime



(d) Mobility + Poverty Primes

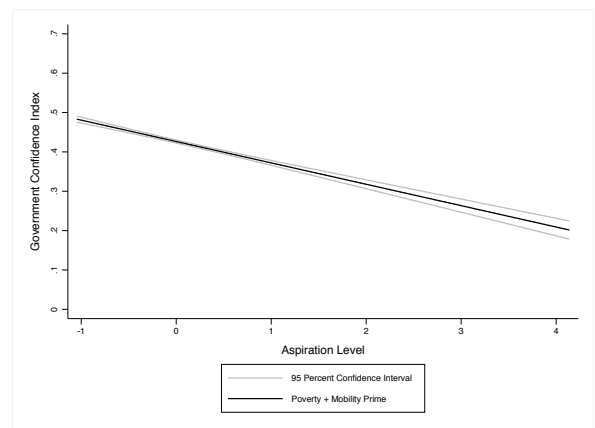
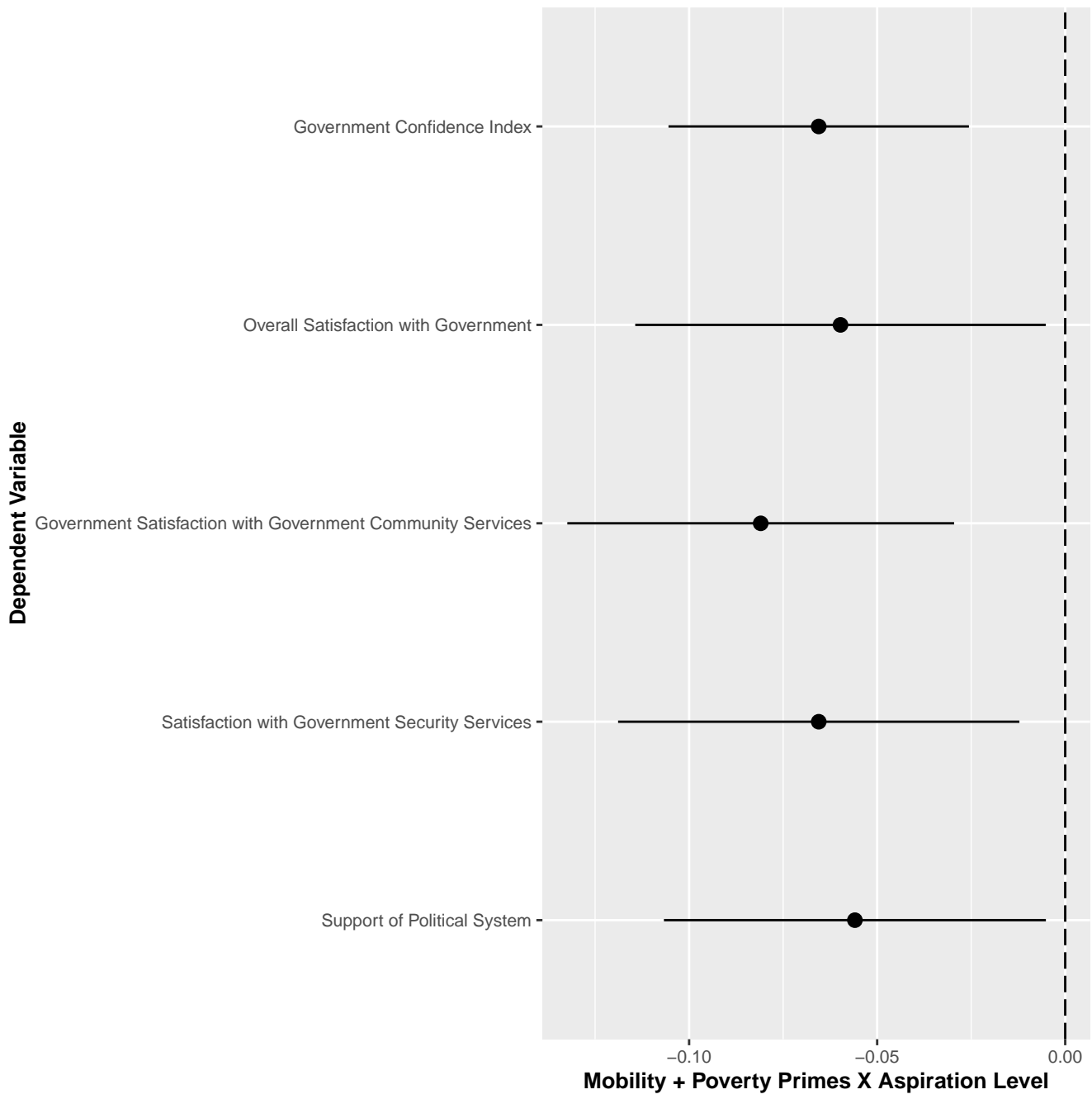


Figure 2: Interaction Effect between Mobility + Poverty Primes and Aspiration Level on Each Government Confidence Index Measure



Notes: The figure displays effect sizes with 95% confidence intervals.

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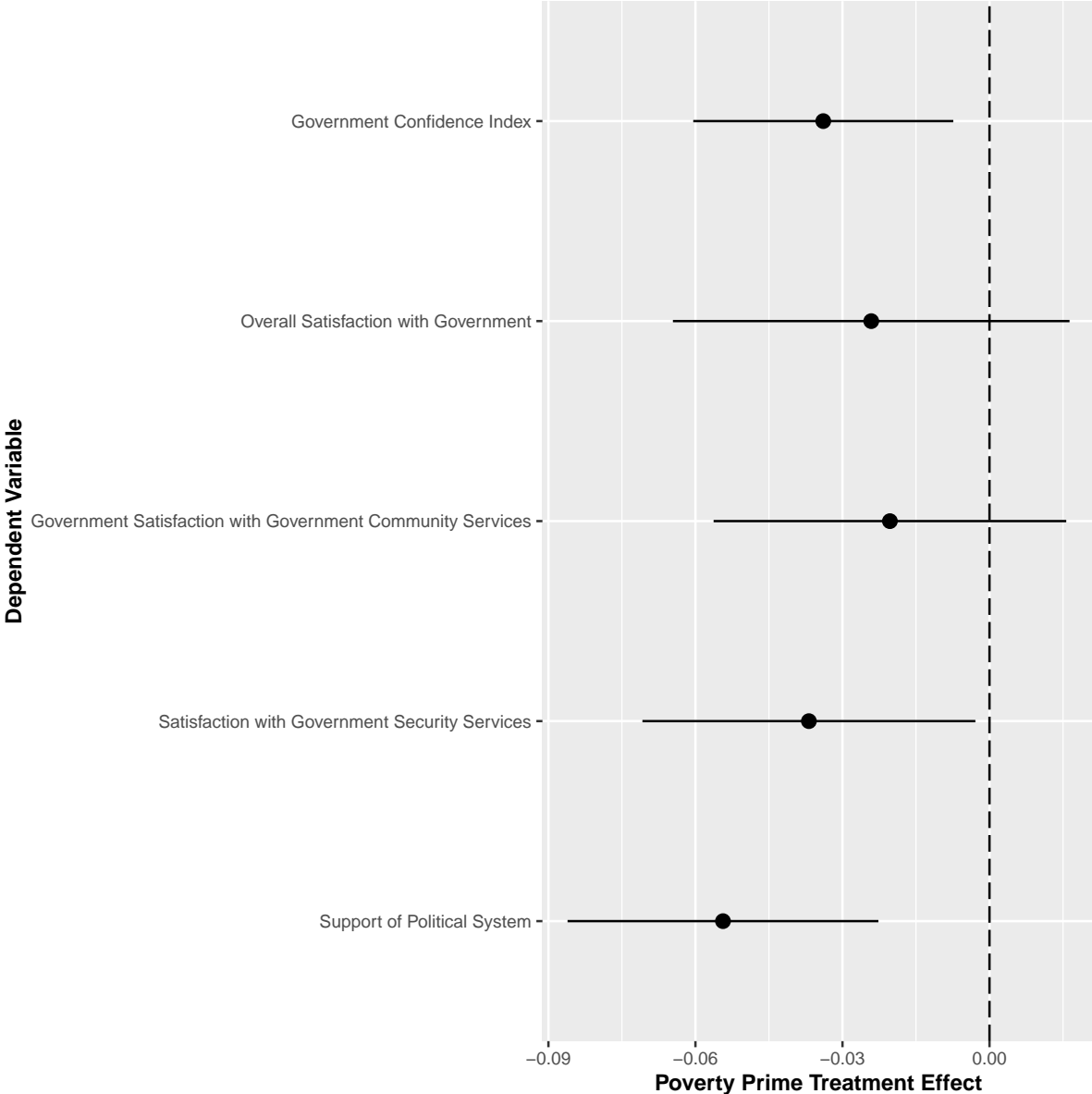
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## Online Appendix

*Economic Development, Mobility and  
Political Discontent: An Experimental Test  
of Tocqueville's Thesis in Pakistan*

# A Additional Figures and Tables

Figure A.1: Effect of Poverty Prime on Each Government Confidence Index Measure



Notes: The figure displays effect sizes with 95% confidence intervals.

Table A.1: Balance Tests

|                                | Mean        |              |             |                           | Comparing Means (P-value) |             |             |             |             |             |       |  | Joint Test<br>(P-Value) |
|--------------------------------|-------------|--------------|-------------|---------------------------|---------------------------|-------------|-------------|-------------|-------------|-------------|-------|--|-------------------------|
|                                | (1) Neither | (2) Mobility | (3) Poverty | (4) Mobility<br>+ Poverty | (1) vs. (2)               | (1) vs. (3) | (1) vs. (4) | (2) vs. (3) | (2) vs. (4) | (3) vs. (4) |       |  |                         |
| Aspiration Level               | 0.105       | 0.092        | 0.091       | 0.125                     | 0.791                     | 0.787       | 0.692       | 0.990       | 0.488       | 0.492       | 0.892 |  |                         |
| Log(HH Income)                 | 11.175      | 11.311       | 11.269      | 11.304                    | 0.036                     | 0.160       | 0.064       | 0.535       | 0.913       | 0.633       | 0.177 |  |                         |
| Log(HH Assets)                 | 11.725      | 11.637       | 11.596      | 11.764                    | 0.409                     | 0.224       | 0.708       | 0.697       | 0.225       | 0.107       | 0.356 |  |                         |
| Social Status                  | 4.861       | 4.850        | 4.927       | 4.943                     | 0.926                     | 0.616       | 0.538       | 0.553       | 0.479       | 0.908       | 0.860 |  |                         |
| Primary Education (grades 1-5) | 0.203       | 0.206        | 0.188       | 0.167                     | 0.922                     | 0.611       | 0.208       | 0.538       | 0.169       | 0.450       | 0.511 |  |                         |
| Middle Education (grades 6-8)  | 0.091       | 0.085        | 0.073       | 0.086                     | 0.789                     | 0.378       | 0.827       | 0.532       | 0.962       | 0.505       | 0.840 |  |                         |
| Secondary Education            | 0.133       | 0.140        | 0.146       | 0.159                     | 0.777                     | 0.610       | 0.313       | 0.815       | 0.459       | 0.616       | 0.774 |  |                         |
| Tertiary Education             | 0.021       | 0.023        | 0.018       | 0.039                     | 0.908                     | 0.763       | 0.153       | 0.673       | 0.179       | 0.084       | 0.250 |  |                         |
| Mother's Education (Years)     | 0.109       | 0.120        | 0.162       | 0.217                     | 0.852                     | 0.377       | 0.132       | 0.484       | 0.172       | 0.444       | 0.346 |  |                         |
| Father's Education (Years)     | 0.883       | 0.852        | 0.982       | 1.311                     | 0.853                     | 0.576       | 0.023       | 0.459       | 0.013       | 0.095       | 0.045 |  |                         |
| Trust in Society/Government    | 0.063       | 0.056        | 0.080       | 0.061                     | 0.869                     | 0.687       | 0.970       | 0.565       | 0.899       | 0.657       | 0.944 |  |                         |
| Envy                           | -0.018      | -0.046       | -0.009      | 0.042                     | 0.641                     | 0.886       | 0.343       | 0.542       | 0.155       | 0.420       | 0.547 |  |                         |
| Female                         | 0.283       | 0.313        | 0.316       | 0.313                     | 0.353                     | 0.318       | 0.357       | 0.937       | 0.999       | 0.938       | 0.722 |  |                         |
| Age 18-25                      | 0.083       | 0.103        | 0.081       | 0.104                     | 0.337                     | 0.931       | 0.304       | 0.292       | 0.939       | 0.263       | 0.536 |  |                         |
| Age 25-35                      | 0.259       | 0.253        | 0.305       | 0.256                     | 0.860                     | 0.153       | 0.930       | 0.103       | 0.930       | 0.127       | 0.303 |  |                         |
| Age 35-45                      | 0.283       | 0.283        | 0.219       | 0.277                     | 0.987                     | 0.044       | 0.857       | 0.040       | 0.841       | 0.066       | 0.130 |  |                         |
| Age 45-55                      | 0.211       | 0.211        | 0.206       | 0.222                     | 0.996                     | 0.882       | 0.707       | 0.884       | 0.699       | 0.598       | 0.958 |  |                         |
| Married                        | 0.920       | 0.927        | 0.945       | 0.914                     | 0.702                     | 0.167       | 0.759       | 0.308       | 0.486       | 0.091       | 0.377 |  |                         |
| HH size                        | 6.328       | 6.248        | 6.240       | 6.016                     | 0.712                     | 0.701       | 0.159       | 0.969       | 0.229       | 0.274       | 0.492 |  |                         |
| ethnicity: Sindhi              | 0.243       | 0.258        | 0.214       | 0.225                     | 0.620                     | 0.349       | 0.556       | 0.148       | 0.273       | 0.727       | 0.481 |  |                         |
| ethnicity: Pakhtoon            | 0.067       | 0.048        | 0.057       | 0.060                     | 0.253                     | 0.599       | 0.709       | 0.538       | 0.441       | 0.878       | 0.721 |  |                         |
| ethnicity: Baloch              | 0.085       | 0.045        | 0.081       | 0.086                     | 0.023                     | 0.827       | 0.968       | 0.039       | 0.020       | 0.794       | 0.084 |  |                         |
| ethnicity: Urdu                | 0.024       | 0.043        | 0.042       | 0.044                     | 0.151                     | 0.171       | 0.123       | 0.954       | 0.903       | 0.859       | 0.425 |  |                         |
| ethnicity: Shina               | 0.051       | 0.035        | 0.055       | 0.047                     | 0.284                     | 0.798       | 0.815       | 0.182       | 0.401       | 0.622       | 0.592 |  |                         |
| ethnicity: Saraiki             | 0.221       | 0.221        | 0.238       | 0.193                     | 0.979                     | 0.595       | 0.340       | 0.571       | 0.346       | 0.135       | 0.517 |  |                         |
| ethnicity: Mevati              | 0.003       | 0.000        | 0.000       | 0.000                     | 0.303                     | 0.313       | 0.313       | .           | .           | .           | 0.376 |  |                         |
| ethnicity: Hindko              | 0.011       | 0.010        | 0.013       | 0.010                     | 0.930                     | 0.762       | 0.976       | 0.692       | 0.954       | 0.738       | 0.978 |  |                         |
| ethnicity: Marwari             | 0.011       | 0.008        | 0.010       | 0.010                     | 0.644                     | 0.976       | 0.976       | 0.665       | 0.665       | 1.000       | 0.964 |  |                         |
| ethnicity: Hazarwal            | 0.056       | 0.038        | 0.042       | 0.057                     | 0.225                     | 0.364       | 0.932       | 0.765       | 0.192       | 0.319       | 0.469 |  |                         |
| ethnicity: Kashmiri            | 0.000       | 0.000        | 0.000       | 0.000                     | ---                       | ---         | ---         | ---         | ---         | ---         | ---   |  |                         |
| Proportion                     | 0.244       | 0.259        | 0.249       | 0.249                     | ---                       | ---         | ---         | ---         | ---         | ---         | ---   |  |                         |

Table A.2: Impact of Mobility and Relative Poverty on Each Government Confidence Measure

|                                              | Government (Gov't)<br>Confidence Index<br>(1) | (2)                  | Overall Satisfaction<br>with Gov't<br>(3) | (4)                  | Satisfaction with Gov't<br>Community Services<br>(5) | (6)                  | Satisfaction with Gov't<br>Security Services<br>(7) | (8)                  | Support of<br>Political System<br>(9) | (10)                 |
|----------------------------------------------|-----------------------------------------------|----------------------|-------------------------------------------|----------------------|------------------------------------------------------|----------------------|-----------------------------------------------------|----------------------|---------------------------------------|----------------------|
| Mobility Prime                               | -0.014<br>(0.016)                             | -0.012<br>(0.016)    | -0.004<br>(0.024)                         | -0.003<br>(0.024)    | -0.010<br>(0.022)                                    | -0.003<br>(0.022)    | -0.034<br>(0.021)                                   | -0.033<br>(0.021)    | -0.009<br>(0.020)                     | -0.008<br>(0.020)    |
| Poverty Prime                                | -0.034**<br>(0.016)                           | -0.033**<br>(0.016)  | -0.024<br>(0.025)                         | -0.025<br>(0.025)    | -0.020<br>(0.022)                                    | -0.017<br>(0.022)    | -0.037*<br>(0.021)                                  | -0.036*<br>(0.021)   | -0.054***<br>(0.019)                  | -0.052***<br>(0.019) |
| Mobility + Poverty Primes                    | 0.007<br>(0.017)                              | 0.014<br>(0.017)     | 0.014<br>(0.025)                          | 0.022<br>(0.024)     | 0.023<br>(0.022)                                     | 0.031<br>(0.023)     | -0.014<br>(0.022)                                   | -0.007<br>(0.021)    | 0.003<br>(0.020)                      | 0.011<br>(0.020)     |
| Aspiration Level                             |                                               | 0.031*<br>(0.016)    |                                           | 0.021<br>(0.026)     |                                                      | 0.029<br>(0.022)     |                                                     | 0.017<br>(0.025)     |                                       | 0.056**<br>(0.023)   |
| Mobility Prime X Aspiration Level            |                                               | -0.007<br>(0.024)    |                                           | 0.006<br>(0.034)     |                                                      | -0.047<br>(0.032)    |                                                     | -0.005<br>(0.033)    |                                       | 0.017<br>(0.030)     |
| Poverty Prime X Aspiration Level             |                                               | -0.011<br>(0.021)    |                                           | -0.007<br>(0.031)    |                                                      | -0.017<br>(0.033)    |                                                     | -0.009<br>(0.029)    |                                       | -0.011<br>(0.028)    |
| Mobility + Poverty Primes X Aspiration Level |                                               | -0.066***<br>(0.024) |                                           | -0.060*<br>(0.033)   |                                                      | -0.081***<br>(0.031) |                                                     | -0.066**<br>(0.033)  |                                       | -0.056*<br>(0.031)   |
| Log(HH Income)                               |                                               | -0.018***<br>(0.007) |                                           | -0.030***<br>(0.010) |                                                      | -0.014<br>(0.010)    |                                                     | -0.007<br>(0.009)    |                                       | -0.022***<br>(0.008) |
| Log(HH Assets)                               |                                               | -0.004<br>(0.004)    |                                           | -0.018***<br>(0.007) |                                                      | 0.004<br>(0.006)     |                                                     | -0.003<br>(0.006)    |                                       | 0.000<br>(0.005)     |
| Social Status                                |                                               | -0.009***<br>(0.003) |                                           | -0.009*<br>(0.005)   |                                                      | -0.008<br>(0.005)    |                                                     | -0.014***<br>(0.005) |                                       | -0.007<br>(0.004)    |
| Primary Education                            |                                               | -0.047***<br>(0.015) |                                           | -0.087***<br>(0.022) |                                                      | -0.040**<br>(0.020)  |                                                     | -0.043**<br>(0.020)  |                                       | -0.017<br>(0.019)    |
| Middle School Education                      |                                               | -0.049**<br>(0.023)  |                                           | -0.095***<br>(0.031) |                                                      | 0.014<br>(0.030)     |                                                     | -0.041<br>(0.029)    |                                       | -0.076***<br>(0.029) |
| Secondary Education                          |                                               | 0.033*<br>(0.019)    |                                           | 0.029<br>(0.028)     |                                                      | 0.062**<br>(0.025)   |                                                     | 0.015<br>(0.025)     |                                       | 0.027<br>(0.022)     |
| Tertiary Education                           |                                               | 0.045<br>(0.048)     |                                           | 0.034<br>(0.060)     |                                                      | 0.075<br>(0.057)     |                                                     | 0.073<br>(0.060)     |                                       | -0.001<br>(0.051)    |
| Constant                                     | 0.413***<br>(0.012)                           | 0.718***<br>(0.079)  | 0.384***<br>(0.018)                       | 0.999***<br>(0.119)  | 0.410***<br>(0.016)                                  | 0.552***<br>(0.108)  | 0.471***<br>(0.015)                                 | 0.654***<br>(0.103)  | 0.384***<br>(0.014)                   | 0.664***<br>(0.096)  |
| Observations                                 | 1,540                                         | 1,540                | 1,540                                     | 1,540                | 1,540                                                | 1,540                | 1,540                                               | 1,540                | 1,540                                 | 1,540                |
| R-squared                                    | 0.005                                         | 0.037                | 0.002                                     | 0.048                | 0.003                                                | 0.020                | 0.003                                               | 0.021                | 0.007                                 | 0.029                |

Notes: Robust standard errors are in parentheses and clustered at the household level. \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .

Table A.3: Impact of Mobility, Relative Poverty, and Aspiration Level on Government Confidence by Subjective Well-Being

|                                              | Low Subjective Well-Being |                     |                    |                      |                     | High Subjective Well-Being |                     |                     |                     |                      |                     |                     |
|----------------------------------------------|---------------------------|---------------------|--------------------|----------------------|---------------------|----------------------------|---------------------|---------------------|---------------------|----------------------|---------------------|---------------------|
|                                              | (1)                       | (2)                 | (3)                | (4)                  | (5)                 | (6)                        | (7)                 | (8)                 | (9)                 | (10)                 | (11)                | (12)                |
| Mobility Prime                               | -0.007<br>(0.024)         | 0.000<br>(0.023)    | 0.006<br>(0.023)   | 0.006<br>(0.024)     | -0.001<br>(0.023)   | 0.005<br>(0.023)           | -0.018<br>(0.022)   | -0.021<br>(0.020)   | -0.019<br>(0.020)   | -0.017<br>(0.023)    | -0.021<br>(0.021)   | -0.021<br>(0.021)   |
| Poverty Prime                                | -0.014<br>(0.026)         | -0.010<br>(0.024)   | -0.006<br>(0.023)  | -0.010<br>(0.026)    | -0.008<br>(0.024)   | -0.007<br>(0.024)          | -0.045**<br>(0.021) | -0.048**<br>(0.020) | -0.041**<br>(0.019) | -0.041*<br>(0.021)   | -0.047**<br>(0.021) | -0.041**<br>(0.021) |
| Mobility + Poverty Primes                    | 0.014<br>(0.027)          | 0.016<br>(0.025)    | 0.009<br>(0.025)   | 0.016<br>(0.027)     | 0.016<br>(0.025)    | 0.009<br>(0.025)           | 0.003<br>(0.022)    | -0.001<br>(0.020)   | -0.002<br>(0.020)   | 0.022<br>(0.022)     | 0.014<br>(0.021)    | 0.012<br>(0.020)    |
| Aspiration Level                             |                           |                     |                    | 0.031<br>(0.022)     | 0.013<br>(0.021)    | 0.005<br>(0.022)           |                     |                     |                     | 0.028<br>(0.023)     | 0.016<br>(0.022)    | 0.020<br>(0.021)    |
| Mobility Prime X Aspiration Level            |                           |                     |                    | -0.002<br>(0.030)    | -0.014<br>(0.030)   | -0.016<br>(0.031)          |                     |                     |                     | -0.010<br>(0.034)    | -0.003<br>(0.031)   | 0.008<br>(0.030)    |
| Poverty Prime X Aspiration Level             |                           |                     |                    | 0.012<br>(0.042)     | 0.008<br>(0.039)    | -0.014<br>(0.040)          |                     |                     |                     | 0.034<br>(0.028)     | 0.031<br>(0.026)    | 0.005<br>(0.025)    |
| Mobility + Poverty Primes X Aspiration Level |                           |                     |                    | -0.011<br>(0.040)    | 0.000<br>(0.036)    | 0.004<br>(0.033)           |                     |                     |                     | -0.094***<br>(0.031) | -0.072**<br>(0.030) | -0.062**<br>(0.027) |
| Log(HH Income)                               |                           | -0.011<br>(0.013)   | -0.006<br>(0.014)  | -0.033***<br>(0.013) | -0.013<br>(0.013)   | -0.006<br>(0.014)          |                     | 0.002<br>(0.009)    | 0.000<br>(0.010)    | -0.011<br>(0.009)    | 0.003<br>(0.010)    | -0.001<br>(0.010)   |
| Log(HH Assets)                               |                           | 0.004<br>(0.007)    | 0.003<br>(0.007)   | -0.002<br>(0.007)    | 0.004<br>(0.007)    | 0.003<br>(0.007)           |                     | -0.002<br>(0.006)   | -0.008<br>(0.007)   | -0.008<br>(0.006)    | -0.002<br>(0.006)   | -0.002<br>(0.007)   |
| Social Status                                |                           | -0.015**<br>(0.007) | -0.013*<br>(0.007) | -0.023***<br>(0.005) | -0.017**<br>(0.007) | -0.013*<br>(0.008)         |                     | -0.002<br>(0.005)   | -0.003<br>(0.005)   | -0.005<br>(0.005)    | -0.001<br>(0.006)   | -0.003<br>(0.006)   |
| Primary Education                            |                           | -0.020<br>(0.022)   | -0.013<br>(0.023)  | -0.034<br>(0.022)    | -0.020<br>(0.023)   | -0.013<br>(0.023)          |                     | -0.029<br>(0.020)   | -0.016<br>(0.020)   | -0.054***<br>(0.020) | -0.027<br>(0.020)   | -0.017<br>(0.020)   |
| Middle School Education                      |                           | -0.012<br>(0.032)   | -0.003<br>(0.035)  | -0.058*<br>(0.034)   | -0.014<br>(0.033)   | -0.001<br>(0.036)          |                     | -0.035<br>(0.030)   | -0.033<br>(0.029)   | -0.047<br>(0.029)    | -0.033<br>(0.030)   | -0.035<br>(0.029)   |
| Secondary Education                          |                           | 0.061*<br>(0.034)   | 0.060*<br>(0.035)  | 0.032<br>(0.034)     | 0.057<br>(0.035)    | 0.060<br>(0.037)           |                     | 0.021<br>(0.025)    | 0.034<br>(0.025)    | 0.030<br>(0.023)     | 0.026<br>(0.025)    | 0.037<br>(0.025)    |
| Tertiary Education                           |                           | 0.140<br>(0.132)    | 0.141<br>(0.137)   | 0.139<br>(0.143)     | 0.136<br>(0.133)    | 0.139<br>(0.140)           |                     | 0.001<br>(0.048)    | 0.006<br>(0.047)    | 0.032<br>(0.051)     | 0.010<br>(0.049)    | 0.011<br>(0.048)    |
| Constant                                     | 0.402***<br>(0.018)       | 0.508***<br>(0.172) | 0.461*<br>(0.248)  | 0.880***<br>(0.148)  | 0.533***<br>(0.180) | 0.462*<br>(0.259)          | 0.419***<br>(0.016) | 0.379***<br>(0.138) | 0.324**<br>(0.138)  | 0.669***<br>(0.095)  | 0.360**<br>(0.145)  | 0.359**<br>(0.144)  |
| Demographic Controls                         | No                        | Yes                 | Yes                | No                   | Yes                 | Yes                        | No                  | Yes                 | Yes                 | No                   | Yes                 | Yes                 |
| Ethnicity Fixed Effects                      | No                        | Yes                 | Yes                | No                   | Yes                 | Yes                        | No                  | Yes                 | Yes                 | No                   | Yes                 | Yes                 |
| District Fixed Effects                       | No                        | Yes                 | No                 | No                   | Yes                 | No                         | No                  | Yes                 | No                  | No                   | Yes                 | No                  |
| Village Fixed Effects                        | No                        | No                  | Yes                | No                   | No                  | Yes                        | No                  | No                  | Yes                 | No                   | No                  | Yes                 |
| Observations                                 | 571                       | 571                 | 571                | 571                  | 571                 | 571                        | 969                 | 969                 | 969                 | 969                  | 969                 | 969                 |
| R-squared                                    | 0.002                     | 0.223               | 0.329              | 0.06                 | 0.224               | 0.33                       | 0.007               | 0.175               | 0.28                | 0.041                | 0.182               | 0.287               |

Notes: Robust standard errors are in parentheses and clustered at the household level. \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .

Table A.4: Mobility Prime Manipulation Check: Impact of Mobility Prime on Perceived Mobility

|                                          | (1)                 | (2)                 | (3)                  | (4)                  | (5)                  | (6)                  |
|------------------------------------------|---------------------|---------------------|----------------------|----------------------|----------------------|----------------------|
| Mobility Prime                           | 0.036**<br>(0.014)  | 0.036***<br>(0.013) | 0.038***<br>(0.014)  | 0.035***<br>(0.013)  | 0.037***<br>(0.013)  | 0.032**<br>(0.013)   |
| Poverty Prime                            | -0.008<br>(0.014)   | -0.008<br>(0.013)   | -0.006<br>(0.014)    | -0.008<br>(0.013)    | -0.009<br>(0.013)    | -0.016<br>(0.013)    |
| Aspiration Level                         |                     |                     | 0.073***<br>(0.020)  | 0.038**<br>(0.018)   | 0.040**<br>(0.020)   | 0.034*<br>(0.020)    |
| Mobility Prime $\times$ Aspiration Level |                     |                     | -0.007<br>(0.021)    | -0.007<br>(0.019)    | -0.013<br>(0.019)    | -0.011<br>(0.018)    |
| Poverty Prime $\times$ Aspiration Level  |                     |                     | -0.036*<br>(0.021)   | -0.019<br>(0.019)    | -0.017<br>(0.019)    | -0.016<br>(0.018)    |
| Log(HH Income)                           |                     |                     | -0.022**<br>(0.009)  | 0.001<br>(0.009)     | -0.000<br>(0.009)    | -0.001<br>(0.009)    |
| Log(HH Assets)                           |                     |                     | 0.001<br>(0.006)     | 0.002<br>(0.006)     | 0.001<br>(0.006)     | 0.004<br>(0.006)     |
| Social Status                            |                     |                     | -0.002<br>(0.004)    | 0.011**<br>(0.005)   | 0.012**<br>(0.005)   | 0.013***<br>(0.005)  |
| Primary Education                        |                     |                     | -0.025<br>(0.019)    | -0.007<br>(0.018)    | -0.004<br>(0.019)    | 0.006<br>(0.019)     |
| Middle School Education                  |                     |                     | -0.120***<br>(0.026) | -0.107***<br>(0.024) | -0.107***<br>(0.025) | -0.095***<br>(0.025) |
| Secondary Education                      |                     |                     | -0.002<br>(0.023)    | 0.007<br>(0.022)     | 0.003<br>(0.023)     | 0.009<br>(0.023)     |
| Tertiary Education                       |                     |                     | 0.019<br>(0.049)     | 0.031<br>(0.046)     | 0.017<br>(0.046)     | 0.024<br>(0.048)     |
| Mother's Education                       |                     |                     |                      |                      | -0.001<br>(0.007)    | -0.002<br>(0.007)    |
| Father's Education                       |                     |                     |                      |                      | 0.001<br>(0.003)     | 0.002<br>(0.003)     |
| Trust                                    |                     |                     |                      |                      | 0.019<br>(0.014)     | 0.009<br>(0.015)     |
| Envy                                     |                     |                     |                      |                      | -0.011<br>(0.008)    | -0.011<br>(0.009)    |
| Female                                   |                     |                     |                      |                      | 0.012<br>(0.018)     | 0.015<br>(0.019)     |
| Aged 18-25                               |                     |                     |                      |                      | 0.002<br>(0.030)     | 0.002<br>(0.030)     |
| Aged 25-35                               |                     |                     |                      |                      | 0.002<br>(0.021)     | 0.006<br>(0.021)     |
| Aged 35-45                               |                     |                     |                      |                      | 0.007<br>(0.021)     | 0.006<br>(0.021)     |
| Aged 45-55                               |                     |                     |                      |                      | -0.003<br>(0.021)    | -0.004<br>(0.021)    |
| Married                                  |                     |                     |                      |                      | -0.027<br>(0.030)    | -0.025<br>(0.032)    |
| HH size                                  |                     |                     |                      |                      | 0.002<br>(0.003)     | 0.001<br>(0.003)     |
| Constant                                 | 0.385***<br>(0.013) | 0.236***<br>(0.082) | 0.633***<br>(0.100)  | 0.185<br>(0.133)     | 0.273**<br>(0.136)   | 0.319**<br>(0.135)   |
| Ethnicity Fixed Effects                  | No                  | No                  | No                   | No                   | Yes                  | Yes                  |
| District Fixed Effects                   | No                  | Yes                 | No                   | Yes                  | Yes                  | No                   |
| Village Fixed Effects                    | No                  | No                  | No                   | No                   | No                   | Yes                  |
| Observations                             | 1,540               | 1,540               | 1,540                | 1,540                | 1,540                | 1,540                |
| R-squared                                | 0.004               | 0.170               | 0.032                | 0.192                | 0.206                | 0.247                |

Notes: Robust standard errors are in parentheses and clustered at the household level. \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .



## B Data Appendix

### Aspirations Questions:

- Annual income: Annual income is the amount of CASH income you earn from all agricultural and non-agricultural activities, and money from BISP or other programs.
  - A.1.1 What is the level of personal income you have at present?
  - A.1.2 What is the level of personal income you would like to achieve?
- Assets: In section A.2, “you” implies “your household.” Example of assets are vehicle, furniture, tv, cellphone. Please DO NOT include land and livestock, since these questions are aimed at non-productive assets (standard of living).
  - A.2.1 What is the level of assets you have at present? (What is the approximate value of the assets you have at present)? Report in PKR
  - A.2.2 What is the level of assets that you would like to achieve?
- Social Status On a scale of 1 to 10, 1 being the lowest and 10 being the highest level of social status one has, answer the following section.
  - A.3.1 What is the level of social status you have at present?
  - A.3.2 What is the level of social status that you would like to achieve?
- Education
  - A.4.1 What is your current level of education?
  - A.4.2 What level of education you would like to (wanted to) achieve?
    - \* 00 - Katchi/Pacci
    - \* 01 - Grade 1pr
    - \* 02 - Grade 2
    - \* 03 - Grade 3
    - \* 04 - Grade 4
    - \* 05 - Grade 5
    - \* 06 - Grade 6
    - \* 07 - Grade 7
    - \* 08 - Grade 8
    - \* 09 - Grade 9
    - \* 10 - Grade 10
    - \* 11 - Grade 11
    - \* 12 - Grade 12
    - \* 13 - Incomplete higher secondary (not university)
    - \* 14 - Complete higher secondary (not university)
    - \* 15 - Incomplete university
    - \* 16 - Complete university
    - \* 17 - MBBS Doctor

- \* 18 - Engineer
- \* 19 - Lawyer
- \* 20 - Scientist
- \* 21 - Diploma
- \* 22 - Adult literacy program
- \* 23 - Other literacy program
- \* 24 - Deeni Madrassa
- \* 25 - Never enrolled
- \* 26 - Dropped out without completing Grade 1
- \* 99 - Not applicable
- \* Others (Please Specify)