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# **Opportunity without Organization: Labour Mobilization in Egypt after the 25th January Revolution<sup>1</sup>**

**Christopher Barrie and Neil Ketchley<sup>2</sup>**

## **Abstract**

Prevailing understandings of labour protest and strikes take as their focus stable democratic settings where autonomous trade union structures are an established component of the organizational resources available to workers. We extend the analysis of labour mobilization to a radically different context: Egypt in the year of the 25th January Revolution, when workers mobilized en masse in the absence of union leadership. For this, we use a catalogue of 4,912 protest events reported in Arabic-language newspapers. Our findings point to evidence of cross-sectoral demonstration effects in contexts of political disorganization—local and national mobilization advancing both labour and non-labour demands is associated with subsequent labour protest. This speaks to the value of understanding labour protest and strikes not as delimited domains of action but as parts of a wider universe of contentious politics. In addition, state-level signals of opportunity and shifts in economic conditions are also found to pattern the incidence of labour mobilization.

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## **1 Introduction**

The Russian Revolution of 1905 would first alert contemporaries to the potential potency of the strike as a vehicle for social revolution. The mass strike, in such readings, was the “living pulse-beat of the revolution” (Luxemburg 1906) and held out the potential for wholesale transformation of society. Yet despite the revolutionary origins of labour mobilization, the literature on the dynamics of labour protest has overwhelmingly focused on Western liberal-democracies, where trade unions are an established component of the organizational landscape and labour activism is in historic decline (Biggs 2015). This ignores authoritarian contexts wherein workplaces retain a central position in the ecologies of contentious politics, but trade union organizations are hollowed out or intended as instruments for state control (Robertson 2007, 2011). In consequence, we are rarely able to explain the dynamics of labour activism during transitions away from authoritarian rule, when workers mobilize in the absence of effective trade unions and clearly defined oppositional hierarchies (Beinin and Duboc 2013).

In order to address this lacuna, we examine labour protest in Egypt between 2011 and 2012. This period coincides with the 25th January Revolution, when mass street protests ousted President Hosni Mubarak. As several studies have chronicled, the post-Mubarak transition witnessed a sustained wave of labour mobilization that far outstripped levels of protest seen in the country’s modern history (see Sallam 2011; Beinin 2013; Beinin and Duboc 2013; Alexander and Bassiouny 2014). However, previous analysis has not accounted for variation in where and when labour protest occurred. Here, a close examination of the Egyptian case provides an opportunity to extend the literature on labour mobilization to a non-Western setting where union leadership is effectively absent, while also illuminating the dynamics of labour activism following a democratic breakthrough.

To conduct our analysis, we draw on a catalogue of 4,912 protest events derived from Arabic-language Egyptian newspapers. To account for the social contexts of mobilization, we locate protest events in their census district. The dependent variable is the number of participants in labour protest in a district week. A body of scholarship stresses the endogenous nature of strike waves, when workers take inspiration from the actions of others. We examine this by using spatially-weighted and temporally disaggregated event data to analyze the effects of proximate mobilization on subsequent labour protest. A dominant strand of the literature on labour activism points to changes in economic conditions, and so we also measure the effect of unemployment and food prices on protest participation. Finally, political process theories suggest that protestors mobilize and demobilize in response to signals of political opportunity, and this leads us to examine the effects of state repression and other public shifts in the regime's stance to workers' grievances.

We find that districts experienced higher levels of labour activism following mobilization in neighbouring districts, which we interpret as evidence of demonstration effects. Importantly, demonstration effects came from both labour and non-labour protest, and these dissipated with distance. Demonstration effects are also detected at the national level: large and highly public protest in the iconic venue of Tahrir Square could stimulate labour mobilization elsewhere, while the repression of protest had a suppressant effect. Consistent with the expectations of the literature, there is also evidence for protest responding to state-level signals of political opening during the post-Mubarak transition. However, given the highly contentious and chaotic nature of the post-revolutionary transition, such signals were often contradictory: political opportunities had both a galvanizing and suppressant effect within a short time frame. We also show how, contrary to the expectations of the literature, rising food prices functioned to suppress protest.

Taken together, these findings deepen current understandings of the position of contentious collective action during episodes of democratization (Rueschemeyer, Stephens, and Stephens 1992; Bermeo 1997; Collier 1999; Haggard and Kaufman 2016, Kadivar and Caren 2016) by unpacking a case in which massive labour protest nonetheless remained parochial, fragmented, and to a large degree sidelined from the unfolding political process (see also Ekiert and Kubik 1999; Robertson 2004). In Egypt, the hollowing out of trade union structures and other worker organizations under conditions of authoritarianism meant that workers principally took their cues from the actions of visible others. The absence of a centrally guiding hand ensured that workers mobilized in a piecemeal fashion, framing their demands in the context of their workplace and typically failing to coordinate their activism with other sectors and actors. Here, the role played by non-labour protest in inspiring labour activism holds out an implication of key importance for scholarship on labour and collective action more generally: in contexts of organizational weakness, labour protest and strikes should not be studied as a discrete domain of action but as elements of a wider set of “contentious forms” (McAdam, Tarrow, and Tilly 2001).

## **2. Labour mobilization in Egypt**

The sheer scale of labour protest witnessed in Egypt after the fall of Mubarak is all the more notable for the apparent lack of organizational resources available to Egyptian workers in the post-Mubarak transition. In what follows, a first section is devoted to the organizational composition of the labour movement in Egypt, while a second gives details of the role of labour in the 25th January Egyptian Revolution and its aftermath.

## 2.1 Egyptian Trade Union Federation

The Egyptian Trade Union Federation (ETUF) was Egypt's sole legal trade union organization at the time and had a pyramidal structure consisting of a national executive committee, 23 general unions for broad sectors of industry, and so-called 'union committees' at a workplace level.

These unions were not representatives of workers' interests, however. Under Mubarak, the ETUF had been "an arm of the regime" (Beinin and Duboc 2013: 207), and the unions comprised by the ETUF "played no collective bargaining role but were rather used as instruments for political control" (Bishara 2014: 2). The 23 general unions making up the ETUF had "full rights to conclude collective agreements, conduct collective-bargaining and manage the activities of the lower-level union committees" (Alexander and Bassiouny 2014: 132).

Workplace union committees, the only body with a limited rank-and-file mandate, were not permitted to call strikes (ibid.: 140). Still, union committees, while often peopled by regime cronies, did occasionally rally behind workers. However, even if they supported strikes, these committees were "completely unable to mobilize any of the resources of the federation on their behalf" and organizers during Mubarak's tenure were frequently subjected to punitive measures, including demotion and dismissal (ibid.: 139).

Union committees within the ETUF structures were of two sorts – 'professional committees' (*ligan mihniyya*) and 'workplace committees' (*ligan al-munshaat*). Among the 3.8 million workers considered members of the ETUF, around a third of these were organized into professional committees that were made up of workers employed in similar professions across large areas of Egypt and constituted little more than paper memberships (Alexander and Bassiouny 2014: 144). Most significantly, available statistics indicate that in the period leading

up to the 25th January Revolution, the overwhelming majority of workplaces in Egypt lacked organization altogether. Out of 16,758 registered workplaces across all sectors (public, public-business, and private), there are records of just 1,554 workplace committees, meaning that less than ten percent of workplaces could boast any official form of union organization at the beginning of Egypt's parlous transition away from authoritarian rule (ibid.: 146). As Alexander and Bassiouny conclude, "[t]he absence of trade-union organization was therefore the rule and not the exception" (ibid.).

## **2.2 Democratic breakthrough**

Despite a lack of independent trade unions, the years before the 25th January Revolution did see episodic mobilization by workers and public sector employees, which played out against a backdrop of intensifying anti-regime opposition (Gunning and Baron 2013). However, this would pale in comparison with the scale of mobilization that followed the events of January-February 2011. Figure 1 shows the size and frequency of protest in the year before and after the 25th January Revolution.<sup>1</sup> As should be clear, the breakthrough in February 2011 unleashed an unprecedented wave of protest, as Egyptians of various political orientations and backgrounds sought redress for their grievances.

[Figure 1 about here]

The role of organized labour in the eighteen days of mass protest that began on 25 January 2011 and which led to Mubarak's overthrow, is indicative of the energetic but frequently uncoordinated nature of labour mobilization in Egypt. In contrast to the situation in Tunisia where the national trade union federation played a crucial mobilizing role in the protests leading to Zine El Abidine Ben Ali's removal (Allal and Geisser 2011), the ETUF continued to pledge

their fealty to Mubarak. As a result, Egyptians participated first as citizens and only later as workers (Alexander and Bassiouny 2014: 193; Beinín 2016: 108). Worker protests would only really take off after 6 February 2011, following Mubarak's decision to reopen public sector institutions, closed from 28 January to 5 February in response to escalating and increasingly unruly protest. From 7 February to 11 February, there were at least 113 labour protest events involving over 100,000 workers, with the mobilization reaching its zenith on Thursday 10 February, the end of the Islamic working week and the day before Mubarak's removal from office.

[Figure 2 about here]

Interestingly, this surge in labour activism does not appear to have derived from a concerted effort on the part of organized labour movement to take the revolution to the workplace. Instead, most employees and workers advanced limited and parochial demands relating to wages, contracts, and management. Here, the upturn in labour protest is likely better explained as a response to the fracturing of the repressive state apparatus and the clear opportunity this presented for workers to make their own labour-specific claims (Ketchley 2017). Nonetheless, workers no doubt recognized the significance of their continued protest in the face of calls for calm, and there is some evidence that labour protests took up broader revolutionary demands (Alexander and Bassiouny 2014: 201). Still, measured in terms of participation, labour protest during this period constituted only a small fraction of Egyptians taking to the streets (see Figure 2).

[Figure 3 about here]

Turning to the post-Mubarak transition, it is striking that the so-called 'Eighteen Days' was also the only time in 2011 that workers mobilized en masse simultaneously across sectors. In

the months that followed, while there were some isolated instances of national labour mobilization within sectors, workers' collective action did not exhibit any significant cross-regional and cross-sectoral coordination. This began to change towards the end of 2011, when episodes of labour protest began to take on national dimensions with greater frequency, notably in late-September and early-October, when teachers, postal workers, and junior doctors launched a series of protests and strikes (see Figure 3). Some of these, notably the teachers, had by that point organized into independent unions; a factor that may well have facilitated a greater degree of coordination (Alexander and Bassiouny 2014: 230-1). Still, of the 2,217 labour protest events recorded following Mubarak's fall, just 351 showed signs of national coordination (16 per cent).<sup>2</sup>

[Figure 4 about here]

Nonetheless, the scale of mobilization in the period after Mubarak's removal was massive (see Figure 4). Of the 4,912 protest events recorded in the event catalogue that we go on to analyze, labour protest events make up 2,361 (48 per cent). Comparing this figure to the frequency of labour actions during Mubarak's tenure, the year following the 25th January Revolution witnessed an increase of nearly 5 times on the mean level of labour protest seen over the five years prior to 2011 (see Beinin and Duboc 2013). Out of these labour protest events, 646 were strikes, representing an increase of nearly 6.5 times the average of the preceding five years.<sup>3</sup>

For the purposes of our analysis, it is important to note that despite the prevalence of labour protest during this period, there were only some limited signs that labour was making gains in the post-revolutionary political process. One principal example came in early-March when Ahmad Hasan al-Bura'i—a long-time advocate of independent unions and professor of labour law—was installed as the new Minister of Manpower. On March 12, al-Bura'i made a

speech, widely reported by Egyptian news media, that trade unions would have the right of independent organization. The significance of such an announcement cannot be overstated. Egypt's labour movement had been subject to ETUF control since 1957 and the move toward independent labour organization represented a new and revolutionary development.

Just ten days later, however, on 24 March, the Supreme Council of the Armed Forces (SCAF), who had taken interim control following Mubarak's ouster, published a decree that introduced sanctions for anyone engaging in protest activity that "prevents, delays or disrupts the work of public institutions or public authorities" (cited in Beinín 2012: 9). Over the course of 2011, workers were mobilizing despite near constant allegations from the SCAF and state news media that their demands were threatening the national economy (Sallam 2011). Political alliances were also hard to come by, with parties notionally supportive of workers' interests giving their backing to anti-strike laws (Beinín 2012: 18).

The most significant period of resurgent mobilization came in mid-November 2011, after the SCAF made a constitutional power-grab in an attempt to arrogate further power to itself in the run up to parliamentary elections. In response, mass protests were held in Tahrir Square on Friday 18 November. For the next week, in what became known as the 'Events of Muhammad Mahmud Street', running street battles were staged in Tahrir and its outskirts, with simultaneous protests taking place in numerous governorates across Egypt. This was "the most serious and sustained challenge to military rule following Mubarak's ouster" and was faced down with brutal, and very public, repression (Ketchley 2017). However, during this same period, the ETUF, supported by the SCAF, was embroiled in an ultimately successful effort to force the removal of individuals sympathetic to independent unions (installed by al-Bura'i) from the ETUF executive. Al-Bura'i would later resign in protest. Following Muhammad Mahmud, the

most organized force in Egyptian politics—the Muslim Brothers—received assurances from the SCAF that a provisional timetable for the transfers of power to an elected government would be adhered to and publicly committed themselves to eschewing street-level mobilization in favour of electioneering (ibid.). The beginning of the elections period from 28 November onwards coincided with a large decrease in mobilization. The failure of the Muhammad Mahmud protests to achieve their aims and the shift in attention to mobilizing votes over protests coincided with a fall in protest activity.

What is the overall picture of labour mobilization during this period? Labour protest, in the main, was parochial, sectoral, and labour-specific. In this, patterns of labour protest seem to mirror those that predominated in the pre-Mubarak era (Abdalla 2012: 3; Beinin and Duboc 2013: 224), even if the scale of labour mobilization was far greater. In the absence of a nationally competent trade union structure, the labour movement had a hard task participating in the overall political process. Within electoral politics, labour had little voice, and any hope represented by the appointment of al-Bura'i was soon extinguished. A newly confident labour movement sought to loosen restrictions on union organization over the course of 2011 but such efforts were faced with countervailing pressures from the SCAF, and only really began to bear fruit towards the end of the year (Beinin 2013). Over the course of the year as whole, the broader tenor of the political process was characterized by an opposition to mobilization by workers that was denounced as special interest and a menace to the post-Mubarak transitional process.

### **3 Theorizing labour mobilization**

If the conditions for Egyptian workers in the first year of the post-Mubarak transition were not particularly favourable, their continued mobilization presents us with a puzzle—why did workers

continue to mobilize and what was driving variation in the incidence of such protest? With that puzzle in mind, the next section surveys the literature on labour mobilization in an effort to elaborate a set of testable explanations for the trajectories of labour protest in Egypt in the aftermath of the 25th January Revolution.

### **3.1 Demonstration effects**

An attention to demonstration effects is common to sociological analyses of strike waves. In their study of the spread of French coal mining strikes, Conell and Cohn (1995) make explicit the shared mechanisms shaping the diffusion of both social movements and labour action. The claim made in understandings such as these is that strikes can, in and of themselves, serve as signals and carriers of information, thereby enabling the proliferation and escalation of strike activity. Eschewing assumptions of perfect information as well as attempts to model information asymmetry, these authors contend that strikes always occur in conditions of uncertainty and that aggregate-level analyses neglect the endogenous and diachronic elements of workers' collective action (Conell and Cohn 1995; Biggs 2003, 2005). Put simply, strikes stimulate other strikes and, in their capacity to catalyse further protest and diffuse more widely, can be understood in the same or similar terms as the diffusion of other forms of protest and more transgressive contention (e.g., Myers 1997; Andrews and Biggs 2006). Thus, echoing work in the social movements literature on the diffusion of successful protest tactics (Oberschall 1989; Soule 1997), scholars have argued convincingly that the onset of a labour protest stimulates other workers to consider similar paths of action by providing them with information that conditions are favourable, thereby increasing the likelihood of a protest occurring elsewhere (Conell and Cohn 1995; Biggs 2003, 2005; Jansen, Sluiter, and Akkerman 2016).

Conceptualized in this way, we begin to see that strikes, and labour action more generally, might be understood as one part of a broader universe of "contentious forms" (McAdam et al. 2001). Indeed, the endogenous mechanisms of interaction and inspiration undergirding strike waves share more than a family resemblance to those observable in the waves or clusters of heightened contentious activity identified by social movement scholars (Oberschall 1989; Oliver and Myers 2003; Tarrow 2011). A key implication of this line of thinking is that contentious episodes such as strike waves need not be studied in isolation and that, during 'waves' or 'cycles' of sustained and widespread contention, labour action and strikes may be seen to interact with diverse other forms of contentious behaviour (Rasler 1996; Isaac and Christiansen 2002; Isaac, McDonald, and Lukasik 2006).

Importantly, there is evidence to suggest that organizational weakness increases the likelihood of actors to respond to short-term stimuli in the form of other protest. Conell and Cohn (1995: 372), in their work on strike waves, find that union organization "makes strikes less capable by themselves of provoking imitative striking" as, in such circumstances, union leaders are more likely to fulfill any date-setting function for protest. Further, Robertson (2004: 256) argues that when labour movements are weak, labour protest is likely to be "isolated and localized", often taking the form of wildcat strikes (see also Valenzuela 1989). Localized protests such as these are more spontaneous, lacking in formal leadership, and responsive to immediate signals of opportunity and threat (Snow and Moss 2014). Kurt Weyland, in his (2012) account of the cross-national diffusion of protest during the Arab Spring, advances a related claim that the speed with which protest spread from Tunisia to other countries of the Middle East and North Africa during this period can be partly attributed to organizational weakness in these countries. In the absence of such organization, the "cognitive heuristics" of protesters are short-termist and

overconfident, Weyland contends. Lacking "authoritative cues", in the form organized leaderships and movements, by which to judge the possibilities of contention, protesters thus rely on more immediate cues in the form of proximate protest. For our purposes, Egypt provides us with an ideal test case through which to examine the formative role of demonstration effects in patterning labour mobilization in conditions of organizational weakness.

### **3.2 Economic conditions**

Conversely to the literature cited above, economic explanations of strikes stress exogenous conditions. A foundational argument from labour economics concerns fluctuations in the business cycle and the attendant impact on workers' bargaining power. This argument, originally advanced by such figures as Charles Rist (1907) and Albert Rees (1952), has it that workers will strike for better wages when their bargaining power relative to management is increased as a consequence of upturns in the business cycle—normally proxied by unemployment rates (Ashenfelter and Johnson 1969). The mobilization context in Egypt was radically different from that forming the basis of the above business cycle explanations. The limited future generalizability of economic understandings of strikes to contexts outside of North America and Western Europe was, in fact, noted early on (Snyder 1975: 264; Cohn and Eaton 1989: 652). Unfortunately, as Robertson (2007: 2011) concludes, labour mobilization in non-democracies and outside of established representative trade union structures has received scant scholarly attention.<sup>4</sup>

Robertson (2007) takes as his focus labour mobilization in the 'hybrid' regime of post-Communist Russia, arguing that workers mobilize as a result of "political bargaining games" or in response to drastically worsening conditions. Of particular relevance is the suggestion that

where unions are absent or intended for control, labour protest can be seen, in a way similar to wildcat strikes, as responding to severe economic hardship (ibid.). Recent scholarship has also pointed to an association between economic breakdown and increased protest, including labour protest and strikes (Caren, Gaby, and Herrold 2017). Notably, such grievance-based theories of labour mobilization run counter to the bargaining models outlined above. Here, the argument is that a pronounced deterioration in economic conditions motivates labour mobilization, not labour's strengthened position in relation to employers.

A related body of scholarship stresses the macrostructural precipitants of protest cross-nationally. In particular, scholars have pointed to aggregate-level trends in food prices as predictors of mobilization. While noting that there is no mechanistic relationship between such economic indicators and the outbreak of protest, Gunning and Baron, for example, identify rising world food prices as coinciding with both the cycle of contention beginning in Egypt in January 2011 and the protests and strikes in the industrial region of Mahalla al-Kubra in 2008 (2013: 133-35). A wider body of literature points to rising food prices globally as a predictor of protest waves cross-nationally (Sternberg 2012; Malik and Awadallah 2013; Hendrix and Haggard 2015). These understandings share much with the economic hardship model of strikes outlined above. The timing of protest, this mode of analysis implies, is at least in part grievance-led, with the scale of mobilization associated with generalized downturns in economic conditions.

### **3.3 Political opportunity**

While the majority of labour scholars treat strikes and labour protest as a discrete field of action separate from wider forms of protest, Shorter and Tilly observed that dramatic escalations of labour action in the form of strike waves often coincide with periods of political crisis (1974: ch.

5). This line of argument, extended by Sidney Tarrow, recommends that major upturns in labour protest in the form of strike waves be understood in relation to favourable openings in ‘political opportunity structures’ exemplified by such events as Roosevelt’s New Deal or the coming to power of the Popular Front in France. This, Tarrow argues, helps us to explain why many workers continued to strike during periods of economic downturn as changes in policy orientation or government signaled a newly propitiatory approach to labour relations and reduced chances of repression (2011: 162).

The use of political opportunity in the literature is notoriously slippery (Meyer and Minkoff 2004). We follow Tarrow’s (2011: 163) definition of opportunities as “consistent—but not necessarily formal or permanent—dimensions of the political environment or of change in that environment that provide incentives for collective action by affecting expectations for success or failure.” We anticipate changes in expectations of success, following McAdam’s (1996) typology, to result from: openings in the institutionalized political system signaled by episodes of mass mobilization (e.g., the eighteen days of the 25th January Revolution and periods of resurgent mobilization like the events of Muhammad Mahmud Street); the emergence of elite allies (e.g., the installation of al-Bura’i as Labour Minister), and repression.<sup>5</sup> In addition, at the time of elections, the literature would suggest that politics moves indoors as attention turns to electioneering and away from street-level mobilization (Oxhorn 1994; Hipsher 1996).

The use of repression as a measure of closing opportunity requires further elaboration. Understood as the opposite of opportunity, repression discourages protest as it signals a reduced willingness on the part of authorities to hear protesters’ grievances, while the experience of repression increases the perceived or expected costs of mobilization on the part of contentious actors and bystanders, leading to demobilization. The question of the effects of repression on

collective protest is, however, a vexed one with both positive and negative associations between repression and mobilization accounted for in the empirical literature (see Earl 2011).

Nonetheless, studies pointing to increased mobilization in the wake of repression often do so by stressing the organizational underpinnings of backlash (Francisco 2004) or ‘micromobilization’ processes wherein negative selective incentives function to encourage mobilization in the face of increased repression (Opp and Roehl 1990; Rasler 1996). Given the pervasive organizational weakness that characterized labour mobilization in Egypt, we might reasonably expect that opportunity-based explanations will likely provide a better fit for the case in hand.

#### **4 Data and method**

The foundational data source used for this paper is an event catalogue (Tilly 2002) hand coded from Egyptian newspaper sources comprising information on 4,912 protest events. In identifying protest events, we follow the definitional criteria provided by Horn and Tilly (1988) for contentious gatherings as “occasions on which at least ten or more persons assembled in a publicly-accessible place and either by word or deed made claims that would, if realized, affect the interests of some person or group outside their own number.” Following McAdam, Tarrow, and Tilly (2001), we take a deliberately expansive view of labour mobilization, which is defined as any protest undertaken by persons making contentious claims on their employers.

The principal source used was the Arabic-language Egyptian daily newspaper *al-Masry al-Youm*. Events were recorded for the period January 1 2011-January 1 2012. We focus on the first year of the transition, when Egyptians mobilized in the absence of any elected institutions. This opportunity structure was reconfigured in January 2012 with the election of an Islamist-dominated parliament, in turn presaging a new stage in Egypt’s democratization, with organized

political Islam coming into conflict with the Mubarak-era judiciary and military junta. During periods of particularly high mobilization, e.g. the eighteen days of January 25-February 11 and the events of Muhammad Mahmoud Street, two other newspapers—*al-Dostor* and *al-Shorouk*—were also coded in order best to combat underreporting and so-called ‘news hole’ effects (Oliver and Maney 2000).<sup>6</sup> For each separate protest event on a given date, information was recorded on participation, location, repertoire (strike, demonstration, sit-in, occupation etc.), organizer, repression, and demands. In analyzing participation, we take lessons from Biggs (2016) who notes the inadequacy of event counts given the large variation in participation often seen from one event to the next. When precise figures were not given, protest reports would, as a matter of routine, report protest participation as tens, hundreds, thousands, or hundreds of thousands. On these occasions, we follow the coding convention outlined in the European Protest and Coercion Dataset, compiled by Ronald Francisco (n.d.).<sup>7</sup>

[Figure 5 about here]

The detail of reporting permits a high degree of spatial and temporal disaggregation when conducting the analysis. Egypt comprised, as of 2011, 27 governorates that in turn were subdivided into over three hundred census districts. The 330 census districts for which social context information is available to us are used in the analysis below. Each protest event was located in its census district. Figure 5 maps participation in labour protest across census districts. In total, of an original 4,925 entries in the event catalogue, 13 events had participation less than ten and were dropped from the analysis, 192 could not be located in a specific census district, while 36 protest events were in census districts for which no social context information was available, thus leaving  $n= 4,684$ . For the purposes of the analysis, a dataset was constructed that

included observations for each census district and day of 2011, subsequently aggregated by week, giving  $n= 17,160$ .

#### **4.1 Dependent variable**

For the main model, the dependent variable is participation in labour protest events and the unit of analysis is the district-week. An event is coded as a labour protest according to the multiple identifying criteria available in the event catalogue. If the repertoire is a strike, the event is automatically coded as labour. Otherwise, the event is identified as labour according to the recorded organizer (e.g., workers/employees) or demand (e.g., better wages/permanent contracts). The dependent variable is thus a count variable, for which negative binomial regression is used. This is preferred to Poisson regression for its ability to account for problems of overdispersion in the data by introducing an additional parameter that allows the variance to differ from the mean. We use random effects in order to account for the panel structure of the data. The exposure term is measured as the population employed in a given census district. We prefer random effects to fixed effects because of known problems with the validity of fixed effects count models (Hilbe 2011; Reuter and Robertson 2015). Subsequent models use fixed effects, and a number of alternative specifications of the headline dependent and independent variables, in order to provide a measure of robustness.

#### **4.2 Independent variables**

[Table 1 about here]

Table 1 provides descriptive statistics for all independent variables (Table A.1 is the correlation matrix). To test for demonstration effects, three variables capturing different aspects of protest are entered at the district- and national-levels. These variables are counts of protest participation,

and are lagged by one week. The first variable measures the number of participants in labour protest events in nearby districts at  $t-1$ . The second protest variable measures participation in non-labour protest in nearby districts at  $t-1$ . Non-labour protest is defined as any protest that is not counted as labour and includes protest by activists, political parties or local residents. If other instances of contentious street-level mobilization provide a signal to workers that protest constitutes a legitimate and viable means of making claims, we should expect that both of these variables will have a positive effect on labour protest participation at time  $t$ . To measure the occurrence of labour and non-labour mobilization in neighbouring districts, we use a binary spatial weighting matrix that captures participation in nearby districts falling within 10km of the centroid of the target district. Here, we take lessons from recent scholarship on protest and violence, which have explicitly incorporated spatio-temporal lag terms to model the endogenous dynamics of contention (e.g. Osorio 2015; Aidt, Leon, and Satchell 2017).<sup>8</sup>

The third protest variable measures participation in protests in Tahrir square at  $t-1$ . Tahrir square became the symbol of the 25th January Revolution and, over the course of 2011, the site of frequent large-scale protests, often held on Fridays. These protests received front-page coverage and represented key episodes in the timeline of the revolution. State security forces also made multiple attempts at clearing the square of protesters and occupiers in the aftermath of Mubarak's ouster. In this sense, it became a status marker for the revolution, and continued mobilization in Tahrir could be understood as a signal that contentious collective action remained an accepted and prevalent mode of articulating grievances. We expect diminishing marginal returns from increased protest participation at  $t-1$ , and so these three protest participation variables are square rooted. Here, the differential effect of a protest of 1000

compared to a protest of 10 is likely to be large, whereas the effect of an increase in participation from 100,000 to 150,000 is likely negligible.

Two economic indicators test for the effects of rising food prices and unemployment. For this, available data on quarterly unemployment rates and monthly food price inflation are used. Data for food inflation and unemployment rates were taken respectively from publicly available statistics provided by the Central Bank of Egypt (n.d.) and the Egyptian Central Agency for Public Mobilization and Statistics (CAPMAS, n.d.). Food inflation rates are measured as the percentage change in food prices in a given month compared to the same month in the previous year. The unemployment rate is calculated as the number of unemployed persons as a proportion of the total labour force. Both of these variables represent national aggregate measures. Food inflation rates in Egypt were positive and highly volatile throughout 2011, with a high of 21.66% in April and low of 8.67% in October. Unemployment rates increased by three per cent to 11.9% in the first quarter of 2011, and by another 0.5% in the last quarter.

Dummy variables for salient subperiods are included to measure the effects of broad openings in opportunity. Two time periods of particular interest are the final week of the 25th January Revolution when workplaces were reopened in the context of mass protest and the Muhammad Mahmud protests of November 19-25. Including dummies for these periods gives us an idea of the character of labour mobilization and the opportunities to which it was responsive. The final week of the Revolution represented the most public fracturing of the state and a clear opportunity for workers to take advantage of a degraded repressive apparatus, after nearly a quarter of the police stations in the country were burnt down (Ketchley 2017). As for Muhammad Mahmud, the SCAF had shown itself throughout 2011 to be doggedly opposed to the demands of the labour movement, and mobilization against them presented workers with a

chance to strike back. Dummy variables coded 1 for the weeks falling inside these time periods are used. A third time period more specific to labour mobilization comes after the appointment in early-March of Ahmad Hasan al-Bura'i as Minister of Labour. A dummy variable coded 1 for the two weeks following al-Bura'i's appointment is included to measure any effect. As noted above, however, the SCAF would follow up on such moves by introducing an anti-protest law two weeks later. A dummy for the two weeks following this move is also included, as is a dummy variable coded 1 for the period of the first elections (28 November onwards).

Finally, to account for the effects of repression we include a national measure of participation in repressed protest events at  $t-1$ . The relatively small number of protest events repressed means it is not possible to differentiate between different forms of repression. Overall, 398 events in the event catalogue were met with repression of some sort, and 42 of these were labour events. Of the repressed labour events, the majority involve the police or armed forces intervening to force the break up of an occupation or protest or to demand that a strike be called off. Events are coded 1 if the protest event is met with any form of force, which includes crowd control by army/police (including use of batons), use of tear gas, birdshot or live ammunition, and if arrests are made or protesters killed. Again, this variable is transformed to its square root.

### **4.3 Control variables**

Two social context variables measuring the percentages employed in manufacturing and public administration in each census district are used as controls. The data for the social context controls are taken from the 2006 Population and Housing Census conducted by CAPMAS (2006). To account for the underlying distribution of the workforce, we measure the percentage in a district employed in manufacturing and public administration. These variables are intended

to capture the employment make-up of each census district and proxy for broad categories of blue- and white-collar work. The straightforward expectation is that areas with higher percentages employed in either type of work can expect to see more labour mobilization. Each governorate in Egypt has a census district that represents its administrative centre. A large number of labour protests were staged outside the main administrative buildings of these centres. As such, a square root distance term from the administrative centre for each census district is also included as a control. The expectation here is that, all else being equal, protest decreases the further away a census district is from the administrative centre.

## 5 Results

[Table 2 about here]

The results are shown in Table 2. Models 1-5 employ negative binomial regression, with coefficients expressed as incidence rate ratios. Model 1 represents our headline model, while models 2-6 represent robustness checks of various sorts, the details of which are below. Turning our attention to Model 1, both labour and non-labour protest in nearby districts at  $t-1$  are shown to have a significant positive association with the rate of labour protest participation in a district at time  $t$ . Table A.2 in the Appendix demonstrates how the strength of this association diminishes with distance. This points to preliminary evidence of the presence of demonstration effects. Crucially, these signals derive from both labour and non-labour protest, thus demonstrating the importance of viewing labour protest within a broader framework of contentious politics.

Controlling for protest at the district-level and other contextual factors, increased protest in Tahrir Square at  $t-1$  is also significantly positively associated with district-level labour protest at time  $t$ . This provides us with another indication that demonstration effects were in evidence

during the post-revolutionary protest wave that swept Egypt. Protest and occupations in Tahrir Square, which would frequently amass tens if not hundreds of thousands of people, provided an effective status marker for the progression of the post-revolutionary political transition. The occupation of Tahrir Square thus provided a signal that contentious collective action remained a legitimate and viable mode of claim-making.

Both economic indicators show a significant negative association with labour protest. The direction of the effect for unemployment rates is consistent with bargaining power explanations of strike activity. Given the particularities of a post-revolutionary situation, however, it is worth qualifying this explanation. While workers' assessments of their bargaining power relative to management may have deteriorated as a result of rising unemployment, it is also important to take into account prevailing political conditions during the transitional period. From early on in the post-revolutionary political process, workers were mobilizing in hostile circumstances and accused of imperiling the stability of Egypt. Rising unemployment rates will have only exacerbated the perception that workers were responsible for economic downturn, thus rendering conditions even less favourable to mobilization. A more surprising finding, given the emphasis in the literature on grievance-based explanations of protest, is the negative effect of food prices. This result suggests that, in the context of a protest wave, rising food prices can actually lead to a decline in protest. One explanation for this, consistent with the findings for the effects of unemployment, would have it that individuals are less disposed to protest and risk foregoing wages in tightened circumstances.

All of the dummy variables for salient time periods point to significant effects. The final week of the 25th January Revolution and the installation of al-Bura'i as Labour Minister and his announcement of support for independent trade union organization both see a significant

increases in labour mobilization, while the announcement of anti-protest laws leads to a sizeable reduction in protest. The dummy for Muhammad Mahmud interestingly shows a negative effect in the wake of the Muhammad Mahmud protests, suggesting that far from mobilizing in solidarity in the wake of this opportunity, labour mobilization actually decreased. Muhammad Mahmud came at a time when independent labour organization and its representative in al-Bura'i were coming under attack from the ETUF executive supported by the SCAF.<sup>9</sup> This fact, combined with the absence of an organizational infrastructure capable of mobilizing Egyptian workers, helps explain the relative quiescence of workers during this major protest episode. Taken together, these opportunity dummies point to the chaotic and frequently uncertain mobilization context of a post-revolutionary situation. The dummy for the elections period demonstrates that this period is associated with a significant downturn in mobilization, when the exigencies of electioneering meant the energies of potential protesters were diverted elsewhere. The repression of protest at time  $t-1$  also leads to a marked diminution in the rate of district-level participation in labour protest at time  $t$ .

The social context controls behave largely as expected. There was greater mobilization in areas where a greater proportion of the population were employed in white-collar professions. There is also greater mobilization in areas with a higher percentage employed in manufacturing, though this result does not reach accepted levels of statistical significance in the main model. The geographical control for distance from the administrative centre indicates as expected that mobilization decreases the further away from the administrative centre.

Models 2-6 provide several tests for the robustness of our findings. Model 2 demonstrates that our findings are robust to the use of fixed effects.<sup>10</sup> A second test for robustness, shown in Model 3, uses a different measurement for the dependent variable. Our headline results outlined

above suggest that labour protest and, by extension, strikes interact with, and take cues from, contentious collective action undertaken by non-labour constituencies. One plausible objection to this argument would be that these findings pertain only to labour protest as a broad category that includes demonstrations, occupations, sit-ins etc., and not to strikes alone. To test this, we can replicate our analysis by confining attention to participation in strikes, as opposed to all labour protest. With the dependent variable set just to participation in strikes, the variables measuring nearby protest remain positive but lose significance, while the effect of Tahrir protest remains a substantive and significant predictor of participation in strikes, thus providing further evidence of cross-sectoral demonstration effects. In Model 4, we show that the results are robust to the use of different functional forms for the endogenous protest variables. Here, we use basic event counts for our dependent and independent variables in the place of participation and show that the effects of all our main explanatory variables remain unchanged. Model 5 includes only the endogenous protest variables, showing that these findings are robust to the absence of controls.

Finally, in Model 6, we use an explicitly spatial model.<sup>11</sup> A global Moran's I test for spatial correlation reveals significant clustering ( $p=.033$ ) in labour protest. Thus, in Model 6, we take lessons from recent advances in the spatial modelling of protest and violence (Osorio 2015; Aidt et al. 2017) and test the robustness of our results to the inclusion of a spatially autoregressive error term. Note that the coefficients in Model 6 are not exponentiated. Controlling for unobserved spatial dependencies in this way, the results are substantively unchanged.<sup>12</sup> Here, we use a basic binary contiguity weighting matrix for the error term. An Appendix section (Tables A.3 and A.4) includes alternative specifications of the spatial OLS models, including fixed effects, alternative weighting matrices for the endogenous protest variables as well as for the error term (contiguity and inverse distance), unit-level temporal lag

controls, and spatially autoregressive panel errors. Again, results remain substantively unchanged.

## **6 Discussion**

Before evaluating the implications of these results, a reflection on their limitations is in order. The robustness of the findings to the use of spatially autoregressive error models means we can have greater confidence that the observed associations between labour and non-labour protest are indicative of contagion rather than simply unobserved spatial correlation. Nonetheless, recent scholarship demonstrates the difficulties of parsing contagion and homophily between proximate spatial units (Shalizi and Thomas 2011), as well as the potential for unmeasured between-unit homophily to nullify any purported contagion effects (Braun and Koopmans 2010). As we note below, district-level social context measures were not available for some key measures. Further, lacking any obvious exogenous variation in potential contagion, as would be achieved in a quasi-experimental setting (e.g., Kern 2011), or a valid instrument of the sort used in recent studies (e.g., Pierskalla and Hollenbach 2013; Braun 2016), we cannot have complete confidence that we are accounting for unobserved confounders. What are the implications of this? One alternative interpretation of the results is that labour and non-labour protest behave similarly and respond to similar stimuli; a result still consistent with our overarching claim that, in conditions of organizational weakness, labour and non-labour protest should not be understood, contrary to much of the literature, as distinct forms of contention. It is worth also noting that while the effects of the endogenous spatio-temporal lag variables, which we interpret as contagion effects, may be confounded by spatial homophily, the consistent positive association of labour protest with (non-labour) protest at Tahrir square, and negative association with national protest

repression, does provide support for the argument that labour protest is responsive to both non-local protest dynamics and broader openings and closings in the opportunity environment for protest generally. Nonetheless, given the difficulties of identifying contagion, our results remain necessarily tentative, and await further empirical verification in comparable cases of labour mobilization in contexts of organizational weakness.

Unfortunately, there is also no data available on either the underlying membership of the ETUF, or the distribution of ETUF-controlled union committees across workplaces, and so we cannot account for unobserved differences in the organizational presence of the ETUF across the employed population.<sup>13</sup> There is also no systematic data on the size or ownership of specific industries or the nature of labour processes where protest is recorded (e.g. Jansen et al. 2016). This is an acknowledged shortcoming, as previous studies have found that the onset and amplification of strike activity is partly conditioned by the concentration of the workforce, with larger and more concentrated workforces more likely to strike (Shorter and Tilly 1974; Dixon and Roscigno 2003).

These limitations notwithstanding, the wave of protest that swept across Egypt in 2011 has provided us with a unique chance to assess the dynamics of labour mobilization in conditions of organizational weakness. By analyzing the scale of labour mobilization at the district level, we have been able to assess mobilization dynamics across 330 districts over each week of 2011.

The primary insight concerns the local- and national-level dynamics of interaction between labour protest and other forms of contention. Districts saw greater labour activism following both labour and non-labour contention in neighbouring areas. This suggests that demonstration effects provided signals of opportunity across diverse constituencies of protest. The mobilization of other protesters nearby provided a signal to unorganized workers that

conditions remained favourable for contentious collective action. These dynamics were, in turn, key determinants of temporal and regional variation in the incidence of labour mobilization. This finding points to the importance of understanding labour protest and strikes as part of a wider assemblage of contentious forms, and provides new insights into the dynamics of labour protest in conditions of organizational weakness. Current evidence points to the increased proclivity of workers to engage in imitative protest when organizationally weak. Egypt thus provides us with an ideal test case to examine the dynamics of labour mobilization in conditions of disorganization. And here we have suggestive evidence that, in the absence of a coherent organizational infrastructure, workers take their cues from the mobilization of visible others. By measuring protest over increasing distances, we also show how this effect dissipates.

Our results also show that protest in Tahrir Square could inspire labour mobilization elsewhere. Here, the patterning of protest in Tahrir, which represented an effective status marker for the revolution, also provided a signal to workers that contentious collective action remained a legitimate mode of communicating grievances. Thus, signals of opportunity endogenous to protest were operating at a national- as well as a local-level. Levels of repression, on the other hand, had the opposite effect, with an increase in protest repression leading to a downturn in labour mobilization. Food inflation was also negatively associated with labour mobilization, which goes against what would be expected from the literature on food prices and protest. Here, our findings suggest that, as food prices increased, individuals were less willing to take demands to the street. Aggregate increases in unemployment also had a dampening effect on protest, consistent with the expectations of the literature.

State level signals of opening and closing opportunity also predict labour activism in the Egyptian case, but not always in the way we would expect. Ekiert and Kubik claim that the

ephemeral situation in unstable transitory polities is better characterized as one of “unstructured opportunity” (Ekiert and Kubik 1998: 571), during which time clear signals of opportunity are hard to come by. The instability of the post-Mubarak polity meant that signals of opportunity originating from state officials during the democratic transition were often contradictory. Indeed, the political field in Egypt was a domain of competing institutional objectives, wherein newly elected leaders sympathetic to the labour movement were faced with countervailing pressures from the ruling military council. In such situations, consistent signals from elites at a state level were difficult to come by; oppositional hierarchies were in flux and the locus of power uncertain. Further, given the pervasive organizational weakness of the labour movement in Egypt, workers and their representatives in trade unions were clearly unable to set the agenda of the unfolding political process. When labour did make gains, most notably with the appointment of al-Bura’i as Labour Minister, these were frequently undermined by contrary pressures emanating from the SCAF. The increase and decrease in protest following such changeable signals is consistent with what we’d expect of a weakly organized labour force unable to set the agenda and mobilize in defence of its own interests, and tallies with the findings for the effects of repression. In the absence of any nationally competent organizational structure capable of channeling their energies in line with the unfolding political process, labour mobilization remained localized and labour-specific. In this, we see also how organizational weakness functions to limit the role of labour in processes of democratic breakthrough and consolidation.

A brief discussion of independent trade unions is appropriate here. Two principal organizations aiming to establish trade union federations independent of the ETUF emerged in 2011—the Egyptian Federation of Independent Trade Unions (EFITU) and the Egyptian Democratic Labor Council (EDLC). By the end of 2011, these claimed a combined membership

of over 3 million workers across approximately 400 unions. However, Beinin notes that these figures are almost certainly a gross exaggeration (2012: 17). Neither federation of unions had any presence in Egypt's largest industries, and the ETUF's membership of 3.8 million members was spread across more than 1,800 unions, meaning that the average workplace membership implied by the EFITU and EDLC figures of over 7,500 is not credible, especially given that the great majority of Egyptian workplaces do not count even in the tens of workers (ibid.: 11, 17). The paucity of information on labour actions conducted by these independent union federations and their actual presence in enterprises, beyond paper membership, again makes it difficult to measure their impact precisely. Matching available data on members of the EFITU to the event catalogue, however, we see that very few sectors outside the teachers, tax collectors and public transport workers who mobilized later on in 2011, had any affiliation with independent unions. Accounts of labour mobilization during 2011 also stress that often "[s]trike organisation... was broader than the membership of the independent unions" and involved a significant degree of worker self-organization even where paper membership of an independent union federation of some sort existed (Alexander and Bassiouny 2014: 226). Moreover, the efforts of the independent union federations, when not taken up by infighting, focused more on signing up new members and establishing an organizational infrastructure than they did on actually mobilizing workers (Beinin 2012: 16-17). Thus, while the lack of detailed data on independent union organization represents a drawback, it is likely not a significant shortcoming as labour mobilization during this period was generally characterized by self-organization outside of such overarching structures.<sup>14</sup>

## 7 Conclusions

What of the generalizability of our findings? In some senses the Egyptian case is a peculiar one for the scale and frequency of protest during this period. For the sort of short-term proximate signals emphasized in this article to be relevant in other cases of labour mobilization we would need to see similarly high levels of mobilization. Intense periods of escalated mobilization do, however, punctuate the historical record and when this happens scholars often note the inadequacy of exogenous factors in explaining their dynamics (Oberschall 1989; Franzosi 1995: 257-300; Kurzman 1996; Biggs 2003, 2005). Importantly, in these periods of “thickened history”, Beissinger (2002: 27) observes, protest events, in the speed and frequency with which they occur, “come to constitute an increasingly significant part of their own causal structure.” Our analysis continues in this tradition of stressing the endogenous dynamics of mobilization in conditions of mass uprising.

The Egyptian case does provide us with key insights into the dynamics of labour mobilization in conditions of organizational weakness, however. Our results indicate that mobilization of diverse actors nearby had a significant and substantively important effect on subsequent labour mobilization. In the absence of established organizations able to direct labour action and fulfil the date setting function normally carried out by trade unions, unorganized workers looked to the mobilization of others nearby, we argue, as signals of opportunity.

A proper assessment of the impact of organizational weakness on mobilizing patterns would require a comparative cross-national study of labour mobilization, or more data on the organizational characteristics of Egyptian industries than is currently available. Nonetheless, the findings for the Egyptian case, where union organizations were largely absent or impotent, do indicate forms of labour protest that are consequently short-termist and responsive to local-level

stimuli. In this, our findings provide important insights into the transitional role of labour. A large body of scholarship is devoted to the central role of labour organizations in processes of democratization (Valenzuela 1989; Rueschemeyer et al. 1992; Collier and Mahoney 1997; Collier 1999). Despite the prevalence of state-controlled 'legacy' unions in transitional settings (Caraway 2008), little is known of the functioning of labour in such settings when organizationally weak. The patterning of labour mobilization seen in Egypt suggests that when labour lacks trade union organization during a transition away from authoritarian rule, it may be subsumed within the broader mobilization wave and sidelined from the unfolding political process regardless of how massive its mobilization.

The effects of repression may also find explanation in the weak organizational underpinnings of labour mobilization. Most accounts of protest backlash stress the organizational foundations of resurgent mobilization in the wake of repression (Opp and Roehl 1990; Rasler 1996; Francisco 2004). The Egyptian case, conversely, provides us with an example of sustained mobilization in the absence of organization. Repression, in such conditions, likely represented one of the few clear signals that conditions were no longer propitious for mobilization.

Our findings also provide an important contribution to the literature on economic hardship that stresses the centrality of economic downturn to protest. In the case of labour mobilization, the association in the Egyptian case runs contrary to the expectations of this scholarship; rising food prices seem to suppress labour mobilization. Unemployment rates, consistent with the dominant literature, do seem to have a suppressant effect on labour protest. This is perhaps to be expected. Throughout the year, workers were mobilizing in hostile circumstances and their continued mobilization was touted as one the principal causes of

instability in the post-uprising period. Deteriorating economic conditions likely exacerbated the perception that conditions were not favourable to continued mobilization.

More broadly, we see what is missed by focusing solely on grievances. The rich qualitative literature on the role of labour during the 25th January Revolution generally takes as its focal starting point the acceleration of neoliberal “structural adjustment” programmes from 2004 onwards in Egypt. Of the 1,125 labour protests for which specific demands can be identified in the event catalogue, the vast majority pertain to wages, contracts, and management or ownership of a given industry.<sup>15</sup> Thus, the general character of labour mobilization does indeed show signs of grievances linked to the neoliberal restructuring of preceding years, during which wages decreased, fixed-term contracts were withdrawn, and industries were privatized. Grievances, however, are of limited utility for explaining variation in activism and while structural preconditions for mobilization are of import, this focus often functions to the neglect of the where, when and how of contentious collective action.

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<sup>1</sup> This figure combines our event data with the event data for 2010 to 2011 reported in Gunning and Baron (2013). The data for both periods derive from the same source—protest reports published in the Arabic-language Egyptian newspaper *al-Masry al-Youm*. Note that Gunning and Baron’s (2013) event catalogue ends on 1 January 2011. This leaves unexplained the role of labour mobilization during the 25th January Revolution and its aftermath.

<sup>2</sup> We use a minimal definition of national action to mean labour protest events involving the same set of actors (e.g., teachers or workers in the same industry) mobilizing in three or more governorates on the same day to advance the same or similar set of grievances. Protest events of this sort were also normally identified as cross-regional or national actions in the reporting itself.

<sup>3</sup> Here we follow the identifying criteria proposed by Shorter and Tilly (1974), for whom a strike wave is identified by any period in which the frequency of strikes in a given national unit exceeds the average of the previous five years by at least fifty per cent.

<sup>4</sup> Notable recent exceptions include Teitelbaum (2011); Teitelbaum and Robertson (2011); Agarwala (2013). Quantitative work on labour protest in the developing world is hampered by the unavailability of systematic union and strike data. Emmanuel Teitelbaum's "High Profile Strikes Dataset" (n.d.) represents one of the few attempts at overcoming this constraint.

<sup>5</sup> Tarrow makes the implicit distinction between what Meyer and Minkoff (2004) describe as ‘structural’ and ‘signal’ variants of political opportunity. While the former include stable elements of political environments conducive to differing forms of mobilization cross-nationally (e.g., Kitschelt 1986), the latter refer to proximate and changeable signals in the form of specific policies or political realignments. Here, opportunity is understood according

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to the signal variant. McAdam also cites the "stability of elite alignments" as a measure of opportunity. We prefer to focus on the presence/absence of elite allies since the "stability" or otherwise of elite alignments during the tumultuous transitional period is beyond our ability properly to operationalize, but see also footnote 9.

<sup>6</sup> As Egypt's largest private newspaper during this period, and one of the principle chroniclers of the 25th January Revolution and its aftermath, we found *al-Masry al-Youm* to be the most consistently reliable record of protest activity (see also Gunning and Baron 2013; Ketchley 2017 who use the same source). In the period under study, *Al-Dostor* and *al-Shorouk* were Egypt's other two leading private newspapers. The number of protests recorded in these newspapers compares extremely favorably with event catalogues derived from English-language news media. To give an example: the Armed Conflict Location & Event Data Project (ACLED), one of the most sophisticated cross-nation event datasets available to date, records 850 events in Egypt for 2011-12. Confining attention to protest events reduces this number to 654, equivalent to only 13 percent of our total sample. Our catalogue also records substantially more labour protests than data collected by Egyptian NGOs. Beinín (2013), for example, reports that there were nearly 1,400 labour protests in 2011, equivalent to around 60 percent of our sample of labour events.

<sup>7</sup> Following Francisco (n.d.), "tens" were coded as "31"; "hundreds" were coded as "301"; "thousands" were coded as "3001"; and so forth. Rarely, no participation figures were offered. Triangulation with different sources suggested that this was almost always due to the small size of the protest, suggesting that low numbers were not considered sufficiently newsworthy to report. On these occasions, participation was imputed from the repertoire. Strikes, marches, and demonstrations were coded as "301", occupations in public spaces were coded as "1001", while sit-ins and human chains were coded as "31". The same coding

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conventions are employed in Ketchley (2017). We re-run our analysis using aggregate counts of events, to ensure that our findings are not sensitive to imputation of participation.

<sup>8</sup> The median distance between a centroid and that of its nearest neighbour is 8 km (the mean is 16 km). For the main analyses, we thus elected to use a buffer distance of 10km. As the size of the buffer increases, more protest is captured. If the centroid of a neighbouring district is within the buffer distance, protest in this district is captured. Protest within the home district is excluded. These variables were calculated using the Vincenty formula available in the *geopy* Python package. We assume that demonstration effects are affected by distance, and so we conduct separate analyses in which we vary the radius of the buffer from 2 km to 20 km.

<sup>9</sup> One reading of this result, consistent with the third component of McAdam's four-party typology of opportunity cited above is that this period saw a destabilization of elite alignments, leading to a downturn in labour protest.

<sup>10</sup> It should be noted that the current statistical literature advises against the use of fixed effects negative binomial regression, as, currently formulated, it is not a true fixed effects model (see Hilbe 2011; Reuter and Robertston 2015). The fixed effects model drops rows with all zero values, which explains the reduction in observations and districts here.

<sup>11</sup> Model 6 and subsequent spatial OLS models in the Appendix were calculated using the *spxtregress* spatial modelling commands provided in STATA 15. The most up-to-date shape file obtainable for Egypt lacked coordinate information on 17 districts included in the main dataset, explaining the reduced number of districts in these analyses. In total, just 14 non-zero observations were lost as a result of this, with the highest participation in the dropped observations being 3150 (1 obs.), and second highest 1200 (1 obs.).

<sup>12</sup> Here, the dependent variable is transformed to its square root. The spatial OLS results are robust to alternative functional forms, including discrete event counts and cube root

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transformations. Note that a log transformation is not viable given the large number of zeros in the dataset. The results are also robust to the addition of a simultaneous spatial lag of the dependent variable.

<sup>13</sup> Expectations relating to the effect of state-controlled unions on mobilization could run in two directions. A first sees that industries with an ETUF union committee had at least some form of (rather than no) union organization, even if it was ETUF-controlled, which could be supplanted and redirected to represent workers' interests, thus leading to heightened chances of mobilization. This was notably the case for the massive strike in the Ghazl al-Mahalla textile factory of 2006 (Beinin and Duboc 2013; Alexander and Bassiouny 2014: 97-124). Contrariwise, we know that ETUF union leaders often opposed strikes and invited sanctions on insubordinate workers, thereby potentially constraining protest.

<sup>14</sup> This is reflected in qualitative accounts of labour protest during and after 25 January, which emphasize the degree of spontaneity and self-organization involved. Alexander and Bassiouny comment that "[t]he [2011] strike wave was 'spontaneous' in the sense that it was mostly organic strike organisation within the workplace" and was partly an "instinctive reaction by hundreds of thousands of workers to the opening of an opportunity to settle accounts with their bosses and win concessions as a result of the crisis of the regime" (2014: 203). Rather than being provided by a trade union structure, leadership seems to have come about in the process of contention itself. Beinin and Duboc cite one strike leader who commented that "[s]trike leaders... are created during the strikes. They are called natural leaders because they come from the ranks of the workers and the workers gather around them, spontaneously" (2015: 6).

<sup>15</sup> The categories of grievances were taken from Alexander and Bassiouny (2014: 212).

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Table 1: Descriptive Statistics

	Mean	Std. Dev	Min.	Max.
Labour protest	59.797	687.211	0	40790
Labour protest ( $\sqrt{\quad}$ , $t-1$ , 10km)	7.412	22.544	0	235.187
Nonlabour protest ( $\sqrt{\quad}$ , $t-1$ , 10km)	25.192	100.815	0	1172.274
Tahrir protest ( $\sqrt{\quad}$ , $t-1$ )	185.283	265.489	0	1167.621
Food inflation	15.806	4.398	8.67	21.66
Unemployment rate	12	0.235	11.8	12.4
Last days	0.019	0.137	0	1
al-Bura'i	0.038	0.192	0	1
Muhammad Mahmud	0.019	0.137	0	1
Protest law	0.038	0.192	0	1
Repression ( $\sqrt{\quad}$ , $t-1$ )	82.099	141.776	0	703.223
Elections	0.096	0.295	0	1
% Manufacturing	10.96	8.973	0	58.708
% Public admin.	9.819	5.122	1.203	32.977
Distance from centre ( $\sqrt{\quad}$ , km)	5.495	5.042	0	30.329

Table 2: District-level labour protest participation

VARIABLES	Model 1	Model 2: Fixed effects	Model 3: Strikes DV	Model 4: Event DV/IVs	Model 5: Reduced	Model 6: OLS Spatial errors
Labour ( <i>t-1</i> )	1.009*** (0.001)	1.009*** (0.001)	1.001 (0.002)	1.042*** (0.004)	1.001*** (0.001)	0.014*** (0.004)
Nonlabour ( <i>t-1</i> )	1.001*** (0.000)	1.001** (0.000)	1.000 (0.000)	1.046*** (0.007)	1.001*** (0.000)	0.003*** (0.001)
Tahrir ( <i>t-1</i> )	1.001*** (0.000)	1.001*** (0.000)	1.002*** (0.000)	1.063*** (0.009)	1.001*** (0.000)	0.003*** (0.000)
Food inflation	0.932*** (0.009)	0.932*** (0.009)	0.848*** (0.014)	0.935*** (0.009)	-	-0.125*** (0.021)
Unemployment rate	0.456*** (0.096)	0.454*** (0.096)	0.273*** (0.093)	0.437*** (0.088)	-	-1.014* (0.445)
Last days	1.825*** (0.329)	1.831*** (0.330)	2.133* (0.641)	4.281*** (0.835)	-	2.554*** (0.492)
al-Bura'i	2.177*** (0.263)	2.179*** (0.263)	3.068*** (0.741)	2.216*** (0.257)	-	1.487*** (0.332)
Muhammad Mahmud	0.109*** (0.055)	0.109*** (0.055)	0.000 (0.000)	0.125*** (0.063)	-	-2.130*** (0.486)
Protest law	0.484*** (0.105)	0.484*** (0.105)	0.272 (0.196)	0.620* (0.134)	-	-0.823* (0.333)
Repression ( <i>t-1</i> )	0.999*** (0.000)	0.999*** (0.000)	1.000 (0.001)	0.974*** (0.005)	0.998*** (0.000)	-0.003*** (0.001)
Elections	0.259*** (0.059)	0.259*** (0.059)	0.115*** (0.064)	0.235*** (0.051)	-	-1.137*** (0.271)
% Manufacturing	1.006 (0.005)	1.000 (0.005)	1.023** (0.008)	0.997 (0.008)	-	0.014 (0.018)
% Public admin.	1.109*** (0.008)	1.098*** (0.008)	1.132*** (0.012)	1.080*** (0.013)	-	0.070* (0.031)
Distance from centre	0.919*** (0.012)	0.893*** (0.015)	0.967 (0.018)	0.951*** (0.013)	-	-0.099** (0.033)
Spatial error	-	-	-	-	-	0.097*** (0.016)
Observations	16,830	11,373	16,830	16,830	16,830	15,963
Districts	330	223	330	330	330	313

Standard errors in parentheses

\*\*\* p&lt;0.001, \*\* p&lt;0.01, \* p&lt;0.05

Note: Models 1-5 employ negative binomial regression, with coefficients displayed as incidence rate ratios. Model 6 is a spatial OLS model, with coefficients unexponentiated.

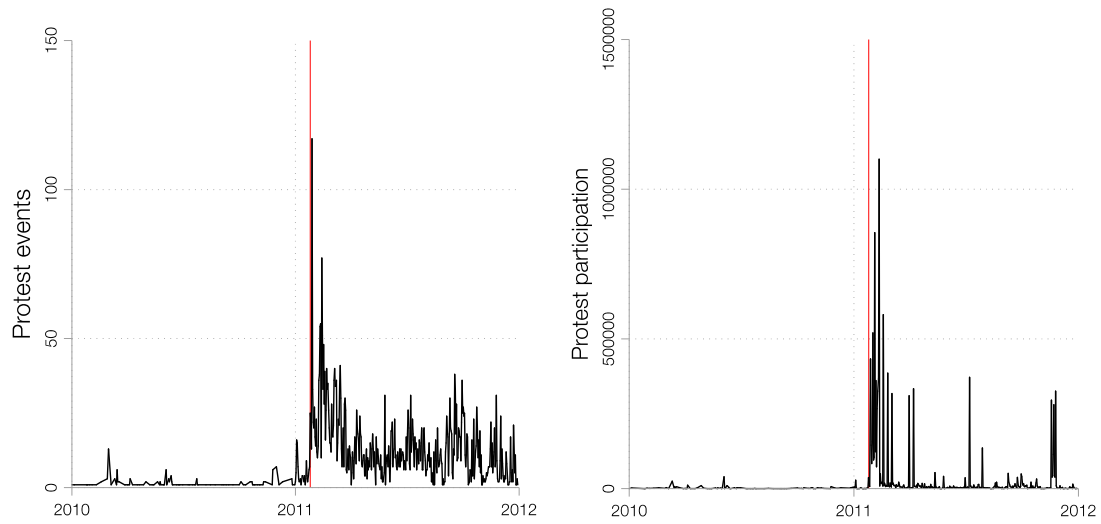


Figure 1: Protest frequency and participation in Egypt, 2010-2012. The red line records the onset of the 25th January Revolution

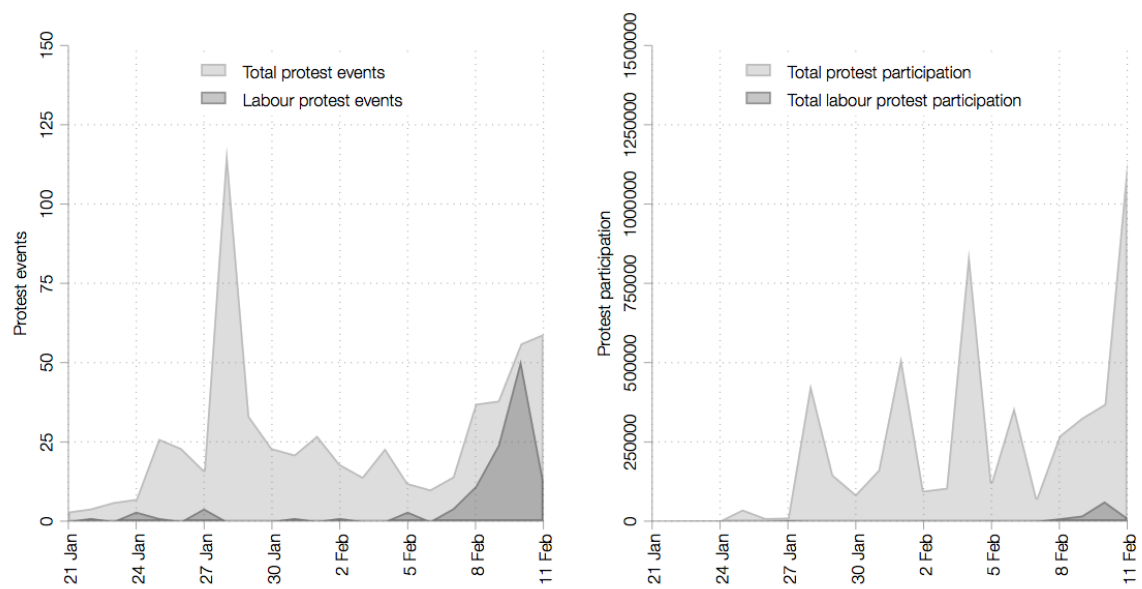


Figure 2: Labour protest frequency and participation, 21 January-11 February 2011

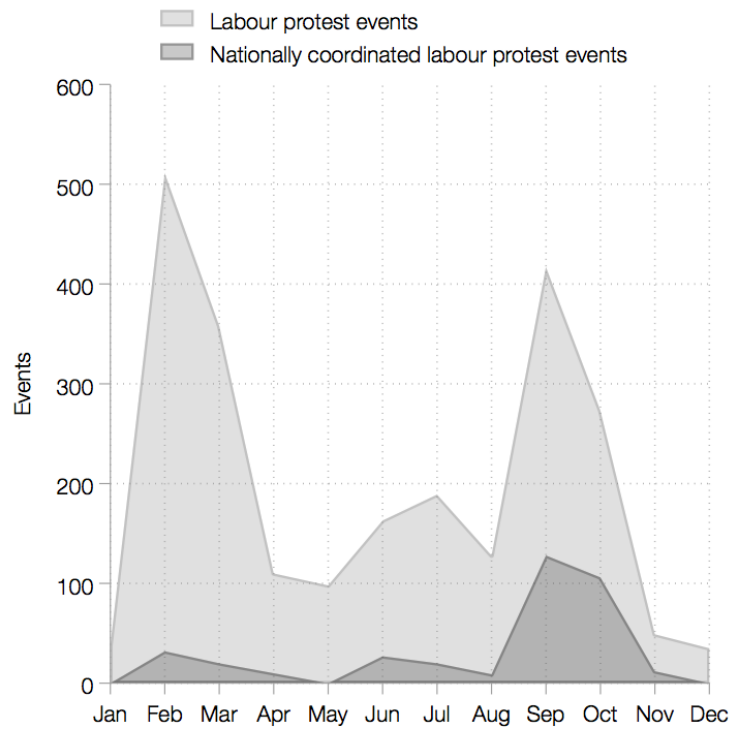


Figure 3: Nationally-coordinated labour mobilization in Egypt, 2011-2012

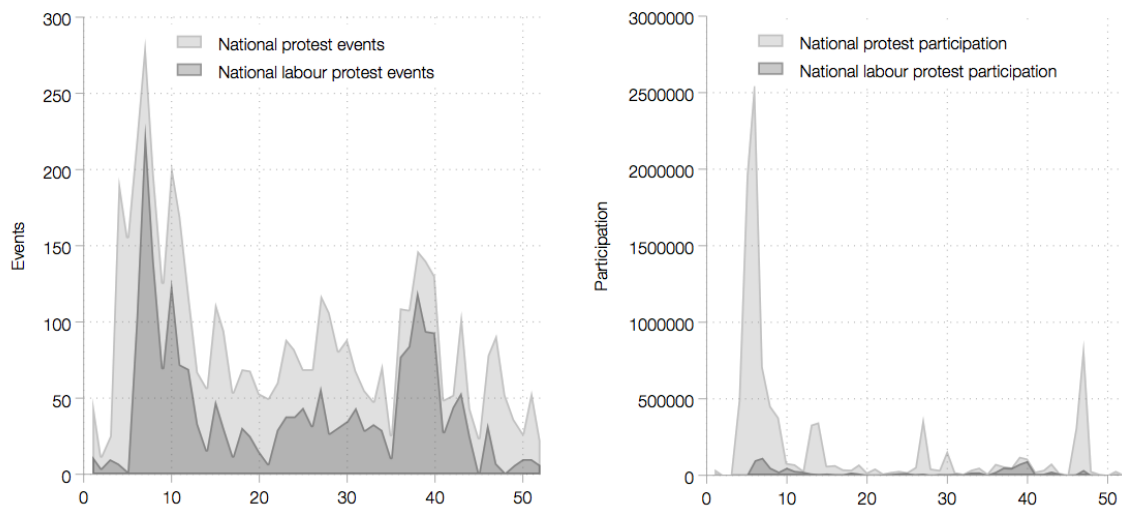


Figure 4: Weekly Labour protest and participation, 2011-2012

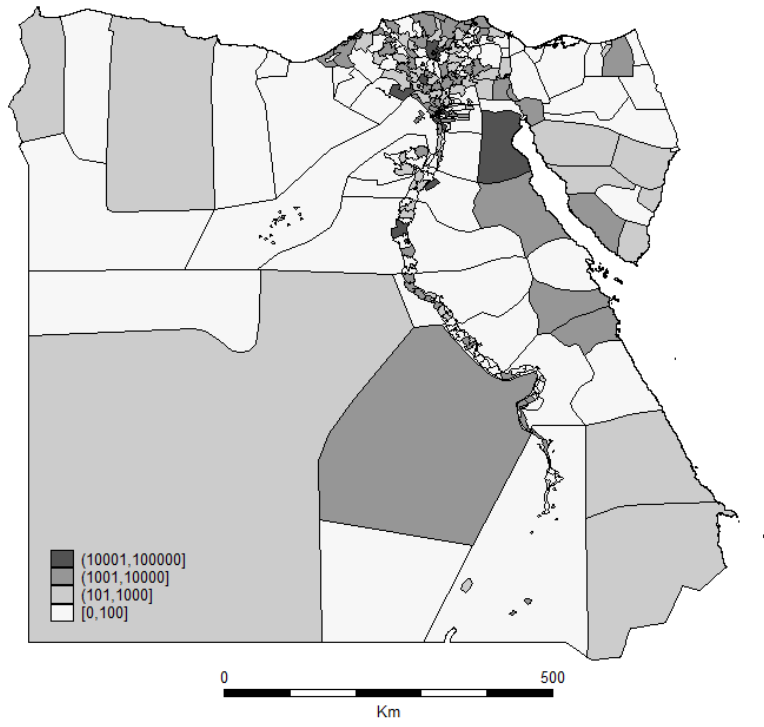


Figure 5: Labour protest participation by district, 2011-2012

## Appendix

Table A.1 gives the correlation matrix. We include the spatial buffers of increasing radius width here, which are used in Table A.2. In Models 1-6 of Table A.2, both labour and non-labour protest in nearby districts at  $t-1$  are shown to have a significant positive effect on the rate of labour protest participation in a district at time  $t$ , and this effect diminishes with distance. This suggests that as the size of the area in which neighbouring protest is measured increases, the strength of the signal provided by any additional variation in such protest dissipates. This provides us with further evidence of the presence of demonstration effects. Crucially, these signals derive from both labour and non-labour protest, thus demonstrating the importance of viewing labour protest within a broader framework of contentious politics.

Tables A.3 and A.4 display the results from the alternative specifications of the spatial OLS models. Model 1 estimates the model with random effects, and Model 2 with fixed effects. Model 3 adds unit-level temporal lag controls of labour protest (see e.g. Aidt et al. 2017), while Model 4 applies the same spatial autoregressive process to the panel-level random effects (Lee and Yu 2010). Results are substantively unchanged. In Models 1-4, the endogenous district-level protest participation variables are weighted with a binary contiguity matrix (as opposed to the binary 10km matrix used in the main analysis). In other words, only districts sharing a common border with the target district are captured here. Models 5 and 6 use an alternative weighting matrix for both the endogenous district-level protest variables and the spatial error term. Again, results are unchanged.

Table A.1: Correlation matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
(1) Labour protest	1.000																								
(2) Labour protest ( <i>t-1</i> , 2km)	0.021	1.000																							
(3) Nonlabour protest ( <i>t-1</i> , 2km)	0.014	0.458	1.000																						
(4) Labour protest ( <i>t-1</i> , 5km)	0.038	0.561	0.293	1.000																					
(5) Nonlabour protest ( <i>t-1</i> , 5km)	0.027	0.325	0.541	0.513	1.000																				
(6) Labour protest ( <i>t-1</i> , 8km)	0.043	0.470	0.250	0.860	0.467	1.000																			
(7) Nonlabour protest ( <i>t-1</i> , 8km)	0.035	0.287	0.465	0.496	0.864	0.540	1.000																		
(8) Labour protest ( <i>t-1</i> , 10km)	0.048	0.426	0.234	0.796	0.436	0.939	0.511	1.000																	
(9) Nonlabour protest ( <i>t-1</i> , 10km)	0.045	0.261	0.428	0.473	0.803	0.528	0.932	0.540	1.000																
(10) Labour protest ( <i>t-1</i> , 15km)	0.066	0.382	0.214	0.700	0.392	0.832	0.458	0.902	0.492	1.000															
(11) Nonlabour protest ( <i>t-1</i> , 15km)	0.057	0.221	0.364	0.411	0.684	0.488	0.803	0.517	0.868	0.548	1.000														
(12) Labour protest ( <i>t-1</i> , 20km)	0.067	0.336	0.188	0.629	0.349	0.759	0.415	0.829	0.447	0.931	0.512	1.000													
(13) Nonlabour protest ( <i>t-1</i> , 20km)	0.054	0.200	0.336	0.378	0.632	0.460	0.744	0.493	0.804	0.532	0.931	0.544	1.000												
(14) Tahrir protest ( <i>t-1</i> )	0.059	0.031	0.123	0.064	0.231	0.089	0.270	0.094	0.291	0.104	0.339	0.118	0.376	1.000											
(15) Food inflation	-0.018	-0.018	0.026	-0.032	0.047	-0.033	0.056	-0.037	0.061	-0.045	0.072	-0.050	0.081	0.181	1.000										
(16) Unemployment rate	-0.005	0.014	-0.007	0.022	-0.014	0.022	-0.016	0.021	-0.019	0.026	-0.022	0.026	-0.026	-0.046	-0.666	1.000									
(17) Last days	0.049	-0.019	0.061	-0.035	0.109	-0.041	0.131	-0.045	0.142	-0.050	0.164	-0.057	0.186	0.370	0.078	-0.060	1.000								
(18) al-Bura'i	0.018	0.032	0.011	0.046	0.016	0.052	0.020	0.054	0.020	0.063	0.025	0.075	0.027	0.091	0.216	-0.085	-0.028	1.000							
(19) Muhammad Mahmud	0.010	-0.006	0.016	-0.014	0.031	-0.019	0.036	-0.021	0.038	-0.024	0.046	-0.026	0.049	0.170	-0.135	0.239	-0.020	-0.028	1.000						
(20) Protest law	-0.008	0.002	0.005	0.006	0.009	0.011	0.010	0.012	0.010	0.015	0.013	0.017	0.012	0.078	0.241	-0.128	-0.028	-0.040	-0.028	1.000					
(21) Repression ( <i>t-1</i> )	0.005	0.012	0.067	0.018	0.126	0.017	0.149	0.011	0.161	0.010	0.186	0.003	0.209	0.498	0.051	0.041	0.307	-0.049	-0.040	-0.089	1.000				
(22) Elections	-0.027	-0.013	-0.001	-0.034	0.002	-0.044	0.003	-0.050	0.002	-0.055	0.001	-0.067	0.001	0.034	-0.219	0.556	-0.046	-0.065	-0.046	-0.065	0.194	1.000			
(23) % Manufacturing	0.018	0.045	0.041	0.092	0.081	0.131	0.095	0.143	0.110	0.156	0.120	0.196	0.158	0.000	0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	0.000	1.000		
(24) % Public admin.	0.012	0.007	0.002	0.001	-0.010	-0.008	-0.002	-0.018	-0.009	-0.041	-0.038	-0.059	-0.051	-0.000	0.000	-0.000	-0.000	-0.000	-0.000	-0.000	0.000	-0.000	-0.129	1.000	
(25) Distance from centre	-0.043	-0.108	-0.086	-0.172	-0.134	-0.187	-0.150	-0.187	-0.154	-0.187	-0.148	-0.187	-0.151	0.000	0.000	-0.000	-0.000	-0.000	-0.000	0.000	0.000	-0.000	-0.274	-0.160	1.000

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Table A.2: District-level labour protest participation: random effects negative binomial regression with incidence rate ratios with 2-20km spatial buffers

VARIABLES	Model 1: 2km	Model 2: 5km	Model 3: 8km	Model 4: 10km	Model 5: 15km	Model 6: 20km
Labour ( <i>t-I</i> )	1.015*** (0.002)	1.012*** (0.001)	1.009*** (0.001)	1.009*** (0.001)	1.008*** (0.001)	1.006*** (0.001)
Nonlabour ( <i>t-I</i> )	1.002*** (0.000)	1.001*** (0.000)	1.001** (0.000)	1.001*** (0.000)	1.001*** (0.000)	1.001** (0.000)
Tahrir ( <i>t-I</i> )	1.002*** (0.000)	1.001*** (0.000)	1.001*** (0.000)	1.001*** (0.000)	1.001*** (0.000)	1.001*** (0.000)
Food inflation	0.933*** (0.009)	0.932*** (0.009)	0.932*** (0.009)	0.932*** (0.009)	0.933*** (0.009)	0.933*** (0.009)
Unemployment rate	0.510** (0.107)	0.468*** (0.099)	0.463*** (0.098)	0.456*** (0.096)	0.446*** (0.094)	0.469*** (0.098)
Last days	1.550* (0.276)	1.789** (0.322)	1.819*** (0.328)	1.825*** (0.329)	1.895*** (0.343)	1.838*** (0.333)
al-Bura'i	2.158*** (0.261)	2.188*** (0.264)	2.194*** (0.265)	2.177*** (0.263)	2.161*** (0.261)	2.162*** (0.261)
Muhammad Mahmud	0.096*** (0.049)	0.103*** (0.052)	0.107*** (0.055)	0.109*** (0.055)	0.113*** (0.058)	0.110*** (0.056)
Protest law	0.473*** (0.103)	0.479*** (0.104)	0.484*** (0.105)	0.484*** (0.105)	0.489** (0.106)	0.490** (0.107)
Repression ( <i>t-I</i> )	0.999*** (0.000)	0.999*** (0.000)	0.999*** (0.000)	0.999*** (0.000)	0.999*** (0.000)	0.999*** (0.000)
Elections	0.237*** (0.054)	0.243*** (0.055)	0.257*** (0.058)	0.259*** (0.059)	0.264*** (0.060)	0.264*** (0.060)
% Manufacturing	1.018*** (0.004)	1.009 (0.005)	1.007 (0.005)	1.006 (0.005)	1.005 (0.005)	1.005 (0.005)
% Public admin.	1.111*** (0.007)	1.107*** (0.008)	1.108*** (0.008)	1.109*** (0.008)	1.112*** (0.008)	1.111*** (0.008)
Distance from centre	0.911*** (0.012)	0.924*** (0.012)	0.919*** (0.012)	0.919*** (0.012)	0.919*** (0.012)	0.915*** (0.012)
Buffer	2km	5km	8km	10km	15km	20km
Observations	16,830	16,830	16,830	16,830	16,830	16,830
Districts	330	330	330	330	330	330
Log likelihood	-12807	-12790	-12807	-12802	-12797	-12812

Standard errors in parentheses

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

Table A.3: District-level labour protest participation: Spatial OLS models

VARIABLES	Model 1: RE contiguity	Model 2: FE contiguity	Model 3: RE contiguity and unit-level temp. lag
Labour (t-1)	0.075*** (0.022)	0.060** (0.022)	0.051* (0.020)
Nonlabour (t-1)	0.035*** (0.007)	0.031*** (0.007)	0.038*** (0.007)
Tahrir (t-1)	0.003*** (0.000)	0.003*** (0.000)	0.002*** (0.000)
Food inflation	-0.128*** (0.021)	-0.128*** (0.021)	-0.121*** (0.020)
Unemployment rate	-0.979* (0.443)	-0.965* (0.445)	-1.151** (0.438)
Last days	2.462*** (0.491)	2.438*** (0.492)	2.696*** (0.486)
al-Bura'i	1.489*** (0.330)	1.498*** (0.331)	1.286*** (0.327)
Muhammad Mahmud	-2.121*** (0.485)	-2.159*** (0.487)	-1.569** (0.479)
Protest law	-0.771* (0.332)	-0.779* (0.333)	-0.698* (0.328)
Repression (t-1)	-0.003*** (0.001)	-0.003*** (0.001)	-0.003*** (0.001)
Elections	-1.142*** (0.270)	-1.163*** (0.271)	-0.768** (0.267)
% Manufacturing	0.018 (0.018)	0.000 (0.000)	0.015 (0.013)
% Public admin.	0.070* (0.031)	0.000 (0.000)	0.052* (0.022)
Distance from centre	-0.104** (0.033)	0.000 (0.000)	-0.069** (0.023)
Labour unit-level (t-1)			0.207*** (0.008)
Nonlabour unit-level (t-1)			0.030*** (0.003)
Spatial error	0.092*** (0.016)	0.096*** (0.016)	0.102*** (0.016)
Observations	15,963	15,963	15,963
Districts	313	313	313

Standard errors in parentheses

\*\*\* p&lt;0.001, \*\* p&lt;0.01, \* p&lt;0.05

Table A.4: District-level labour protest participation: Spatial OLS models

VARIABLES	Model 4: RE contiguity SAR panel errors	Model 5: RE inv. dist.	Model 6: FE inv. dist.
Labour (t-1)	0.070** (0.022)	0.299*** (0.061)	0.283*** (0.064)
Nonlabour (t-1)	0.033*** (0.007)	0.062*** (0.019)	0.063** (0.019)
Tahrir (t-1)	0.003*** (0.000)	0.003*** (0.000)	0.003*** (0.000)
Food inflation	-0.128*** (0.021)	-0.117*** (0.023)	-0.117*** (0.023)
Unemployment rate	-0.972* (0.445)	-1.093* (0.491)	-1.087* (0.491)
Last days	2.449*** (0.492)	2.263*** (0.555)	2.236*** (0.556)
al-Bura'i	1.491*** (0.331)	1.288*** (0.366)	1.296*** (0.366)
Muhammad Mahmud	-2.136*** (0.487)	-1.899*** (0.538)	-1.917*** (0.539)
Protest law	-0.774* (0.333)	-0.618 (0.367)	-0.618 (0.367)
Repression (t-1)	-0.003*** (0.001)	-0.003*** (0.001)	-0.003*** (0.001)
Elections	-1.150*** (0.271)	-0.779** (0.299)	-0.789** (0.300)
% Manufacturing	0.017 (0.019)	0.008 (0.018)	0.000 (0.000)
% Public admin.	0.073* (0.031)	0.073* (0.031)	0.000 (0.000)
Distance from centre	-0.103** (0.034)	-0.088** (0.033)	0.000 (0.000)
Spatial error	0.096*** (0.016)	0.394*** (0.046)	0.395*** (0.047)
Observations	15,963	15,963	15,963
Districts	313	313	313

Standard errors in parentheses  
\*\*\* p<0.001, \*\* p<0.01, \* p<0.05