Food price increase and urban unrest:
The role of societal organizations

Ida Rudolfsen

Uppsala University & Peace Research Institute Oslo (PRIO)

Abstract

Under what conditions do increasing food prices lead to urban unrest? Existing literature suggests a positive correlation between food prices and social unrest. Meanwhile, there is a large variation in the consequences of increasing food prices, indicating that this phenomenon has a heterogeneous effect across different contexts. The theoretical focus on grievances in the existing literature appears to be insufficient for explaining the variations in outcome. This study asks whether specific features in the domestic institutional setting can explain why food-price induced grievances sometimes lead to unrest and at other times do not. Specifically, the article argues that the manifestation of unrest when food prices increase is moderated by the degree to which the state represses societal organizations. Civil and political society have the potential to channel collective dissent around food-related grievances, as these organizations provide existing mobilization structures that people can draw on to engage in collective action. Further, they can translate an individual-level grievance into a group phenomenon by politicizing the cost of food through the formulation of grievance frames. If the state represses existing societal organizations that can help aggrieved individuals engage in collective action to voice discontent – or introduces barriers to initial mobilization – this will likely reduce the possibility of unrest when food prices go up. Using institutional data from the Varieties of Democracy (V-Dem) project combined with the Social Conflict Analysis Database (SCAD), the findings suggest that repression of societal organizations decreases the likelihood of unrest when food prices rise.

Corresponding author: idarud@prio.org

Introduction

The last decade has seen high volatility in international commodity prices. The cost of food peaked at historic levels in 2008, and the prices of major foodstuffs increased rapidly again in 2010–2011. Around 150 low- and middle-income countries were affected by the increasing food prices – where the sudden increase in international prices led to rising inflation domestically – mainly hurting poor consumers who spend a substantial share of their income on food (Tadesse et al., 2014; Abbott & de Battisti, 2011; Ivanic & Martin, 2008). During the food price spikes, several countries in Asia, Africa, Latin America, and the Middle East experienced some form of contentious action, from non-violent demonstrations to large-scale deadly events (Bellemare, 2015; Harsch, 2008; van Weezel, 2016).

The widespread unrest that followed the food price spikes has led to a renewed interest in the relationship between food prices and domestic instability. Previous studies have largely found a positive correlation between food prices and unrest. However, the large variation in the consequences of increasing food prices – from no reaction to widespread unrest – suggests this phenomenon has a diverse effect. Sometimes it leads to visible and extensive protests, but at other times any backlash is difficult to detect. For example, the cost of food in Tunisia increased by over 4 per cent from July to August 1990, and then again by over 8 percent in September of that year, but the country saw no record of urban unrest.[1] Also, Morocco saw multiple peaks in food price in the early 1990s, but no demonstrations or riots. Other examples include Ethiopia during the summer of 2008 and Mauritania in late 2014. Hence, there is an interesting unexplained variation in the consequences of food price increase that needs to be addressed.

Arguably, one of the most important factors in shaping the domestic political sphere is state institutions, as they determine the extent to which people have the possibility to mobilize and engage in collective action. This article focuses on the aspects of state repression that are directed towards societal organizations[2] working as collective agents

---

[1]This is the highest food price peak registered in the region between 1990 and 2014.

[2]The term societal organizations is here understood as consisting of both civil society organizations (CSOs) and political parties.

for mobilization. Food-related grievances tend to be everyday and mass-based, and as such they represent an interest that often lacks organizational backing. I argue that an important step in the transformation of an individual grievance into collective dissent when food prices go up is the involvement of organized groups in society. When societal organizations decide to focus on increasing food prices, individual-level food-related grievances can be articulated and addressed as part of a group phenomenon. Societal organizations 1) provide a set of existing mobilization structures and resources that people can draw on in collective action, and 2) articulate perceptions of hardship related to food, translating an individual-level grievance into a group characteristic by politicizing the cost of food through the construction of grievance frames. Both of these aspects allow individuals to become part of a stronger group with the capacity to make specific demands.

The circumstances under which societal organizations are allowed to form and act, here referred to as the organizational environment, are shaped by the degree to which the state controls the formation of societal organizations, and the extent to which it represses already existing groups. The state influences and moulds the ability and opportunity for people to engage in social unrest when food prices rise. Given the variation in consequences of food price on unrest, I argue that the relationship between increasing food prices and urban unrest is moderated by the degree of repression of societal organizations, and that looking at the organizational space available for these groups can help illuminate why unrest during food price spikes occurs in some instances but not in others. Addressing this gap in the literature, this article examines how increasing food prices in the mostly consumer-based urban sector in Africa affects the likelihood of unrest. It argues that changes in food price give stronger incentives for the urban consumer class to engage in unrest due to increased hardship, but that outbreaks of unrest are conditional on the degree to which the state represses societal organizations. If the state is able to restrict or remove structures that facilitate collective action, this will reduce the likelihood of unrest.

To test the proposed conditional relationship, the analysis uses country month data on urban unrest and food price fluctuations, combined with data on the presence and nature

of civil society organizations and political parties, from 1990 to 2014. The analysis makes an important contribution by not only taking into account the varying levels of food price spikes across countries, but also the presence of societal organizations and their capacity to act. Further, instead of focusing on a broad concept of regime type, the article disaggregates and identifies specifically which institutions matter in this context. The article also makes a theoretical contribution by pointing to how societal organizations might help translate food-related challenges on the individual level, often widespread but mundane, into a community phenomenon by politicizing the price of food.

The results indicate support for the proposition that a constrained organizational environment reduces the likelihood of urban unrest when food prices go up. The occurrence of unrest is contingent on the ability of organizations to engage in collective action. More specifically, state repression of CSOs, widespread party bans, and barriers to party formation decrease the probability of unrest when food prices increase. However, I do not find that the most open and unconstrained societies see the most unrest. The findings suggest that countries are more likely to experience unrest when there is only moderate repression and barriers to formation – a positive predicted change in the probability of unrest exists where there is an institutional makeup that is somewhat repressive, yet still allows for some form of participation in civil and political society. The findings indicate that the link between rising food prices and urban unrest is indeed context specific: the effect of rising food prices on unrest is contingent on the degree of state repression of societal organizations.

The findings have a number of broader implications. First, they suggest that unrest within the context of increasing food prices is not necessarily inherently problematic, but can be a sign of the citizens being able to react. Unrest in these circumstances is a manifestation of people being capable of expressing their grievances collectively. Second, the article emphasizes the importance of looking at conditional relationships when investigating the link between food prices and unrest. It would seem that specific institutional features of states are relevant when trying to explain the variation in outcome. The article is organized as follows: in the next section, I present existing findings in the literature

and the research gap, before introducing the conceptual framework. I then present the research design and analysis, before making some concluding remarks.

Existing literature and research gap

There exists a long tradition of academic work on unrest related to food prices, ranging from modern historical cases in England and France (Tilly, 1971; Rudé, 1964; Thompson, 1971; Goldstone, 1991), via Southeast Asia in the early 1900s (Scott, 1976; Popkin, 1979), to studies focusing on the so-called International Monetary Fund (IMF) riots in several developing countries in the late 20th century (Walton & Seddon, 1994; Bienen & Gersovitz, 1986). The more recent, largely statistical work on this topic suggests a positive relationship between higher food price and unrest, usually within the theoretical realm of economic deprivation (see e.g. Arezki & Brückner, 2014; Bush, 2010; Berazneva & Lee, 2013; Raleigh et al., 2015; Sternberg, 2012; Sneyd et al., 2013).

The literature suggests that increasing prices of food stuffs would seem particularly relevant for the relationship between economic grievance and unrest, as the price of food is a micro-economic measure of welfare and provides a more direct estimate of individual well-being than aggregated economic indicators. For example, Smith (2014) claims that while food prices naturally fluctuate over time, and most consumers develop coping mechanisms to handle these changes, sharp increases or a sudden shock in food price could overwhelm consumers' ability to cope and increase their propensity of engaging in urban unrest. According to Weinberg & Bakker (2015: 5), higher food prices could lead to increased economic deprivation due to the '(...) high proportion of expenditure in the average household budget, the visibility of price increases and the non-substitutability of food (...)'. Cohen & Garrett (2010) claim that when faced with increased food prices, the urban poor will seek to cushion food price shocks by reducing expenditure on other necessities or adjust food consumption by eating less or shifting to cheaper foods, or both. The lack of alternative coping mechanisms should therefore increase the likelihood of the urban consumer class demanding government intervention, as higher food prices increase economic deprivation by forcing consumers to spend a mounting share of the household

budget on food.[3] People experiencing increased pressure and economic grievances due to food price shocks may seek relief from the state either through food subsidies or social safety nets (Brinkman & Hendrix, 2011).

Previous studies point to the domestic setting as relevant in explaining whether unrest will erupt when food prices rise, but we have limited knowledge about how this might occur. Also, despite important advances in previous literature, relatively few scholars have focused on the opportunity structures and mobilization capacities in society. In their analysis, Hendrix & Haggard (2015) take an important analytical step by considering the effect of regime type. They find that democracies are more likely to experience urban unrest than autocracies, which they interpret as due to both greater opportunity structures and less bias towards urban consumers. However, their analysis uses international food prices, while the price paid for commodities by consumers on the domestic market does not necessarily reflect changes in the international market. World prices have varying pass-through effects on domestic prices depending on trade regimes, substitutability between domestic and foreign goods, and domestic market structures (Baquedano & Liefert, 2014). Therefore, in order to investigate the relationship between food prices and unrest, it is more useful to look at domestic food prices that better reflect the cost for consumers.

More importantly, although Hendrix & Haggard (2015) consider the conditional effect of regime type, we lack a more precise understanding of which aspects of these regimes hinder or promote urban unrest in the context of higher food prices. They rely on a combined measure of democracy, which makes it difficult to know which particular aspect of institutions matter the most. Gleditsch & Ruggeri (2010) highlight the issues with using the level of democracy as a combined measure for grievances and repressive capacity, while Treier & Jackman (2008) emphasize that there is no consensus on how to best aggregate from multiple indicators to operationalize democracy. Also, the focus on structural features on the government side has led to less attention being paid to the

---

[3]This does not necessarily mean that it is the most deprived or hungry people who participate in unrest, nor does it necessarily lead to increased food insecurity. It does mean, however, that consumers often are forced to change or reorganize their household budget, leaving less income for other goods. This increase in food prices may or may not simultaneously lead to increased food insecurity.

role of non-state actors. According to Tarrow (1996: 880-881), the concept of the political opportunity structure is, in fact, an aggregate of separate variables: 'By breaking it down into a small number of finite dimensions (...), the importance of opportunities in triggering movements can be operationalized and assessed and their changes related to conventional politics.' This study thus contributes to the field by looking specifically at the degree of state repression of societal organizations.

The argument

Overall, much of the literature on this topic relates to grievances when attempting to explain how higher food prices are related to unrest. This is often linked to relative deprivation where people's actual and desired situations diverge (Gurr, 1970). This perceived gap could occur because of temporal changes, where grievances increase over time due to higher food prices (Weinberg & Bakker, 2015), or because of differences between individuals or groups, where some are able to buy food or gain from increasing food prices while others are not (Arezki & Brückner, 2014; Sneyd et al., 2013). Although economic grievances due to increased food prices represent a plausible theoretical mechanism for explaining why urban unrest occurs, the variation across countries in terms of whether they experience unrest or not points to the fact that the relationship between food price and unrest is likely to be conditional on other societal factors. Increasing food prices may generally be associated with increased grievances, but they do not necessarily lead to demonstrations or riots. Economic deprivation due to increasing food prices cannot independently explain the occurrence of urban unrest, as these fluctuations in domestic food price are more frequent and widespread than the occurrence of unrest (Berazneva & Lee, 2013). Thus, rising food prices may increase the willingness for unrest, but this discontent is unobservable if the context does not enable grievance to be translated into action. According to Tarrow (2007: 71), we should focus on '(...) the levels and types of opportunities people experience, the constraints on their freedom of action, and the threats they perceive to their interests and values.' The implication is that the occurrence of unrest is related to both opportunities for collective action and the perception of peril. It is the presence of grievances and the political opportunities to channel these

that jointly shape the manifestations of contention.

One societal trait that could determine whether grievances are translated into action is the presence of civil and political society. Civil society is located between the private space and the state, and can be understood as existing '(...) when producers, workers, or people who share a set of spiritually grounded political, moral or ethical beliefs organize on the basis of a shared set of interests and pursue their realization in the public space (...)' (Bernhard et al., 2015: 8), while political society consists of a range of actors who are consciously organized to contest and challenge the control of state power. While civil and political society can have autonomy from the state, the state establishes the framework and sphere that these societal organizations must operate within. The organizational environment is therefore understood as the degree to which civil and political society are allowed to operate freely.

So, why would societal organizations be important for predicting whether unrest occurs when food prices increase? The argument presented here is twofold. First, as societal organizations have resources and existing structures, they contain a potential for collective mobilization for action. Second, they also have the potential for the formulation of grievance frames. By distilling injustices related to the price of food, societal organizations could politicize a ubiquitous individual-level grievance and translate it into a group phenomenon – for example, by providing a base of comparison between groups who are differentially affected by increasing food prices. The opportunity to engage in collective action is greatly facilitated by the presence of societal organizations that affect people's capacity to act on their demands by providing the infrastructure for mobilization (Olson, 1965; McCarthy & Zald, 1977). Existing organizations in society could help predict when grievances translate into collective action, as these groups can more easily marshal resources to meet group goals through existing associations and leadership. Thus, existing organizations can more rapidly mobilize efforts at a lower cost by making use of established networks among their group members (Oberschall, 1978; McAdam et al., 2001). Also, the presence of societal organizations could help formulate and channel food-related grievances through the creation of grievance frames (see e.g. Goffman, 1974; Snow et al.,

1986). According to Mason (2009), framing involves activating a target audience in support of a national movement, which entails identifying injustices that affect that specific community and attributing them to the state or some entity that represents the intended target of the organization. Benford & Snow (2000: 615) argue that such injustice frames are important for collective action, as they help arrive at '(...) a shared understanding of some problematic condition or situation they define as in need of change, make attributions regarding who or what is to blame, articulate an alternative set of arrangements, and urge others to act in concert to affect change'. Grievances related to the price of food are not necessarily linked to society-level issues, but rather to '(...) the individual fortunes of households (...), and is therefore much less a community phenomenon' (Maxwell, 1999: 1940). Those hardest hit by increasing food prices tend to be the marginalized urban poor, who often belong to the same segments in society that are not represented by societal organizations or engaged in political participation or contentious action (Hendrix & Brinkman, 2013; Engels, 2015). According to Cederman et al. (2013: 43), '[t]he power of framing becomes especially clear in its absence. Indeed, the status quo can easily be maintained by the incumbent elite if no coherent protest frame emerges.'

Societal organizations might therefore be particularly important in translating individual-level food-related grievances into a community issue. These organizations can help frame what the problem is by articulating and channelling hardship, inculcating the perception that people are part of a stronger group, and that this group will make demands when food prices rise. Civil and political society permits coordination and linkages between elites and the people (McAdam et al., 1996), and a sudden increase in food prices that affects a large swathe of the urban population simultaneously could provide an opportunity for societal organizations to formulate and represent an everyday and mass-based grievance, and thereby mobilize and garner support from affected groups through established networks. Food prices are often presented as triggers for unrest, linking the cost of food to more fundamental political and economic conditions in society, whereby the increasing cost of food becomes a pretext for airing a wider range of grievances, such as corruption and economic mismanagement (Goldstone, 1991; Sneyd et al., 2013; Branch & Mampilly, 2015). Thus, frames identify a target for the grievance and shape it into

broader claims by connecting them to other grievances (Tarrow, 2007). By linking food prices to more general political and economic concerns, the cost of food can function as an initiator for political mobilization. In both the literature and media, there are multiple examples of portraying food prices as a catalyst, spark, or 'last straw' that leads to social unrest (see e.g. Bellemare, 2015; Sneyd et al., 2013; Bush, 2010; Walton & Seddon, 1994).

For example, according to Maccatory et al. (2010: 350) the trade unions in Burkina Faso had historically been composed mostly of civil servants, having little support among poor workers. However, the issue of the increasing food prices beginning in the early months of 2008 provided an opportunity for the unions to represent an issue that affected the well-being of workers, and could be used to redefine their organizational purpose and support. The unions invited the workers to come out *en masse* and take a united stand against the sudden price increase – and a series of demonstrations and marches followed between March and May 2008. Also, during rising food and oil prices in 2011 in Uganda, riots were started by the urban un- and underemployed. According to Bush & Martiniello (2017: 201), the protests – in the form of the Walk-to-Work campaign initiated by opposition leaders and the Action for Change pressure group – moved to a different level by linking the grievance of food prices to political accountability and reform: 'This action put rising costs of living and food prices and consequent increasing poverty at the centre of the political agenda'. Also, groups such as the Kefaya movement and labour unions in Egypt have organized strikes and facilitated demonstrations in the past (Singer, 2008; Shapiro, 2009). According to Abdelrahman (2013: 574), economic hardship and Egypt's heavy reliance on food imports which led to an increase in basic food prices contributed to creating '(...) the conditions for a myriad of informal political groups, activist forums, political coalitions and protest activities to alter the face of Egypt's opposition politics and to mobilize (...) wide sections of the population' (see also Simmons (2016)).

Previous studies suggest that state repression is a significant factor in shaping mobilization efforts where regimes vary both in terms of their willingness to tolerate popular mobilization and their ability to repress it (Brockett, 1991). Thus, the repression of organizational structures integral to mobilizing efforts could make collective action during

10

food price shocks more difficult. As phrased by Hendrix & Haggard (2015: 144), regardless of the grievance, '(...) adversely affected groups face more or less permissive political conditions for protest.' Highly repressive states may well create incentives to engage in unrest due to underlying political and economic issues, but have the possibility to repress it and thereby hinder social upheaval when food prices rise (Hendrix & Brinkman, 2013; Brinkman & Hendrix, 2011). In the event of increasing food prices, the likelihood of unrest may therefore be more determined by the level of repression than the extent of hardship (Smith, 2014). If such organizations are repressed or non-existent, this reduces the organizational space available for people, making engaging in collective action more difficult. The state can constrain this organizational space by raising the cost for existing organizations to engage in collective action, or by controlling the formation and establishment of these organizations in the first place (Tilly, 1978). A state with high repressive capacity would thereby imply a strained organizational environment that limits the chances of unrest occurring when food prices rise (McAdam et al., 1996).

In sum, the importance of societal organizations for predicting whether unrest will occur when food prices rise is twofold: first, the presence of societal organizations can facilitate collective dissent, where people become part of a stronger already-existing group with the necessary infrastructure and available resources to act on their demands and achieve group goals; and second, such organizations can help translate grievances into action, by articulating and framing the experienced grievance when food prices rise (Oberschall, 1978; McAdam et al., 2001). I therefore argue that repression of civil and political society renders unrest less likely when food prices go up. This leads to the following hypotheses:

H1: *The effect of increasing food prices on unrest is moderated by the degree to which states repress the formation of societal organizations.*

H2: *The effect of increasing food prices on unrest is moderated by the degree to which states repress existing societal organizations.*

The hypotheses are complementary but nonetheless separate as they focus on two dif-

ferent dimensions: mobilization and collective action. The first concerns itself with the formation of groups and whether or not there are networks outside of the state apparatus for the public to draw on. The second hypothesis focuses on opportunities available for already existing groups in society. According to Tilly (1978), from the government's point of view, increasing the costs of organizing would be a more effective strategy of repression than raising the costs of collective action alone, as hindering the formation of societal organizations neutralizes both the actor *and* the action, making it less likely that the group would be able to react swiftly when the government becomes vulnerable – for example during food price spikes. 'Raising the costs of collective action alters the pattern of effective demand from mobilized groups, while raising the costs of mobilization reduces demand across the board' (Tilly, 1978: 101).

Although the direct use of suppression by the state can be more visible and direct, there is evidence that increasing the cost of organizing in the first place makes it harder to engage in collective action in the long term. One example is during the McCarthy era in the United States, where the government found it easier to increase the cost of membership of the Communist Party than to ban demonstrations and strikes (Tarrow, 2007). Thus, both types of repression are included. Previous literature has claimed that the emergence of collective action within a polity is contingent on the presence of the state's capacity for repression. This is because the degree to which the state can curb opposition is likely to impinge on people's propensity to engage in collective action by influencing their expectations of success or failure (Tarrow, 2007; McAdam et al., 1996).

Sample and research design

The hypotheses about unrest during food price spikes are tested in a cross-sectional time-series sample covering 41 countries in Africa between 1990 and 2014.[4] This region has a large variation in the occurrence of urban unrest in time and space. Whether high food prices have an impact on consumers is contingent on how dependent the household is on

---

[4]The time period is set according to the data available on urban unrest and food prices. See e.g. Adams et al. (2018) for a discussion on sampling.

agricultural production and sales – the family's resilience to price volatility and whether it is a net food buyer (Aksoy & Hoekman, 2010). I therefore focus on unrest in urban areas[5] because the capacity of the urban population to engage in collective action is significantly greater than in rural areas, urban dwellers being more reliant on the market for food and further away from its production. Thus, social unrest during periods of increasing food prices most often originates from mobilized urban dwellers as they are both more dependent on the market for food, and more likely to be able to overcome collective action problems (Hendrix & Haggard, 2015; Verpoorten et al., 2013; Hendrix & Brinkman, 2013). To better link immediate and spontaneous reactions to sudden food price changes, the unit of analysis is country-months.

Dependent variable: Urban unrest

The dependent variable is the occurrence of urban unrest, derived from the Social Conflict Analysis Database (SCAD), which contains information on protests, strikes, riots, and other social disturbances in Africa by country-month between 1990 and 2014. The database primarily uses information from searches of the Associated Press and *Agence France Presse* newswires, as compiled by the Lexis-Nexis news service (Salehyan et al., 2012). Figure 1 shows an overview of the distribution of unrest from 1990–2014. The variable has been recoded into a binary dependent variable, as measuring the size of events and differentiating them from each other can be challenging. Also, the variable is not issue coded, as phenomena such as 'food riots' can be very difficult to identify, where the rising cost of living is a constantly recurring issue in all types of unrest (see e.g. Demarest, 2014; Sneyd et al., 2013; Rudolfsen, 2018). *Urban unrest* assumes the value 1 if an urban unrest event occurred in a given country-month, 0 otherwise, with a total of 2,254 unrest occurrences in the sample. The types of events included in the dataset are organized and spontaneous demonstrations and organized and spontaneous violent riots, in urban areas.

---

[5]SCAD location classifications: (1) Capital city; (2) Other major urban area (population more than 100,000); (3) Rural (including small towns, villages with population less than 100,000); (4) Multiple urban areas; (5) Multiple rural areas; (6) Province/region listed, exact location unknown; (7) Nationwide: affects several cities and rural areas (Salehyan & Hendrix, 2017). Events coded 1, 2, 4, and 7 are included in the analysis.

Figure 1. The number of unrest events in Africa by country, 1990-2014
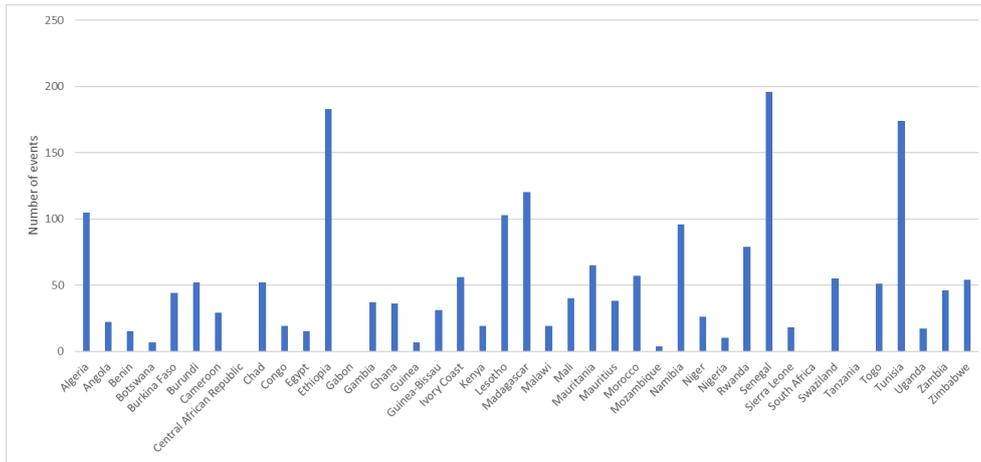
Independent variable: Domestic food price

As the objective of the article is to capture the effect of rising food prices on urban unrest caused by an increased amount spent on food, the focus is on domestic food prices, as it more accurately captures the prices paid by net consumers. The national food price indices are originally from the International Labour Organization (ILO), between 1976 and 2014 (ILO, 2019). The variable is obtained from Smith (2014), where the independent variable *Std change in domestic food price index* is operationalized as the percentage change in price of relevant foodstuffs from one month to the next. The variable is standardized by country ((food price - long-term mean) / long-term standard deviation)[6] to account for varying domestic levels of food price volatility, and compare changes in the price of food across countries with different food price indices. If more than one consumer index series exists for a country, the most complete series is used. If the series are changed, the month following the switch is dropped to avoid measurement errors or a jump in percentage change after the switch (Smith, 2014).[7] By using data on the country month level, I seek to capture the immediate response to increased economic hardship.

---

[6]Long-term refers to the sample coverage from 1990 to 2014.

[7]The Online appendix includes alternative model specifications.

Independent variables: Organizational environment

The claims of society are handled, if at all, within the political structures. The political opportunities for challengers, then, vary with the availability of meaningful access points within the political system itself (Brockett, 1991). The data on the organizational environment is taken from the Varieties of Democracy Project (V-Dem) (Coppedge et al., 2017), and includes measures on civil society organizations[8] and political parties[9]. The data covers 173 countries from 1900 to 2014, and I make use of four yearly indicators from this dataset in an attempt to capture whether there are organizational structures in societies to facilitate collective action.

To test H1, I include two measures on whether the state controls the establishment of societal groups. The first is *CSO barrier*, which concerns the government's ability to control and monopolize the formation and activity of civil society organizations. This measure ranges from 0 (the government exercises an explicit monopoly over CSOs, and the only organizations allowed to engage in political activity (...) are government-sponsored organizations) to 4 (unconstrained – whether or not the government licenses CSOs, the government does not impede their formation and operation). Examples of countries coded as 0 are Burundi in the early 1990s and Egypt in 2013 and 2014. Examples of countries where civil society organizations are unconstrained are Botswana, Ghana, and South Africa. The second measure is the presence of *Party barrier*, which measures how restrictive the barriers to forming a political party are. Barriers include legal requirements for membership or financial deposits and harassment. This measure ranges from 0 (parties are not allowed), to 4 (there are no substantial barriers). Examples of countries with severe party barriers are Togo and Equatorial Guinea in the 1990s, while countries such as Gabon and Zambia have no substantial barriers to party formation.

---

[8]According to the definition of V-Dem, these include '(...) interest groups, labour unions, religiously inspired organizations (if they are engaged in civic or political activities), social movements, professional associations, and classic non-governmental organizations (NGOs), but not businesses, political parties, government agencies, or religious organizations that are primarily focused on spiritual practices.' (Coppedge et al., 2017: 245).

[9]Defined by V-Dem as '(...) an organization that nominates candidates for public office' (Coppedge et al., 2017: 130).

Also, the analysis includes two measures on whether the state represses existing societal organizations, captured in H2. The first measure is *CSO repression*, a five-point ordinal scale focusing on the degree to which governments try to repress civil society organizations, ranging from 0 (severely, the government violently and actively pursues all real and even some imagined members of CSOs) to 4 (civil society organizations are free to organize, associate, strike, express themselves, and to criticize the government). Severe CSO repression occurred in Malawi and Morocco in the 1990s. Examples of countries with no CSO repression are Benin, Burkina Faso, and Tanzania. The second measure captures the repression of political parties in society, understood as organizations that nominate candidates for public office (Coppedge et al., 2017). The measure *Party ban* concerns whether banned parties exist within the country, and ranges from 0 (no officially recognized parties) to 4 (no parties are officially banned). Guinea-Bissau and Swaziland in the early 90s and the Seychelles are examples of countries coded as 0 in the sample, whereas countries such as Cameroon, Mauritius, and Mozambique are coded as 4. Thus, I view repression as concerning both having a monopoly over organisations, and the repression of existing organizations. Table A2 in the Online appendix shows a tabulation of institutional characteristics across the variables.

To reduce the risk of omitted variable bias, the analysis includes controls that could have an influence on the estimated effect of food price shocks on urban unrest: population (in millions), GDP per capita (thousands of constant 2010 USD) (World Bank, 2013), national election months (Marshall et al., 2013), and a measure for the time elapsed since the last unrest event[10]. Also, the analysis accounts for unobserved confounders by including country- and time-fixed effects. Through the inclusion of country-fixed effects, the analysis accounts for time-invariant unobserved heterogeneity, focusing specifically on changes over time within units. Also, time-varying confounders are handled by removing all time-specific shocks that are similar for all units by including dummies for each time period (month and year) in the data. For example, events such as the Arab Spring capture the regional effect of broader political changes that could explain the occurrence of

---

[10]This is calculated as a decay function for each country, where the risk of recurrence is halved after six months. The Online appendix includes alternative specifications.

unrest. Table A1 in the Online appendix displays summary statistics.

Analysis

Table I reports the results from the basic, unconditional effect of food price increase on unrest in urban Africa from 1990–2014. In all models, *Std change in domestic food price index* is in the expected positive direction ($p<0.05$), indicating a higher risk of urban unrest as domestic food prices increase. Model 1 includes *CSO barrier*, which has a negative coefficient, while *Barriers to parties* ($p=0.010$), *CSO repression* and *Party ban* ($p=0.045$) are in the expected positive direction; less repression increases the log odds of urban unrest. Also, both national elections ($p<0.01$) and time since last unrest event ($p<0.001$) correlate with urban unrest in the four models. With all other values held constant at their means and change in domestic food price held at zero, the baseline predicted probability of urban unrest is 13.27% in Model 1, 13.19% in Model 2, 13.30% in Model 3 and 13.18% in Model 4.

Table II displays the main analysis with the included interaction terms. Model 1 includes the interaction of *Std change in domestic food price index* and *CSO barrier* ($p=0.035$), *Party barrier* in Model 2, *CSO repression* in Model 3 ($p=0.072$), and *Party ban* in Model 4. The log odds for the interaction term including food price and CSO barrier, Party barrier, and CSO repression is negative, while the interaction term with Party ban is positive. However, models including interaction terms cannot be interpreted as the unconditional or average effect of an independent variable on the dependent variable. Since the interpretation of models presenting log odds and interaction terms can be intricate, it is useful to present the models in a plot (King et al., 2000). This is partly because the inclusion of interaction terms makes the model's significance less relevant, but more important is that the interaction term can be significant at some relevant values of the moderating variable z even if all the parameters in the model are insignificant (Ai & Norton, 2003; Brambor et al., 2005). Also, strong emphasis is often placed on the sign and statistical significance of effects, but there tends to be less emphasis on the substantive

Table I. Estimated log odds of urban unrest in Africa, 1990–2014

	(1)	(2)	(3)	(4)
Occurrence of unrest (t+1)				
Std change in domestic food price index	0.073*	0.072*	0.075*	0.073*
	(0.033)	(0.034)	(0.033)	(0.033)
CSO barrier	-0.107			
	(0.153)			
Barriers to parties		0.370**		
		(0.143)		
CSO repression			0.100	
			(0.146)	
Party ban				0.268*
				(0.134)
ln(Population)	-0.950	-0.998	-0.707	-1.144
	(1.749)	(1.655)	(1.697)	(1.716)
ln(GDP per capita)	0.478	0.341	0.373	0.407
	(0.481)	(0.462)	(0.494)	(0.480)
National election	0.427**	0.424**	0.426**	0.428**
	(0.147)	(0.147)	(0.148)	(0.148)
Time since last event	1.137***	1.080***	1.129***	1.097***
	(0.124)	(0.121)	(0.117)	(0.124)
Constant	-0.062	-0.540	-0.916	-0.009
	(5.135)	(4.789)	(4.956)	(4.996)
Observations	11,435	11,435	11,435	11,435
Clusters	41	41	41	41
FE on country, month, year	yes	yes	yes	yes
Pseudo R^2	0.202	0.205	0.202	0.204
AIC	8,995.911	8,969.070	8,995.128	8,980.767

Standard errors in parentheses

[†] $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

implications of the findings. Thus, the results can often be more useful by computing predicted probabilities at given values in the models (Long & Freese, 2006). The predicted probabilities for the interaction terms corresponding to the four models are presented in Figure 2.

I claim that the effect food prices have on urban unrest varies with the repressive characteristics of the state, where the effect of food price is higher in more open societies that allow for societal organizations to operate freely than in societies that repress these groups. For the purpose of this article, the central question is whether there is a change in the predicted probability of urban unrest, and whether the change is different depending on context, given a unit increase in food price at different levels of state repression of societal organizations.[11] Figure 2 shows the change in predicted probability of unrest in urban Africa during increasing food prices at different levels of state repression. The plots show the conditional marginal effect of a standardized change in food price (from 0 to 1) on unrest by the type of organizational environment, after holding the other variables in the model at their means. We can see from the plots that the marginal effect of increasing food prices on urban unrest is modified by the degree of state repression, although to different extents. The top left plot shows the conditional marginal effect of food price for varying levels of constraints on the entry and exit of CSOs into the public sphere. In a context of moderately repressed CSOs, the predicted probability of unrest increases by 2.8 percentage points with a unit increase in domestic food price of one standard deviation over the long-term mean (from 14.91 to 17.73 (p=0.001)). For the other levels of state repression, change in predicted probability is lower for monopolistic control of CSOs but with a high degree of uncertainty, while the effect is close to zero for both substantial and minimal repression. Thus, I find only limited support for the first part of Hypothesis 1 – that the effect of increasing food prices on unrest is moderated by the degree to which states repress the formation of CSOs. The top right plot addresses the second part of Hypothesis 1 concerning barriers to party formation. We can see from the plot that in societies where parties are not allowed to form, the predicted probability of

---

[11]The predicted probability of urban unrest over different levels of state repression when change in domestic food price is zero can be found in Figure A1 in the Online appendix.

## Table II. Estimated log odds of urban unrest in Africa, 1990–2014

	(1)	(2)	(3)	(4)
Occurrence of unrest (t+1)				
Std change in domestic food price index	0.235**	0.109	0.230*	-0.044
	(0.091)	(0.154)	(0.102)	(0.161)
CSO barrier	-0.108			
	(0.154)			
Food price:CSO barrier	-0.065*			
	(0.031)			
Barriers to parties		0.371**		
		(0.142)		
Food price:Party barrier		-0.011		
		(0.042)		
CSO repression			0.107	
			(0.144)	
Food price:CSO repression			-0.059†	
			(0.033)	
Party ban				0.265*
				(0.134)
Food price:Party ban				0.031
				(0.042)
ln(Population)	-0.982	-0.996	-0.721	-1.145
	(1.742)	(1.655)	(1.695)	(1.719)
ln(GDP per capita)	0.471	0.340	0.364	0.407
	(0.480)	(0.461)	(0.491)	(0.481)
National elections	0.429**	0.425**	0.430**	0.426**
	(0.147)	(0.148)	(0.148)	(0.149)
Time since last event	1.140***	1.080***	1.130***	1.098***
	(0.124)	(0.122)	(0.117)	(0.124)
Constant	0.026	-0.549	-0.874	0.011
	(5.121)	(4.794)	(4.951)	(5.003)
Observations	11,435	11,435	11,435	11,435
Clusters	41	41	41	41
FE on country, month, year	yes	yes	yes	yes
Pseudo R^2	0.203	0.205	0.203	0.204
AIC	8,990.904	8,968.958	8,990.514	8,980.117

Standard errors in parentheses clustered on country.

† $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

urban unrest when food prices increase with one standard deviation above the long-term mean decreases by 1.1 percentage points (from 9.68 to 8.54 (p=0.052)), while it increases by 1.4 (from 11.76 to 13.20 (p=0.049)) in societies with only modest barriers to party formation. This provides support for Hypothesis 1.

Figure 2. Change in predicted probability of urban unrest over different levels of institutional constraints, 1990–2014
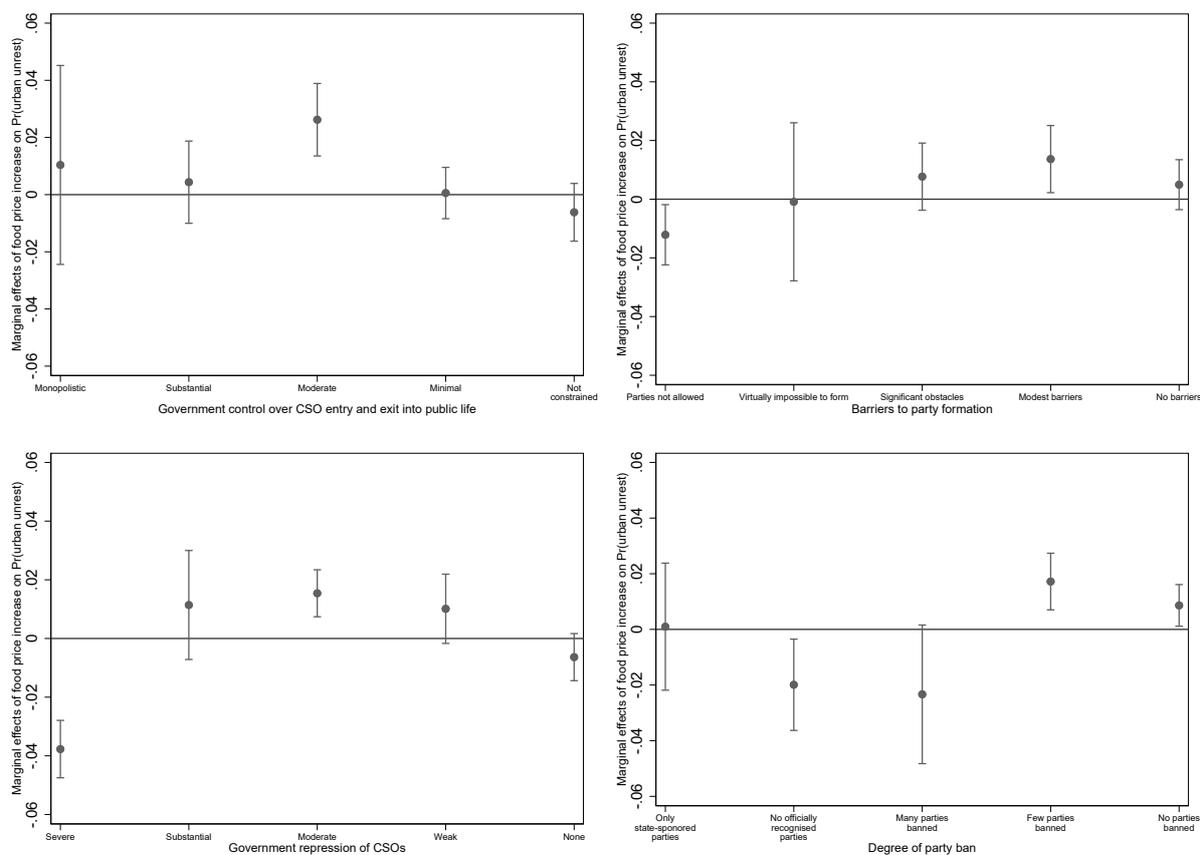
Hypothesis 2 concerns the repression of already existing societal organizations, and the results are presented in the lower left and right plots in Figure 2. Severe repression of CSOs reduces the predicted probability of urban unrest when food prices increase by 3.4 percentage points (from 15.3 to 11.91 (p<0.000)). In societies where governments only moderately repress CSOs, the predicted probability increases by 1.6 percentage points (from 11.49 to 13.13 (p=0.002)). Also, in the lower right plot, having no officially rec-

ognized parties decreases the predicted probability with 1.8 percentage points (from 7.36 to 5.60 ($p=0.046$)), while it increases the predicted probability in societies with few parties by 1.8 percentage points (from 12.61 to 14.43 ($p=0.005$)), and no parties banned by 0.9 (from 14.06 to 14.94 ($p=0.058$)). Thus, both indicators concerning the repression of already existing societal organizations indicate support for Hypothesis 2: the effect of increasing food prices is moderated by the degree to which states repress existing societal organizations. Governments that moderately uphold CSO repression and barriers, and have few parties banned and modest barriers to party formation, have a positive predicted change in probability of urban unrest when food prices rise.

However, although the theoretical expectation was the less repression the higher risk of unrest, it appears that the effect of living in a society with an unconstrained civil and political society is limited. The most open regimes do not have the largest positive change in predicted probability – there is no monotonic relationship. Although the baseline probability is relatively high in open regimes (Model 2 and 4), regimes that moderately repress societal organizations have the highest change in predicted probability. The results indicate that repression reduces the probability of unrest, but there are nuances. While societies that are somewhat repressive, yet allow for some form of organizational environment have the highest predicted change in probability when food prices rise, it is lower or negative in societies with no institutional constraints on societal organizations.

It would appear that the findings corroborate the literature that discerns an inverted-U relationship between regime type and the likelihood of conflict (see e.g. Hegre et al., 2001; Hibbs, 1973), where the highest risk of violence is in states that combine insufficient repressive capacity to clamp down on unrest with insufficient political openness to substitute contentious action with political participation through conventional channels (Gleditsch & Ruggeri, 2010). Eisinger (1973) argues that protest is most likely in systems with a mix of open and closed factors, where neither full access nor absence of opportunities lead to the most unrest. According to Boulding (2014), a rich associational life promotes political participation in society, but whether that participation takes the form of voting or protest depends on the quality of democratic institutions. People are

more likely to vote when there is little fraud or corruption and when there is real political competition and choice. If there is dissatisfaction with the formal mechanisms of participation in countries with weak democratic institutions, NGOs are likely to encourage more contentious political participation, including demonstrations, riots, and protests. Thus, an explanation for this finding could be that in well-functioning societies where societal organizations can operate freely, politically active citizens are simply more likely to vote than protest. An alternative explanation for the observed empirical pattern might be that activities initiated by societal organizations mitigate the effect of increasing food prices by providing an alternative coping mechanism. Countries with a well-functioning civil and political society may have the resources and capacity to provide food for those hardest hit by increasing food prices. This could provide some relief for consumers such that the public does not need to engage in unrest in an attempt to claim access to affordable goods.

Robustness

To enable an assessment of whether the results are consistent, the Online appendix also includes alternative models to assess whether certain model specifications are influencing the results. First, as it is likely that food price changes can take some time to manifest, and also ameliorate endogeneity concerns, the main models includes independent variables that are lagged by one month. However, since the theoretical framework suggests an immediate response to food price increase, the analysis should also test the proposed relationship with independent variables that are not lagged. The results are reported in Table A2, and the findings are overall consistent. Second, the food price change displays an erratic curve from one month to the next. It could be that this erratic curve simply displays noise and that an increase in food price in one month reflects a normalisation of decreasing food prices in the previous month. To account for this, the analysis includes an alternative measure of the food price variable, with a three-month moving average to obtain a smoother curve in Figure A3, which displays similar trends. The data on food prices also includes some extreme values with changes up to -13 and +15 from one month to the next. To test whether these values are driving the results, the Online appendix includes regressions with a maximum value of +/- 4. The results are shown in

23

Figure A4, and the alternative model specifications are consistent with the main analysis.

As the main analysis focuses on organized and spontaneous demonstrations and violent riots, the analysis also includes an alternative specification of the dependent variable in Figure A5 where all types of unrest are included. Overall, the results are consistent with the main analysis, except for the somewhat surprising finding that severe obstacles to party formation ($p=0.077$) and party bans ($p=0.074$) have a positive predicted change in probability when food prices rise. The alternative specification of the dependent variable also consists of other types of events such as pro-government and intra-government violence. These are violent events waged primarily by government authorities, or armed factions associated with the government, such as the police and the military. Taking a closer look at the data, Malawi experienced several instances of pro-government violence during the spring and summer of 1992 where the government repressed opposition supporters after a spontaneous demonstration in May. Also, Gambia saw a coup in 1994 against President Dawda Jawara in July, and a failed coup attempt against the junta led by Yahya Jammeh in November. These examples could help explain why states that severely repress political parties still see unrest, as this type of violence is waged primarily by the government itself or factions thereof.

To avoid overspecification, Figure A6 includes estimates without fixed effects, and Figure A7 without both controls and fixed effects. Also, as the decay function of six months is arbitrarily chosen, the Online appendix also includes – in Figure A8 – an alternative specification where the risk is halved after three months. Finally, as the type of regime or more general permissive conditions for protest might explain the observed pattern in the analysis, Figure A9 includes Polity 2 to capture the type of regime, while the models based on Figure A10 include an index for civil liberties, and Figure A11 for freedom of expression. The results remain consistent.

Conclusion

This article has sought to investigate whether the effect of increasing food prices on urban unrest is moderated by the degree to which states repress societal organizations. This study has argued that societal organizations may be particularly important for translating individual food-related grievances into collective action, by both providing existing mobilization structures for action, and translating grievances on the individual level into a community phenomenon by politicizing the cost of food through the formulation of grievance frames. Focusing on urban Africa from 1990 to 2014, the results indicate support for the proposition that repression of civil and political society reduces the likelihood of urban unrest when food prices increase. However, the least repressive regimes do not have the highest positive change in predicted probability. Rather, the findings suggest that countries that are moderately repressive, yet also allow for some form of societal organization, have the highest predicted change in probability of urban unrest when food prices rise.

The findings suggest that unrest can be a sign of a society engaging in contentious action to assert claims and grievances. Unrest is not necessarily a cause for concern or implicitly bad. What should catch the eye of the international community, however, is when rapidly increasing food prices do not lead to a reaction by the public. When grievances do not translate into action, it can be a sign of state constraints restraining civil and political society, and not necessarily the absence of discontent.

University, as well as four anonymous reviewers and the editor of the *Journal of Peace Research* for constructive feedback and helpful suggestions.

References

Abbott, Philip & Adeline B de Battisti (2011) Recent global food price shocks: Causes, consequences and lessons for African governments and donors. *Journal of African Economies* 20(suppl 1): 112–162.

Abdelrahman, Maha (2013) In praise of organization: Egypt between activism and revolution. *Development and Change* 44(3): 569–585.

Adams, Courtland; Tobias Ide; Jon Barnett & Adrien Detges (2018) Sampling bias in climate-conflict research. *Nature Climate Change* 8(3): 200–203.

Ai, Chunrong & Edward C Norton (2003) Interaction terms in logit and probit models. *Economic Letters* 80(1): 123–129.

Aksoy, M A & Bernard M Hoekman (2010) Food prices and poverty: Introduction and overview. In: M Ataman Aksoy & Bernard M Hoekman (eds) *Food Prices and Rural Poverty*. World Bank, 1–24.

Arezki, Rabah & Markus Brückner (2014) Effects of international food price shocks on political institutions in low-income countries: Evidence from an international food net-export price index. *World Development* 61(September): 142–153.

Baquedano, Felix G & William M Liefert (2014) Market integration and price transmission in consumer markets of developing countries. *Food Policy* 44(February): 103–114.

Bellemare, Marc F (2015) Rising food prices, food price volatility, and social unrest. *American Journal of Agricultural Economics* 97(1): 1–21.

Benford, Robert D & David A Snow (2000) Framing processes and social movements: An overview and assessment. *Annual Review of Sociology* 26(1): 611–639.

Berazneva, Julia & David R Lee (2013) Explaining the African food riots of 2007-2008: An empirical analysis. *Food Policy* 39(April): 28–39.

Bernhard, Michael; Eitan Tzelgov, D-J Jung, Michael Coppedge & Staffan Lindberg (2015) The varieties of democracy core civil society index. Working paper 13. Varieties of Democracy Institute (http://dx.doi.org/10.2139/ssrn.2667493).

Bienen, Henry & Mark Gersovitz (1986) Consumer subsidy cuts, violence, and political stability. *Comparative Politics* 19(1): 25–44.

Boulding, Carew (2014) *NGOs, Political Protest, and Civil Society.* Cambridge: Cambridge University Press.

Brambor, Thomas; William R Clark & Matt Golder (2005) Understanding interaction models: Improving empirical analysis. *Political Analysis* 14(1): 63–82.

Branch, Adam & Zachariah Mampilly (2015) *Africa Uprising: Popular Protest and Political Change.* London: Zed.

Brinkman, Henk-Jan & Cullen S Hendrix (2011) Food insecurity and violent conflict: Causes, consequences, and addressing the challenges. World Food Programme. Occasional paper 24 (https://ucanr.edu/blogs/food2025/blogfiles/14415.pdf).

Brockett, Charles D (1991) The structure of political opportunities and peasant mobilization in Central America. *Comparative Politics* 23(3): 253–274.

Bush, Ray (2010) Food riots: Poverty, power and protest. *Journal of Agrarian Change* 10(1): 119–129.

Bush, Ray & Giuliano Martiniello (2017) Food riots and protest: Agrarian modernization and structural crises. *Word Development* 91: 193–207.

Cederman, Lars-Erik; Kristian Skrede Gleditsch & Halvard Buhaug (2013) *Inequality, Grievances and Civil War.* Cambridge: Cambridge University Press.

Cohen, Marc J & James L Garrett (2010) The food price crisis and urban food (in)security. *Environment & Urbanization* 22(2): 467–482.

Coppedge, Michael; John Gerring, Staffan I Lindberg, Svend-Erik Skaaning, Jan Teorell, David Altman, Frida Andersson, Michael Bernhard, Steven M Fish, Adam Glynn, Allen Hicken, Carl Henrik Knutsen, Kyle L Marquardt, Kelly McMann, Valeriya Mechkova, Pamela Paxton, Daniel Pemstein, Laura Saxer, Brigitte Seim, Rachel Sigman & Jeffrey Staton (2017) V-dem codebook version 7.1. Varieties of Democracy (V-Dem) Project (https://www.v-dem.net/en/reference/version-7-1-july-2017/).

Demarest, Leila (2014) Food price rise and political instability: Problematizing a complex relationship. *European Journal of Development Research* 27(5): 650–671.

Eisinger, Peter K (1973) The conditions of protest behavior in American cities. *American Political Science Review* 67(1): 11–28.

Engels, Bettina (2015) Different means of protest, same causes: Popular struggles in Burkina Faso. *Review of African Political Economy* 42(143): 92–106.

Gleditsch, Kristian Skrede & Andrea Ruggeri (2010) Political opportunity structures, democracy, and civil war. *Journal of Peace Research* 47(3): 299–310.

Goffman, Erving (1974) *Frame Analysis: An Essay on the Organization of Experience*. Cambridge, MA: Harvard University Press.

Goldstone, Jack A (1991) *Revolution and Rebellion in the Early Modern World*. Berkeley, CA: University of California Press.

Gurr, Ted R (1970) *Why Men Rebel*. Princeton, NJ: Princeton University Press.

Harsch, Ernest (2008) Price protests expose state faults. *Africa Renewal* July (https://www.un.org/africarenewal/magazine/july-2008/price-protests-expose-state-faults).

Hegre, Håvard; Tanja Ellingsen, Scott Gates & Nils Petter Gleditsch (2001) Toward a democratic civil peace? Democracy, political change, and civil war, 1816–1992. *American Political Science Review* 95(1): 33–48.

Hendrix, Cullen & Henk-Jan Brinkman (2013) Food insecurity and conflict dynamics: Causal linkages and complex feedbacks. *Stability: International Journal of Security and Development 2(2)*: 1–18.

Hendrix, Cullen S & Stephen Haggard (2015) Global food prices, regime type, and urban unrest in the developing world. *Journal of Peace Research* 52(2): 143–157.

Hibbs, Douglas A (1973) *Mass Political Violence. A Cross-National Causal Analysis.* New York: Wiley.

ILO (2019) ILOSTAT: The leading source of labour statistics (https://ilostat.ilo.org/data/).

Ivanic, Maros & Will Martin (2008) Implications of higher global food prices for poverty in low-income countries. *Agricultural Economics* 39(1): 405–416.

King, Gary; Michael Tomz & Jason Wittenberg (2000) Making the most of statistical analyses: Improving interpretation and presentation. *American Journal of Political Science* 44(2): 347–361.

Long, J Scott & Jeremy Freese (2006) *Regression Models for Categorical Dependent Variables Using Stata.* 2nd ed. Stata Press.

Maccatory, Bénédicte; Makama B Oumarou & Marc Poncelet (2010) West African social movements 'against the high cost of living': From the economic to the political, from the global to the national. *Review of African Political Economy* 37(125): 345–359.

Marshall, Monty G; Ted R Gurr & Keith Jaggers (2013) Polity IV project: Political regime characteristics and transitions, 1800–2013. Vienna, VA: Center for Systemic Peace.

Mason, David T (2009) The evolution of theory on civil war and revolution. In: Manus I Midlarsky (ed) *Handbook of War Studies III: The Intrastate Dimension.* Ann Arbor, MI: University of Michigan Press, 63–99.

Maxwell, Daniel (1999) The political economy of urban food security in Sub-Saharan Africa. *World Development* 27(11): 1939–1953.

McAdam, Doug; John D McCarthy & Mayer N Zald (1996) Introduction: Opportunities, mobilizing structures, and framing processes - toward a synthetic, comparative perspective on social movements. In: Doug McAdam; John D McCarthy & Mayer N Zald (eds) *Comparative Perspectives on Social Movements: Political Opportunities, Mobilizing Structures, and Cultural Framings.* Cambridge: Cambridge University Press, 1–20.

McAdam, Doug; Sidney Tarrow & Charles Tilly (2001) *Dynamics of Contention.* Cambridge: Cambridge University Press.

McCarthy, John D & Mayer N Zald (1977) Resource mobilization and social movements: A partial theory. *American Journal of Sociology* 82(6): 1212–1241.

Oberschall, Anthony (1978) Theories of social conflict. *Annual Review of Sociology* 4(1): 291–315.

Olson, Mancur (1965) *The Logic of Collective Action.* Cambridge, MA: Harvard University Press.

Popkin, Samuel L (1979) *The Rational Peasant: The Political Economy of Rural Society in Vietnam.* Berkeley, CA: University of California Press.

Raleigh, Clionadh; Hyun J Choi & Dominic Kniveton (2015) The devil is in the details: An investigation of the relationship between conflict, food prices and climate across Africa. *Global Environmental Change* 32(May): 187–199.

Rudé, George (1964) *The Crowd in History.* London: John Wiley and Sons.

Rudolfsen, Ida (2018) Food insecurity and domestic instability: A review of the literature. *Terrorism and Political Violence*: 1–28. DOI: 10.1080/09546553.2017.1418334.

Salehyan, Idean & Cullen Hendrix (2017) Codebook version 3.3. Social conflict in analysis database (https://www.strausscenter.org/images/codebooks/SCAD_33_Codebook.pdf).

Salehyan, Idean; Cullen S Hendrix, Jesse Hamner, Christina Case, Christopher Linebarger, Emily Stull & Jennifer Williams (2012) Social conflict in Africa: A new database. *International Interactions* 38(4): 503–511.

Scott, James C (1976) *The Moral Economy of the Peasant.* New Haven, CT: Yale University Press.

Shapiro, Samantha M (2009) Revolution, Facebook-style. The New York Times Magazine 22 January (https://www.nytimes.com/2009/01/25/magazine/25bloggers-t.html).

Simmons, Erica S (2016) Corn, market, and mobilization in Mexico. *Comparative Politics* 48(3): 413–431.

Singer, Michaela (2008) Textile town mirror nation's mood. Al Jazeera 20 July (https://www.aljazeera.com/news/middleeast/2008/04/200861505834116599.html).

Smith, Todd G (2014) Feeding unrest: Disentangling the causal relationship between food price shocks and sociopolitical conflict in urban Africa. *Journal of Peace Research* 51(6): 679–695.

Sneyd, Lauren Q; Alexander Legwegoh & Evan D G Fraser (2013) Food riots: Media perspectives on the causes of food protest in Africa. *Food Security* 5(4): 485–497.

Snow, David A; E B Rochford; Steven K Worden & Robert D Benford (1986) Frame alignment processes, micromobilization, and movement participation. *American Sociological Review* 51(4): 464–481.

Sternberg, Troy (2012) Chinese drought, bread and the Arab Spring. *Applied Geography* 34(May): 519–524.

Tadesse, Getaw; Bernardina Algieri, Matthias Kalkuhl & Joachim von Braun (2014) Drivers and triggers of international food price spikes and volatility. *Food Policy* 47(August): 117–128.

Tarrow, Sidney (1996) Social movements in contentious politics: A review article. *American Political Science Review* 90(4): 874–883.

Tarrow, Sidney (2007) *Power in Movement: Social Movements and Contentious Politics.* Cambridge: Cambridge University Press.

Thompson, Edward P (1971) The moral economy of the English crowd in the eighteenth century. *Past and present* 50(1): 73–136.

Tilly, Charles (1978) *From Mobilization to Revolution.* Reading, MA: Addison-Wesley.

Tilly, Louise A (1971) The food riot as a form of political conflict in France. *Journal of Interdisciplinary History* 2(1): 23–57.

Treier, Shawn & Simon Jackman (2008) Democracy as a latent variable. *American Journal of Political Science* 52(1): 201–217.

van Weezel, Stijn (2016) Food imports, international prices, and violence in Africa. *Oxford Economic Papers* 68(2): 758–781.

Verpoorten, Marijke; Abhimanyu Arora, Nik Stoop & Johan Swinne (2013) Self-reported food insecurity in Africa during the food price crisis. *Food Policy* 39(April): 51–63.

Walton, John & David Seddon (1994) *Free Markets and Food Riots: The Politics of Global Adjustment*. New York: Wiley-Blackwell.

Weinberg, Joe & Ryan Bakker (2015) Let them eat cake: Food prices, domestic policy and social unrest. *Conflict Management and Peace Science* 32(3): 309–326.

World Bank (2013) World development indicators (https://datacatalog.worldbank.org/dataset/world-development-indicators).

IDA RUDOLFSEN, b. 1986, MA in Political Science (University of Oslo, 2013); PhD candidate (Uppsala University, 2015–); Researcher, Peace Research Institute Oslo (PRIO) (2015–).