

Food Riots: From Definition to Operationalization¹

What Do We Know about Food Riots?

Dozens of violent episodes during the food price hikes in 2008 shocked the world. Many other such events have sparked since then, arguably igniting to some extent what has become known as the “Arab Spring.” These events made worldwide headlines and have underscored the close relationship between food insecurity and conflict, a relationship that until recently was mostly associated with the food-related humanitarian disasters and famines recurrently observed in the course of civil and intrastate wars. As a result, there is increasing interest on how and the extent to which food price shocks are responsible for the origination and/or continuation of conflict and, more generally, on political instability. But food prices (shocks) are not the only cause or contributor to food riots, and more structural pressures associated with food insecurity, such as competition for natural resources, may also cause political instability and unrest.

As is the case with other social phenomena, there is not a consensus—operational or analytical—on the definition of “food riot.” However, compared to civil conflict, interstate wars, terrorism and genocide, food riot is a more elusive notion. Partially for this reason, there have been unsurprisingly few attempts to formally address a specific definition of food riot in the academic literature. Recent studies such as Angrist and Kluger (2008), Arezki and Bruckner (2011), Brinkman and Hendrix (2011), Bruckner and Ciccone (2010), Carter and Bates (2011), Dube and Vargas (2008), Maystadt, Tan and Breisinger (2012), and Pinstrup-Andersen and Shimokawa (2010) have mainly focused on analyzing food prices or food insecurity with civil wars and intrastate conflicts. Only four publications are known to have focused either on riots or some notion of food-related unrest. Bellemare (2013) assesses the impact of global food prices (and food price volatility) on the level of food-related political unrest worldwide. Berazneva and Lee (2013) analyze the socioeconomic and political conditions underlying food riots in Africa. Lagi, Bertrand, and Bar-Yam (2011) look at the role of international food prices on the onset of reported food riots worldwide. Hendrix and Haggard (undated) explore the effects of international food prices, conditional on income and regime type, on protests, demonstrations, and riots in Asia and Africa.

Clearly, this sparse literature indicates that there is space for further research on food riots. First, only two of these four publications focus specifically food riots as their conflict-related variable—Berazneva and Lee (2013) and Lagi, Bertrand and Bar-Yam (2011), while the other two either include non-food-related riots—Hendrix and Haggard (undated)—or look at any type of unrest, violent or peaceful (Bellemare (2013)). Second, the two publications that do focus specifically on food riots did not record events after May 2011. Berazneva and Lee (2013) focus on the food crisis period between 2007 and 2008, while Lagi, Bertrand, and Bar-Yam recorded data from 2004 to May 2011. Although food riots have been less frequent since that period, there is an information gap in the literature between May 2011 and 2014. Third, there is a discrepancy regarding the measures of intensity associated with the events collected.

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Lagi, Bertrand, and Bar-Yam (2011) recorded the associated death toll with each event, but none of the publications above included injuries or arrests, which are critical to assessing different degrees of intensity across events and over time.

To sum up, recent work on food riots has included events that are not (reasonably) connected to food; involve (too restrictively) only deaths or (too broadly) peacefully demonstrated discontent; focus on a singular region; or are limited to a very short period of time.

In light of these gaps, a widely acknowledged definition of food riot is needed. This new definition of food riot, building on these incomplete analyses, will extend and update the time frame of previous studies; inform about a progressive intensity of food riot episodes; will be truly worldwide; and use an encompassing definition of food insecurity beyond food prices.

Toward a Comprehensive Definition of Food Riots

Based on Berazneva and Lee (2013), Lagi, Bertrand and Bar-Yam (2011), and the *Gale Encyclopedia of Food and Culture* (2004), we define a “food riot” as:

A violent, collective unrest leading to a loss of control, bodily harm or damage to property, essentially motivated by a lack of food availability, accessibility or affordability, as reported by the international media, and which may have other underlying causes of discontent.

Four different components of this definition are noteworthy: First, the concept of “violence” is an important component of this definition because it differentiates riots from protests and other forms of demonstration that are peaceful. Newspapers sometimes are not sufficiently precise to differentiate between peaceful and violent manifestations of social unrest. For instance, the 2008 demonstrations in Mexico against food price inflation have been commonly described by some newspapers as “the tortilla riots,” while no violence was reported (*The Guardian*, December 27, 2007). Also, as indicated above, analysts may choose to study them together, as did Lagi, Bertrand, and Bar-Yam (2011) and Bellemare (2013). This is so because riots often start as peaceful protests before turning violent, although this link is neither automatic nor inevitable. At the other end, Lagi, Bertrand, and Bar-Yam (2011) only record food riots that result in fatalities. This may also bias the definition and analysis of food riots because not every episode, even when involving physical violence and/or damages to property, would be considered a food riot under that definition.

The second component refers to the proposed definition’s focus on events that are clearly related to food disturbances. Food disturbances refer to issues linked to high food prices, lack of food supplies, or food-related policies. For example, food riots may be directed toward the government in relation to food price inflation (for example, Mozambique in 2010²) and/or other food-related policy measures, including

² *The Banker* (August 1, 2011).

inefficiency of the food distribution system (for example, India 2007³) or demands for a higher level of subsidies (for example, Peru in 2008 [Schneider 2008]). In other cases, food riots may not target the government directly, but may involve turmoil over food supplies from trucks, shops, or refugee camps (for example, Sudan in 2008⁴). To the extent that these episodes can be shown to be violent, they will be recorded as food riots.

A third key element of the definition relates to the ultimate motivation underlying food riots. Even though a violent episode must essentially be motivated by food disturbances to be properly considered a food riot, it may also include other underlying motivations, for example, pervasively high unemployment, fuel price inflation, or corruption scandals. This is an important qualification, as food riots rarely involve only food-related demands and, rather, have other motivators intertwined. When an event embraces different motives, the benchmark to determine whether the event is a *food* riot or a more general riot requires an assessment of how important food-related demands are in comparison to other claims. For an event to be categorized as a food riot, food disturbances must constitute more than secondary or peripheral claims. When an event is motivated by different causes, assessing whether or not it is a food riot requires understanding the relative weights of the demands to determine the importance and scope of the food disturbances. Assessing the relative importance of food considerations may ultimately call for a subjective decision in the absence of compelling data.

The notion of collective action is the fourth and critical element of the proposed definition. Food riots imply that violent actions are not conducted by one person alone, but at least by a few persons. This contrasts with other definitions, such as Lagi, Bertrand and Bar-Yam (2011), that include political events of self-immolations (for example, Mauritania and Saudi Arabia in 2011⁵). The proposed definition would only incorporate these events to the extent that they acted as a trigger or catalyzer for wider food-related unrest, as, for instance, in the case of (pre-revolutionary stages of the events in) Tunisia in 2011 following the death of Mohamed Bouazizi (see next section).⁶ Isolated events involving one person are not considered food riots.

An Operational Definition

A number of challenges emerge when operationalizing a comprehensive definition of food riots. First, qualifying an event as violent, as reported by the international media, encompasses some degree of subjectivity and is a contested concept. According to the discussion in de Haan (2008), there is no basic agreement concerning the exact definition of violence. Discrepancies exist regarding the levels of physical, verbal, and psychological interactions that qualify as violent behavior; the perceptions among victims, perpetrators, and neutral observers as well across sociological, socioeconomic, and historical contexts; and scopes (individual versus collective, private versus public), among others. However, despite the fact that it is a contested concept, violence conventionally includes a physical attack of some degree or other.

³ *Reuters* (October 12, 2007).

⁴ *Reuters* (January 31, 2011).

⁵ *Dekhnstan* (January 23, 2011); *BBC News* (January 22, 2011).

⁶ *The Guardian* (December 28, 2010).

To tackle this issue, the proposed definition seeks to identify any form of violence, but pays particular attention to physical attacks, clashes with police forces, and associated human casualties as well as property damages. Three measures of violence are reported, aiming at assessing the intensity of food riots: deaths, injuries, and arrests. This definition is especially careful when interpreting arrests associated with social unrest: in effect, depending on whether protests are considered legal under a given regime, arrests may or may not be associated with physical force.

A second challenge arises when assessing the relative weights of multiple motives and, consequently, determining their required ranking. The key question for an event motivated by multiple factors is how important food grievances are relative to other motives of discontent. In practice, however, the available information (for instance, from the media) allows a thorough analysis of involved motivations and their respective weights. This issue is particularly relevant when assessing the relevance of the 2011 Arab Spring, which comprised a unique wave of events driven by a mix of political and economic grievances. The issue is also relevant in the case of more recent events in 2014, such as in Bosnia and Venezuela, and others.

In the case of the Arab Spring, a growing consensus seems to exist, mainly in the media, but also in academia (see Lagi, Bertrand, and Bar-Yam [2011] and Bellemare [2013]), that food price inflation and food insecurity were important catalysts behind the unrest. Indeed, following the Arab Spring uprisings, *The Economist* (May 17, 2012) stated: “from the start, food has played a bigger role in the upheavals than most people realize.” This opinion has been supported by a number of experts and newspapers.⁷ However, although food disturbances were important in triggering unrest, these events may more appropriately be described as revolutions and antigovernment demonstrations than food riots: the essential motive of discontent was an overwhelming dissatisfaction and disaffection with the regime in office. Food-related grievances may have acted as a catalyst, but it becomes unclear when all claims may coalesce and amalgamate into demands capable of driving countrywide revolution and overthrowing an administration. As a result, in contrast with Lagi, Bertrand and Bar-Yam (2011), the proposed definition does not incorporate most of the 2011 Arab Spring events—although the database will record them for reference. What, instead, the definition would allow is the inclusion of early pre-revolution stages in Tunisia and Algeria, where people rioted over food price inflation before events turned into wider revolutions.⁸

In addition, the proposed definition will be operationalized including records of food riots between 2007 and 2014. It is worth noting, however, that another geographical consideration is in order. Food riots occurring in major cities often spillover into other smaller cities or rural areas, but it is difficult to find specific information about each of these events separately. This typically implies that all such interlinked episodes are recorded as *one* event that may have aftermaths in subsequent months and across regions

⁷ A sampling of some of the early reporting on the protests that gradually became known as the Arab Spring: Ariana Eunjung Cha, “Spike in global food prices contributes to Tunisian violence,” *The Washington Post*, January 14, 2011; Johnny McDevitt, “Jordanians protest against soaring food prices,” *The Guardian*, January 15, 2011; Marilyn Geewax, “Rising food prices can topple governments, too,” National Public Radio, January 30, 2011; Jeff Rubin, “Food: what’s really behind the unrest in Egypt,” *Toronto Globe & Mail*, February 9, 2011 (footnote 46 in Rosenberg [2011]).

⁸ Bellemare (2013); *Daily The Pak Banker* (January 11, 2011); *The Times* (January 10, 2011); *Carmarthen Journal* (January 26, 2011).

within a given country. Also, events may be motivated, for instance, by a common external shock over a short period of time that leads to a food-related protest, such as floods that have been reported to have triggered food riots across India in September 2008.⁹ In response to this issue, each food riot event collected is associated with the total number of casualties, including those related to other evident or suspected simultaneous and/or spillover episodes of food riots. For instance, the *Assam Tribune* (December 31, 2010) reported food riots spreading to different districts in the Assam region in India between September and October, after poor people were denied special ration cards for rice at concessional prices. Although it is not possible from this article to know exactly how many riots erupted, the overall casualty toll following the events is reported.

Methodology and Data Collection

Based on the proposed definition and decisions on the specific challenges described above, a data set was collected from the media reports—mainly newspapers—published between 2007 and 2013, as well as from academia, published work in journals, and unpublished literature. Given that there was no specific data set available on food riots worldwide from which to build upon, this data set is believed to be the first global database on recent food riots.

The data collection was initiated by a—researcher level—access to *Factiva*, a specialized media searching engine. *Factiva* also includes newspapers and sources that require subscriptions, which means that it allows a sample of sources broader than free search engines such as Google or Google News. An initial search focused on the words “food riot” and “food riots” in their main text or headline across all newspapers accessible through *Factiva*. That initial search led to 7,742 results, from which a first cut was made by going through all the articles and assessing whether or not they had relevant information on food riots. Starting with such a broad search was time-consuming, but enabled comprehensive coverage that should minimize the risk of important omissions. During that initial search or screening, it was noted that food riots were rarely the focal point of most of the news, but rather constituted a reference to a more general story related to food price crises. This implies that many of these stories do not report specific dates, related countries, or casualties. Also, they would typically refer to, for example, violent protests or protests with casualties instead of food riots. The initial screening selected about 400 articles from the initial 7,742 search results.

The third step drilled into the screened articles and completed a basic data set template with relevant information pertaining to reported food riots. This process was followed by an additional country-specific search using *Factiva*, because some food riots described in the 400 article pool required additional information, for example, on the number of casualties. Multiple supplementary searches were conducted using *Factiva*, modifying different key words related to food riots to cross-check the results and ensure no relevant event was omitted. Some of these modified searches included terms such as violence, food, commodity, protest, prices, inflation, casualties, and injuries.

⁹ *Reuters* (September 24, 2008); *Reuters* (August 22, 2008).

The fourth step consisted of a final search across targeted academic publications, resources, and two search engines, Google and IRIN, which is a pool of humanitarian news and analysis maintained by the United Nations Office for the Coordination of Humanitarian Affairs. This final round ensured that there were no missing episodes from the *Factiva* data set. For example, reports from Schneider (2008), Berazneva and Lee (2013), and Lagi, Bertrand, and Bar-Yam (2011) were carefully compared with the identified episodes from *Factiva*. Finally, for documentation purposes, the data set includes relevant quotation(s) and the corresponding source(s) associated with each food riot registered.

As a result of this multistage data collection process, the final data set registered 55 food riots in 38 countries between 2007 and 2014.

Results: Key Highlights

Two types of food riots emerged after the data collection process. **Type 1 riots** constitute the most frequent type of food riot in the data set. This type of food riot occurred frequently during the food price crisis because it is motivated mainly by food price inflation. These food riots are directed against the government and may also be triggered by dissatisfaction with subsidy programs or other food-related policies. In some cases, secondary motives involve non-food-related political and economic demands. **Type 2 riots**, in contrast, are usually not directed against the government and do not have strong political underpinnings. These food riots target food supplies, and usually occur around food supply trucks, shops or refugee camps. These food riots typically arise in response to severe shortages. Moreover, these food riots are usually associated with a lower casualty toll because they are less organized and usually involve few people.

Table 1 provides an overview of the five most violent food riots within the 2007–14 time frame for each type of food riots identified from the data set.

Table 1. Food Riot Overview: 2007–14

Food Riot: type 1							
Main target: government							
Main motive: food price inflation							
Country	Year	Date (month)	Intensity			Related quotation(s)	Source(s)
			Deaths	Injuries	Arrests		
Cameroon	2008	February	24–100	-	1 671	"Riots against the high cost of living—including food and fuel prices—reportedly paralyzed the Cameroon capital of Yaoude."	Schneider (2008)
South Africa	2012	August	37	80	6	"Evidence for a link between the violence in South Africa and the rapidly rising food prices."	Lagi, Bertrand, and Bar-Yam (2011)

Tunisia	2011	January	23	100s	-	"Tunisia and Algeria sought yesterday to stem growing revolts over food prices."	"Up to 20 shot dead by police in food riots" (<i>The Times</i> , January 10, 2011) "Riots in Tunisia highlight concern over food security" (<i>Carmarthen Journal</i> , January 26, 2011)
Yemen, Rep. of	2008	March	14	-	100	"The prices of bread and other staple foods nearly doubled in four months, provoking demonstrations and deadly riots."	Schneider (2008) "Who is fighting over food" (<i>The Guardian— News Blog</i> , April 9, 2008)
Mozambique	2010	September	13	-	150	"Riots broke out in cities across the country, including the capital Maputo, after the price of bread was hiked by 30%."	"Mozambique thinks smaller" (<i>The Banker</i> , August 1, 2011)

Food Riot: type 2
Main target: food supplies
Main motive: food price inflation and food shortages

Country	Year	Date (month)	Intensity			Related quotation(s)	Source(s)
			Deaths	Injuries	Arrests		
Argentina	2012	December	22	200+	-	"In working-class neighbourhoods in Buenos Aires province, hordes of teenagers ransacked grocery stores as outnumbered police stood by helplessly."	"President resigns after riots leave 22 dead in Argentina" (<i>Daily Mail</i> , December 28, 2012).
Pakistan	2009	September	20+	30	-	"20 trampled to death in food riot."	"20 trampled to death in food riot" (<i>The Sun</i> , September 15, 2009)
Somalia	2011	August	10	-	-	"At least ten Somalis—refugees among	"At least ten die in Somali food riot" (<i>Euronews</i> ,

						them—have reportedly been killed in a food riot in a camp near Mogadishu. Shots were fired when troops and locals raided truckloads of aid supplies destined for famine-hit areas."	August 5, 2011)
Somalia	2007	June	5	-	-	"Police fired on a crowd of people trying to storm a food warehouse in northern Mogadishu Monday, and five civilians were killed, witnesses said."	"Somalia: Food riot leaves 5 dead" (<i>USA Today</i> , May 25, 2007)
China	2007	November	3	-	-	"Cooking oil is now so expensive that 3 people were trampled to death in November in a stampede to grab bottles at a reduced price."	Schneider (2008)

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