PhD Thesis

Social Uprisings: Conceptualization, Measurement, Causes and Implications

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Dedication

I dedicate this thesis to my parents,

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Table of Contents

List of Tables

List of Figures

Paper 2:   Measuring Social Acts of Defiance Against the Government

Paper 3: Causes of Social Uprisings: An Empirical Analysis Utilizing a Novel Indicator

Paper 4: The Impact of Recipients' Social Uprisings on Donors' Foreign Aid Allocation

Conceptualizing Social Uprisings

Sondos Shaheen

Abstract

Revolutions are an often-studied topic and various theories for their occurrence are found in the literature. Nevertheless, the ambiguity inherent in the term itself has meant that there is no commonly accepted definition of a "revolution," which means that it is often difficult for researchers to compare their findings to those of others. To overcome this problem, this study provides a review of the extant literature on the topic, including that dealing with definitions, theoretical arguments, and types of uprisings. The end result of this literature review is the presentation of a working definition of "social uprisings," which I argue is a more accurate term than "revolutions." Social uprisings, under my definition, involve defiance against the government, which can be of either a violent or a nonviolent nature.

Keywords: Definition, terminology, theory, phenomenon, wave, social uprisings, revolution, conflict, movement

1. Introduction

An unanticipated series of events can capture the attention of researchers working in various fields. Researchers will then try to understand what happened and why. The "what" is the first step and if the "what" is not clearly defined, it will be nearly impossible to find out the "why." Once the "what" is understood, researchers can then analyze the causes and consequences of the unanticipated events.

The unanticipated series of events that are of particular interest for this study are social uprisings, for example, the 2011 social uprisings in the Arab world that took the rest of the world by surprise. Masses of citizens gathered in public areas to express their opinions of their respective governments, an unprecedented event in this area of the world, where freedom of expression is not the norm nor much welcomed (Kirat, 2005). Indeed, the World Press Freedom Index for 2013 places the Arab world at a "deplorable level in the index" (RSF, 2013), which is even worse than it ranked in 2011. Daily coverage of the "Arab Spring" by major international news agencies worldwide illustrated how unexpected this event was and how difficult to understand. This coverage usually involved direct footage or experts expressing opinions and was sometimes far less than objective, which is, unfortunately, often the case with news coverage (Donsbach, 2004, p. 131), and at times downright confusing.

For example, among the terms employed by news agencies to describe the events in the Arab world were uprisings, protest, riots, unrest, and revolts (Applebaum, 2011; Spencer, 2011; Cockburn, 2011; Hill, 2011; Blackden, 2011; Shadid, 2011). That is, different terms were used to describe the exact same phenomenon, or in the words of one commentator, in short, "no one seems to know what to call this conflict—a revolution, a civil war or, in a translation of what some call it in Arabic, 'the events: a shorthand for confusing violence'" (Shadid, 2011).

At the beginning of the uprisings in early 2011, the focus of the news was country specific, starting with Tunisia then moving to Egypt. Nevertheless, the terminology used to describe the events was inconsistent even when reporting about the same country. For example, news headlines included "Egypt Riots Rock World Markets" and "Egypt Protests: Army Rules Out the Use of Force" (Blackden, 2011; BBC, 2011). Terms such as "mass protest" and "demonstration" were used synonymously.

As the uprisings spread across the Arab world, reporting included even more terms for the same basic events: riots, power struggle, protests, civil war (Spencer, 2011; Hill, 2011; Bakri and Goodman, 2011; Spencer and Ramdani, 2011). The spread of the uprisings inspired reporters to create links and discuss spheres of influences (Evans-Pritchard, 2011; Whewell, 2011; The Telegraph, 2011; Watson, 2011; McElroy, 2011). No longer were the events referred to as the

Egyptian uprisings or the Tunisian uprisings but as the "Arab Spring" (Spiegel Online, 2011). The Arab Spring then began to be represented as something to be feared by Arab rulers due to its potential to spread democracy (Höges, Zand, and Zuber, 2011). This shift in analysis is a reflection of a wave of uprisings. The next phase of media coverage involved an international relations dimension. Now, it was not just the Arab world that faced the spread of democracy; according to a *New York Times* headline, for example, "Wary of Egypt Unrest, China Censors Web" (Wong and Barboya, 2011).

The idea of revolutionary waves and spread of the events have an influence on foreign policy relations. Therefore, as a study of uprisings it is important to also consider the implications for uprisings. For example, in the words of another headline, the U.S. Secretary of Defense "Tells Bahrain's King that 'Baby Steps' to Reform Aren't Enough" (Bumiller, 2011). It is interesting how media report made links to various countries, including Morocco, Afghanistan, Iran, Tibet, India, Turkey, and China, by the use of phrases such as "a single match can ignite a revolution" (Worth, 2011). Eventually, the "Arab Spring" was compared to the color uprisings and the Kyrgyzstan's tulip revolution (Dougherty, 2011).

News media coverage of these events in early 2011 was a preview of the analysis the Arab Spring would receive in scientific journals. Taking a qualitative case study approach, researchers began to analyze the origins and implications of the Arab Spring (Bradley et al., 2011; The Economist, 2013; Doucet, 2013; Blinken, 2014). Other papers not only analyzed the possible reasons for the uprisings but also analyzed the role of social media and global outreach for the success of uprisings (Axford, 2011). Joffé (2011) analyzed the events by categorizing countries' experiences as either nonviolent revolutionary movements or violent insurgencies. Dalacoura (2012) argues that comparing the Arab Spring to the end of communism in Eastern Europe is "premature," stating that "there has been—and there will be—no serial collapse of authoritarian regimes leading to a democratic future," as the Arab Spring was not a revolution but, rather, an uprising or a revolt (Dalacoura, 2012, p. 63). However, another scholar disagrees, stating that "in Tunisia, Egypt, and Libya, long-standing autocrats have been toppled" (Lutterbeck, 2013, p. 28). But these authors are only disagreeing as to the outcome of the uprisings, not over whether they occurred, and in fact, no one disagrees that both the Arab Spring and the Eastern Europe uprisings were unanticipated (Kuran, 1991; Pace and Cavatorta, 2012). The element of surprise is common to both; their differences lie in their causes and outcomes (Weyland, 2012). A country-by-country outcome analysis provides the strongest support for the argument that grouping the Arab countries together ignores important difference in the conditions that gave rise

to the unrest (Anderson, 2011; Sadiki, 2000). Perhaps Beck (2014) does the best job of summarizing the difficulty of not only reporting but analyzing the Arab Spring:

> The "Arab Spring" was a surprising event not just because predicting revolutions is a difficult task, but because current theories of revolution are ill equipped to explain revolutionary waves. (Beck, 2014, p. 197)

This brief overview of the Arab Spring and how it was covered, first, by the media, and then later analyzed in a more scientific way highlights the importance of this study, the main contribution of which is to provide a literature review on the concept of social uprisings. The literature review is intended to result in a better understanding of what is meant by social uprisings in a global sense. Providing a working definition of social uprisings that is founded in both theory and fact will equip researchers to tackle a phenomenon such as the Arab Spring. This definition could be the starting point for future studies on the drivers and implications of social uprisings.

Section 2 provides a review of current definitions of and theories about uprisings, in the process summarizing the evolution of revolution theory. Moreover, it discusses criticisms made of the extant literature and reveals gaps in analysis. Section 3 discusses the fact that most theories involving uprisings deal mostly with violent uprisings and points out that such a narrow view is unproductive; both violent and nonviolent uprisings need to be considered when studying revolutions. Section 4 analyzes how social uprisings impact international relations. This includes an analysis of external influences and the phenomenon of waves of uprisings, as seen with the Arab Spring. Section 5 provides the conclusions and suggests some areas for future research.

2. Literature Review

The chief goal of this paper is to provide a definition of "social uprisings" that will be useful in later empirical and theoretical research. No such definition is apparent from the extant literature. What the literature does provide, however, is the general conditions, causes, and circumstances of a certain event, which is a good starting point for proper definition. This review of the work on revolutions highlights the important elements of social uprisings.

One strand of the literature focuses on the conditions for success or failure of a revolution (Muller, 1985; Midlarsky and Roberts, 1985; Lichbach, 1989). This approach generally assumes that there is a common understanding of the term "revolution." Although such analyses provide

interesting viewpoints on the reasons for the success or failure of such events, they do not necessarily provide an understanding of what a revolution is.

In other literature, definitions are provided, but these tend to be idiosyncratic, that is, they reflect the author's own understanding of the phenomenon (Goldstone, 2001; Tocqueville, 1955; Brinton, 1952). This approach provides a foundation for understanding the arguments made. For example, Goldstone (2001) defines revolutions as "efforts to change the political regime that draw on a competing vision of a just order" and "efforts to force change through noninstitutionalized actions such as mass demonstrations, protests, strikes or violence." However, these statements do not actually define what a revolution is, but are, instead, reasons for undertaking certain action. Lists of the definitions and theories found in the literature can be found in Tables A1 and A2 of the Appendix.

A. Term Use and Ambiguity

The term "revolution" is ambiguous and used inconsistently, it was noted as early as 1926 by Yoder, a problem that persists to this day (Beck, 2014). As Goldstone points out, the "term revolution is frequently used with little care; as a result, it has become vague and slippery" (Goldstone, 1991, p. 8). Yoder (1926, p. 433) argues that due to the variety of meanings given to the word "revolution," the "term is like a chameleon's skin that is adaptable to each personal purpose." In the literature, the term "revolution" is not confined to political studies but is used for various purposes in many disciplines.

In political economy literature, the lack of a concrete conceptualization of the term "revolution" and other of its ilk led Starr (1994) to question the theoretical premises and label the previous literature "atheoretical" (Starr, 1994, p. 482). Waterman (1981) recognizes the common properties of various terms—"revolution, collective violence, group conflict, internal war, political strikes, turmoil, electoral mobilization and demonstrations" (Waterman, 1981, p.554)— and comes up with an umbrella phrase to cover all of them: actions of mass political movements. The following quote shows that other scholars have also recognized the similar meaning of various terms used to describe a revolution. "Social revolutions often possess characteristics that may also be present in unsuccessful revolutions, rebellions, riots, and ordinary cycles of protest" (Tarrow, 1995, p. 472).

Nonetheless, the most commonly used term is revolution, although it remains controversial. For example, Land (2007) argues that if a revolutionary action is the community's rejection of rules set by the authorities, then it is valid to argue that pirate activity during the golden ages, in early 18th century, should be also considered a revolutionary.

According to Gyánia (2008), some scholars argue that the term "revolution" was first used to describe the events in France in 1789, and they define it to mean a forceful collective effort to topple the regime (Gyánia, 2008). In truth, however, the term first received it political connotations after the Glorious Revolution, which occurred in 1688, a century earlier than the French Revolution (Schwoerer, 2004). This political characterization of the terminology is credited to "lexicographers like Edward Philips, John Kersey and Samuel Johnson" (Snow, 1962, p. 163). However, when the term was first used and for what has very little to do with what it stands for--that is, there were revolutions long before anyone called them revolutions for example, the plebeian secession that occurred in 449 BC (Schock, 2013). Indeed, according to Lipsky (1976), there have been uprisings for as long as there has been something to rise up against.

A review of the origins and first use of the term revolution goes some distance to explaining why the term is so ambiguous. The concept of revolution is an offshoot of the Latin word *revolvo* (Souter, 1998), which "evolved through the centuries from a simple, rather obscure, Latin word denoting the periodic return of a moving object (or person) to the point of origin, to a widely used and complex doctrine of political action." (Snow, 1962, p. 167).

Based on this early understanding of revolutions being of a cyclical nature, mid-seventeenth century authors did not view political shifts as revolutions. They considered a political shift to be forceful action engaged in for the purpose of obtaining the ruling position. In the seventeenth century, Galileo's "astronomical meaning" of the term "revolution" predominated over all other definitions (Cohen, 1985, p. 393). Galileo defines revolution as a cycle of contribution. The action of taking over the governing power is then seen as a result of a cycle of political conflicts (Hartman, 1986, p. 495).

Abandoning the seventeenth-century idea of cyclicality, eighteenth-century authors used the term "revolution" to only refer to a change of real magnitude and a breach of continuity (Cohen, 1976). This approach is supported by Weber's (1974) explanation of an authentic revolution that it is a set of actions that causes a change in history in a limited period of time.

Some twentieth-century qualitative studies of revolution use the eighteenth-century definition of revolution as change (Hagopian, 1974; Tilly, 1991; Krejčí, 1994). These authors find revolutions to be an irregular political challenge, such as a coup d'état or popular uprising (Tilly, 1991), which, however, does not necessarily have a revolutionary outcome (Siani-Davies, 1996).

Recent studies of revolutions demonstrate that nearly every successful revolution ended up betraying the principles upon which it was founded (Land, 2007). Hakim Bey (2001) questions whether revolution does culminate in a desirable goal for the opposition, preferring the "term

'insurrection.' The term insurrection is used by historians to label failed revolutions (Hakim Bey, 2001, p.403). A successful revolution changes the ruling power via a "multi-class coalition"; however, such success is not long lived as the different groups will reject "the shape of the new order" (Foran, 1992, p. 11). Therefore, the cyclical nature of revolution continues even after a power shift: the subjects will not stay satisfied for long, and a new cycle will begin.

From the such explanation of failed revolutions the seventeenth century cyclical understanding of revolutionary movement is conceptually still viable. A political shift does not mean an end to the revolution cycle because dissatisfied opposition from failed revolution makes the opposition in a continuous cycle of revolution.

B. Generations of Revolution Theories

This section is organized based on Goldstone's (1980) classification of revolution theories into three generations. The generations are not only time specific, they are also theme specific, reflecting the view of revolution prevalent in each time period (Shugart, 1989; Goldstone, 1980).

a. First Generation

The first generation covers the period from 1900 until 1940. This generation views the pattern of revolutions as a reflection of basic needs, although the work done in this period lacks a general encompassing theoretical perspective. This generation's major contribution is *The Process of Revolution* by George Pettee. Pettee provides a detailed summary of earlier work, starting from Aristotle's and Plato's theories of punishment of the classes (Pettee, 1938). For Pettee, a revolution is the "reconstruction of the state," not only via change of the ruling power, but also through changing the class structure of the society. According to Pettee, there must be a decline in loyalty to the state preceding a revolution for it to be successful. In the words of another author, revolution takes place when the majority of the citizens "feel cramped beyond tolerance" by economic institutions or the ideological situation (Odegard, 1939, p. 693).

b. Second Generation

The second generation of revolution research, 1940–1975, is characterized by its major theoretical frames of psychology, sociology, and political science.

Cognitive Psychology

Based on cognitive psychology, Gurr (1970), Davies (1962), and Feierabend and Feierabend (1966) illustrate how frustration with a set of political or economic goals drives a revolution. However, the authors disagree on what exactly drives this frustration. Davies (1962) argues that short-term economic challenges cause relative deprivation in comparison to a reference group. Gurr (1970) agrees that deprivation plays a role, but he argues that it is relative deprivation based on one group's comparison with another reference group, not individual deprivation. Taking a different view, Feierabend and Feierabend (1966) argue that a long period of modernization drives high expectations, which lead to frustration if they are not met.

Sociological Structural Theories

Sociological theories make up the second category of second-generation revolution theories. Smelser (1963) provides the foundation for a sociological theory of revolution by positing a theory on collective behavior based on a framework of social action including values, norms, mobilization, and situational facility. Smelser (1963) defines revolutions as violent non-institutionalized movements that replace government. The drivers for such collective action "are the strains that give rise to hostile outburst" (Freeman, 1972, p. 342). Collective behavior is possible only when the opposition take responsible role and there is a high level of communication among the group members.

Chalmers Johnson's 1964 book *Revolution and Social System* is another contribution to sociological theories of revolution. Both Johnson and Smelser have a value-oriented understanding of revolution being a driver of social change. Moreover, both characterize revolution as violent. Johnson focuses his argument on the disequilibrium in society: a revolution is possible when there are two distinct groups, one of which tries to maintain the status quo while the other aims to alter the status quo (Zagorin, 1973). Whether this disequilibria will lead to a revolution depends on the characteristics of the group that wants to change the status quo (Freeman, 1972). "Accelerators" may push the disequilibria toward revolution. Accelerators include the regime's loss of authority and the opposition's access to arms.

Political Science Theories

Tilly (1975) and Huntington (1968) base their study of revolution on the "pluralist theory" of political science. They view revolutions as the "ultimate political conflict" (Goldstone, 1980, p. 429). This conflict arises between competing interest groups, which then escalates to a point where it is no longer possible to mediate between the parties using standard political channels.

Huntington (1968) argues that modernization is the leading factor in revolutions. In a modernizing society, increasing levels of education and communication are accompanied by an increase in political demands. However, a traditional society taking its first steps toward modernization "lacks the political institutions and organizations capable of bearing the heavy new strains put on them" (Zagorin, 1973, p. 47). For Tilly, the key element for a revolution is the rise of new interest groups. Interest group conflict is the driver for revolution given these groups' new and competing value systems and social orders.

c. Third Generation

Goldstone (1980) argues that the third-generation theorists provide the most comprehensive analysis of revolutions. Starting in 1975, theorists such as Paige (1975), Skocpol (1976), and Eisenstadt (1978) provided an analysis of revolution based on detailed historical accounts, which strengthens their arguments.

Paige analyzes peasant revolutions. He argues that the type of revolution, for example, jacqueries or mass revolution, depends on the agrarian social structure. For example, mass peasant revolution is more likely when the landlord is dependent on the "income from land ownership" but the peasants earn their living from "migratory labor" (Goldstone, 1980, p. 437). This approach is criticized for analyzing rural conflicts in isolation. Khodarkovsky (1994) analyzes interaction among various societal groups during the fourteenth-century peasant revolutions of England and France, concluding that those revolutions involved more than only peasants.

Eisenstadt (1978) does not believe that revolutions are driven by the material needs or desires of the revolutionaries. Instead, he shares Talcott Parsons's ideology of value-driven actions (Sciortino, 2010). For Eisenstady, revolutions are defined as "social movements which bring about violent social change" (Madsen, 1979, p. 736). Eisenstadt ventures beyond the occurrence of revolution and analyzes post-revolutionary politics. He argues that revolutionary elites with close ties are "more likely to build an open post revolutionary politics, while isolated elites will tend to form coercive closed regimes" (Goldstone, 1980, p. 437).

Skocpol (1976) argues that poor state structure and institutions can lead to revolution. For example, social revolutions increasingly occur in centralized bureaucratic agrarian societies peopled with powerful landlords. However, without human initiative and a loss of state legitimacy, revolution is not possible. Moreover, Skocpal argues that "international pressures" can be catalysts for revolutions (Goldstone, 1980, p. 440). In analyzing the outcomes of revolutions, Skocpol argues that they often end up with results different from those originally intended (Kamrava, 1999).

3. Characteristics of the Uprisings

From the above review of theories of revolutions, it is apparent that theorists assume that revolutions are always violent, and indeed, the three definitions of revolution set out below make it very clear that violence is considered to be *the* key dimension (for a more comprehensive list of definitions of revolution, see Table A1 in the Appendix):

A revolution changes the political and social system by violence.

(Schaff, 1973)

Revolutions incorporate fundamental change, violence, and class uprising.

(Roper, 1994)

Revolution is a form of violent political action used to change the regime.

(Calvert, 1969)

Despite the assumption that revolutions always involve violence, case studies and qualitative analyses illustrate that nonviolent uprisings are worth investigation, too. In fact, using the term "revolution" without further clarification does not indicate whether it is of a violent or nonviolent nature. Rule (1988) argues that the terms "civil violence" and "revolutions" are used synonymously. Thompson (2007) argues that the reason nonviolent uprisings have not been covered extensively is that they do not seem radical enough to many theorists.

A. Violent

The extant literature focuses on violent uprisings when analyzing events of government opposition and work on psychological and cognitive processes go some distance toward explaining why. Violence is viewed as a troublesome form of conflict and hence it attracts more attention (Elbert, Weierstall, and Schauer, 2010). In the 20th century "hundreds of millions of people" were killed due to political violence (Chenoweth and Cunningham, 2013).

Much of the work on revolutions either ignores the possibility of there being other methods of opposition or views violent uprisings as the only effective means of achieving the desired outcome (Stephan and Chenoweth, 2008; Kruegler and Parkman, 1985). Violent uprisings are argued to be more coercive and hence more likely to result in the desired policy change (Pape, 1998). This reveals that violent revolt is understood by many as a means to the desired end of freedom. Worgs (2006) argues that a justification for using violence is to gain the respect of the oppressor. Political violence of opposition, including civil war and insurgency, is argued to be a

way of ousting an autocratic regime (Pevehouse, 2002). A review of extant literature highlight coups, revolutions, and assassinations as the commonly used methods of removing a dictator from power (Miller, 2012).

Rebellion, guerilla warfare, and insurgencies are violent activities undertaken with the intent to weaken or overthrow the government (Carey, 2007). Groups taking these actions pose a substantial threat to the stability of a country and can trigger a violent response from the state (Davenport, 1995). According to Tosini (2007) insurgency movements use violence to promote its cause for the politically marginalized and repressed community.

Violent uprising have a strong likelihood of leading to "two-sided violence between insurgent and the government" (Besley and Persson, 2011, p. 1411). Worgs (2006) justifies the use of violence in intrastate conflict in the case of having oppressive regime. Armed conflicts can provoke the government to respond with military force (Dudouet, 2013). There oppressed may need to take violent action to gain the respect of the oppressor. Insurgent organizations are argued by Kalyvas and Kocher (2007) to be justified in their use violence to provide protection to the targeted oppositions of civilian population by the state. Violence can be a form of retaliation for the loss of family and friends caused by the regime, thus creating a "cycle of violence" (Fielding and Shortland, 2010, p. 433).

Power sharing arrangements imposed by external parties as a way of resolving a conflict has been found to increase insurgency violence instead of resulting in peace (Spears, 2000). Violence is seen by insurgency leaders as an "effective instrument to access state power" (Tull and Mehler, 2005, p. 394).

Intrastate violence has been linked to relative deprivation of one societal group in comparison to a reference group (Caprioli, 2005; Besançon, 2005). Hence, economic inequality and political violence are strongly related.

B. Nonviolent

Conflict does not necessarily involve violence (Sharp, 1973). Indeed, it is arguable that there are both violent and nonviolent responses possible to any conflict (Most and Starr, 1989; McCarthy, 1990), and this is true of conflicts between a government and the governed (Boulding, 1963), that is, there are both violent and nonviolent ways of handling these.

In analyzing social uprisings, it is important to acknowledge that a routine political behavior may not always be a viable option for the opposition (Bond, 1988; Sharp, 1973). Routine political behavior such as voting, for example, can be very limited in autocracies (Tilly, 2007). Hence, in this sort of environment, it is likely that dissatisfied individuals will resort to some sort of direct

action, be it violent or nonviolent, where direct action is defined as when "individuals either do something not sanctioned by the authorities or refuse to do something they are expected or ordered to do" (Celestino and Gleditsch, 2013, p. 389). Nonviolent action can be effective for a minority group that does not have resources and influence within a society (Zanden, 1963). Moreover, nonviolence is "less likely to bring direct retaliation" from the governing group (Wirmark, 1974, p. 128).

Two books published in 2011—*Why Violence Has Declined* (Goldstein, 2011) and *The Decline of Armed Conflict Worldwide* (Pinker, 2011)—argue that the world is now experiencing less violence than in earlier centuries;. The books mention the increased number of peace and rights movements formed to voice the opinions and demands of minorities, ethnic groups, and women, among others. Books like these are good evidence that the extant literature's focus on violent uprisings needs to be widened to accommodate a view of nonviolent uprisings.

According to Lipsky (1976), there has been resistance against government for as long as there has been government, and not all of it has been violent. Shock (2013), for example, gives as an example of nonviolent civil resistance the plebeian secession of 449 BC, in which the Roman plebs left the city in a general strike and stayed out until the elite met their demands for political rights. Interestingly, Gene Sharp (1973), in discussing the power of civil disobedience, provided an explanation for the plebeian secession. Dr. Sharp[1] (1993) explains that a mass of the population opposing the government over an extended period of time will eventually result in the regime dismantling the hierarchal system that allows it to function.

Civil movements for change started occurring more regularly in the nineteenth century (Randle, 1994; Bond, 1988). Indeed, public protests became an ever-more frequent response to unpopular government action (Carter, 2005). The twentieth century witnessed the collective nonviolence resistance of the working class in Italy in 1904, in Spain in 1919, and in Britain in 1926 (Shock, 2013).

C. The Choice and Consequences

a. Choice

The choice to use nonviolent means of opposition can be strategic/pragmatic or principled (Stephan and Chenoweth, 2008). Principled nonviolence is based on religious or ethical ideology. Widely known examples of principled nonviolence are the movements led by Gandhi and Martin Luther King, Jr. (Childress, 1973). However, Gandhi's notion of principled

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[1] Dr. Gene Sharp is referenced in nearly every study of nonviolent movements. He founded the Albert Einstein Institution in 1983 to advance the study of nonviolent action in conflicts throughout the world.

nonviolence is not the norm (Ramana Murti, 1968); more often, nonviolent strategies are undertaken for pragmatic reasons, that is, for their effectiveness in achieving goals, not because of some religious ideology (Martin and Varney, 2003). Note that it is possible for nonviolent movements to coexist with violent action (Zunes, 1994).

b. Consequences

The literature has reached some consensus on the consequences of choosing violent or nonviolent means of opposition (Celestino and Gleditsch, 2013; Zunes, 2000). When violent means are chosen, the government may find it easier to justify its own use of force, stating, for example, that doing so is necessary to protect against security threats. Hence, "armed resistance often backfires by legitimating the state's use of repressive tactics" (Zunes, 2000, p. 184). Choosing a nonviolent course of action, on the other hand, may put the regime under pressure and possibly lead to internal government division over the most suitable response.

Nonviolent uprisings does not necessarily save the protestors from scrutiny. Opting for nonviolent opposition may take the government by surprise and could pose a risk of imprisonment, physical injury, and death (Gregg, 1969). Nonviolent opposition can include "tactics outside the normal political process, including strikes, boycotts, mass demonstrations, contestation of public space, tax refusal, refusal to obey official orders (such as curfew restrictions)" (Zunes, 2000, p. 181). The success of nonviolent uprisings mostly depends on whether the people, as a mass, have more power than the government.

Nonviolent civil movements attract the attention of international players, either donor countries or nongovernmental organizations, who in some cases can put additional pressure on the government to respond to its citizens' demands (Jahn, 1973; Grant and Keohane, 2005). Binnendijk and Marovic (2006) argue that the international "repercussions" from a violent government reaction to a nonviolent movement are far more severe than any international response to violent insurgency.

International human rights organizations encourage peaceful demonstrations of opposition and counsel against using violence (Murdie and Bhasin, 2011). Peace movement advocates argue that the effectiveness of nonviolence is underestimated and that taking such an approach saves lives and avoids armed conflicts (Weigert, 1989). Nonviolent movements can attract foreign aid (Stephan and Chenoweth, 2008).

4. Waves of Revolutions

A discussion of social uprisings would be incomplete if it did not at least touch on one of their most unique aspects, which is the way they can spread across national borders. Indeed, looking at revolutions (or, as I prefer, social uprisings) worldwide, it appears that it is more likely than not that they occur in waves.

Formal theories of revolutions are country or class specific; they might consider international forces as a form of external pressure, but they do not consider the influence of the revolution itself on neighboring countries or countries with the same ideologies.

Waves of revolutions that spread across countries have been are analyzed in literature as empirical studies or case studies, but no formal theory has been formulated specifically for this phenomenon. On occasion, the "domino theory," originally conceptualized by Eisenhower in the 1950s to explain the spread of communism, is employed (Silverman, 1975).

Indeed, the domino theory is used in a variety of disciplines to explain the spread of a certain phenomenon across different countries. For example, Silver (1974) uses the domino theory to explain the spread of successful revolutions in a foreign country. This view is supported by Slater (1987), in that he finds that successful revolutions spread faster because revolutions have a duplicating effect. A case study approach to studying the spread communist revolution has been applied to the case of Portugal (Oldberg, 1982). An empirical analysis of the spread of revolutionary movement have been conducted by Leeson and Dean (2009). Their empirical findings support the conceptual preposition of the spread of uprisings.

The term "domino effect" is often used in news reporting about revolution, the most recent example being that of the Arab Spring. A recent paper by Hale (2013) describes the spread of mass uprisings in the Arab world as the "dawning era of democracy and freedom," which, according to the author, was due to the toppling of one dictator after another across national boundaries.

Beissinger (2007) highlights the "transnational linkages" connecting revolutions, but he questioned the possibility of revolutionary spread beyond the post-communist regime. The events that took place in the Arab world in 2011 re-open this question and offer room for future research.

5. Conclusion and Future Research

This qualitative study provided a review of the literature on social uprisings, including how they are defined, theoretical arguments for their occurrence, their characteristics, and their peculiar habit of occurring in waves. A review of definitions made apparent that the term "revolution" is

ambiguous, having various connotations and uses. The term can be used to refer to a change after a certain event or mean the cycle of evolution leading to an event of regime change. Moreover, the term "revolution" is not confined to the study of politics; it can mean "astronomical" revolutions.

Therefore, for a useful working definition, it is better to avoid the ambiguity inherent in the term "revolution" and instead use "social uprisings." The reason for choosing this term is that it can focus the researcher's attention on identifying the event itself in isolation from its causes or consequences. "Social uprisings" reflects the idea of an action taking place at a certain point of time. Social uprisings can be successful or unsuccessful.

There is a consensus in the literature that social uprisings take place within national borders. How and why these uprisings travel in waves across borders is as yet undertheorized.

Extant theory focuses on violent social uprisings; however, empirical and qualitative research reveals that nonviolent social uprisings are worth studying.

The literature review undertaken in this paper demonstrates the appropriateness and practical usefulness of the definition of social uprisings provided by Hayo and Shaheen (2014):

> Social Uprisings are violent or nonviolent intra-state acts of defiance by groups of citizens against a country's government. The definition of defiance covers demonstrations, revolutions, riots, revolts, strikes, and coups. Groups of citizens include political parties, organised groups, students, and workers, as well as the general public.

This definition, along with the arguments presented by various theorists, provides a jumping off point for research into the causes and implications of social uprisings. The definition can be used as case specific in qualitative and empirical country-based approaches; it can be used in analyzing cross-country and worldwide samples. The concept of social uprisings with its two dimensions—violent and nonviolent—opens up new areas for empirical and qualitative analysis. For example, the definition can be applied to the case of the Arab Spring, which was a series of intrastate acts of defiance against government.

The theories of revolution reviewed in this study are also of great importance to future growth of the field, two of which appear especially intriguing. First, the idea of relative deprivation as one of the major drivers of social uprisings. Second, the role played by international players, for example, donors and nongovernmental organizations, in social uprisings.

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Appendix

Table A 1: Extant Literature Definitions

Author	Term	Definition
Hayo and Shaheen (2014)	Social Uprisings	"Violent or nonviolent intra-state acts of defiance by groups of citizens against a country's government. Our definition of defiance covers demonstrations, revolutions, riots, revolts, strikes, and coups. Groups of citizens include political parties, organised groups, students, and workers, as well as the general public. "
Waterman (1981, p. 555)	Collective Political Activity	"Is a joint action by large numbers of 'ordinary' people (that is, those not customarily engaged in political activity), expressly intended to affect the decisions of government, the structure or processes of government, or the selection of those who play significant roles in government. Incidents of collective political activity include rallies, demonstrations, political strikes, politically motivated acts of collective violence, collective acts of passive resistance to govern- mental actions, organized mass campaigns of letter writing, harassment, boycott, or electoral mobilization, and, of course, rebellion, revolution, and many cases of communal conflict. "
Jenkins and Schock (1992)	Domestic Political Conflict	Non-institutionalized coercive or threatening interactions between citizens and states.
Tilly (1984)	National Social Movement	Sustained interactions between challengers and states.

Table A1 continued: Extant Literature Definitions

Author	Term	Definition
Marxist	Revolution	"As a product of irresistible historical forces, which culminate in a struggle between the bourgeoisie and the proletariat" (Tanter and Midlarsky, 1967, p. 264).
Arendt (1965)	Revolutionary Experience	"A kind of restoration, whereby the insurgents attempt to restore liberties and privileges which were lost as the result of the government's temporary lapse into despotism" (Tanter and Midlarsky, 1967, p. 264).
Tocqueville (1955)	Revolution	"An overthrow of the legally constituted elite, which initiated a period of in-tense social, political, and economic change" (Tanter and Midlarsky, 1967, p. 265).
Brinton (1952)	Coup d'État	"A simple replacement of one elite by another" (Tanter and Midlarsky, 1967, p. 265).
Brinton (1952)	Major Revolutions	"A replacement of one elite by another accompanied by social, political, and economic changes" (Tanter and Midlarsky, 1967, p. 265).
Amann (1962, p. 38)	Revolution	"Revolution may be said to be a breakdown, momentary or prolonged, of the state's monopoly of power, usually accompanied by a lessening of the habit of obedience."
Skocpol (1976)	Social Revolution	"Rapid, basic transformations of a society's state and class structures" that are "accompanied and in part carried through by class-based revolts from below" (Midlarsky and Roberts, 1985, p. 164)

Table A1 continued: Extant Literature Definitions

Silver (1974, p. 64)	Revolution	"Is defined as a period in which the frequency of revolutionary acts is extraordinarily high A revolutionary act is an extra-legal act (violent or nonviolent) intended by the actor to secure a change in governmental personnel, structure, or policy."
Leites and Wolf (1970, p. 15)	Insurgency	"Defined as revolts not reaching the proportions of an organized revolution"
Carey (2006, p. 2)	Domestic Conflict	"Is defined as any verbal or physical confrontation by domestic actors over political issues."
Chalmers Johnson (1964)	Revolution	"Is violence targeted to change the regime leadership, distribution of political power, or of social structure."
Kamrava (1999, p. 318)	Revolution	"An event that qualitatively changes the nature and composition of the state, the way it relates to and inter-faces with society, and the larger political culture within which various types and levels of interaction between state and society take place."
Huntington (1968)	Revolution	"A revolution is a rapid, fundamental, and violent domestic change in the dominant values and myths of a society, in its political institutions" (Kamrava, 1999, p. 320).
Dunn (1988, p. 12)	Revolution	"A form of massive, violent and rapid social change" (Kamrava, 1999, p. 320).
Shugart (1989, p. 251)	Social Revolution	"The wholesale restructuring of class relations in society and of the class bases of state power."

Table A2: Extant Literature Theories

Author	Theory	Explanation
Davies (1962)	J curve	"Revolution is most likely to take place when a prolonged period of rising expectations and rising gratifications is followed by a short period of sharp reversal, during which the gap between expectations and gratifications quickly widens and becomes intolerable. The frustration that develops … seeks outlets in violent action. When the frustration becomes focused on the government, the violence becomes coherent and directional. If the frustration is sufficiently widespread, intense, and focused on government, the violence will become a revolution." (Gurr, 1973, p. 365).
Gurr (1973, p. 373)	Group conflict	"That group conflict is pervasive in all societies at all times; it cannot be resolved, only-sometimes-regulated. He is more concerned with what he calls class conflict than Timasheff, and he considers class conflict a species of group conflict. Class conflict is defined as any conflict between the super-ordinate and subordinate strata of authority structures. This is considerably different from and broader than Marx's definition of classes by reference to groups' relationship to the means of production."

Table A2 Continued: Extant Literature Theories

Chalmers Johnson	Revolutionary conflict	"The first necessary cause of revolutionary conflict is a disequilibrated social system, one in which either systems of values and 'symbolic interpretations of social action,' or the society's pattern of adaptation to the environment, change sufficiently that society's functional requirements can no longer be fulfilled. Elites faced with this situation may or may not attempt to redress the disequilibrium. If they prove intransigent or unable to do so, they lose legitimacy— the second necessary cause of revolution. They may still continue in power for some time by relying on coercion. The final, sufficient cause of revolution- Johnson calls it an "accelerator"— is the elite's loss of control over the instruments of coercion. The military may be defeated in war, or become increasingly ambitious or disaffected from the rulers, or be challenged to revolutionary combat, but, however it happens, the accelerator precipitates revolutionary conflict" (Gurr, 1973, p. 370).
Smelser (1963)	Theory of collective behavior	"It is principally concerned with showing how various kinds of structural strain produce 'collective behavior,'' which is defined as 'mobilization' on the basis of a belief which redefines social action.' More concretely, 'collective behavior' includes panics, crazes, hostile outbursts (including riots), and norm- and value-oriented movements. Hostile outbursts and value-oriented movements comprise most violent conflicts-though note that Smelser is concerned with ac-counting for their non- or anti-system component, not with explaining conflict more generally" (Gurr, 1973, p. 368).

Table A2 Continued: Extant Literature Theories

Rapopor (1971)	The rational actor model	"A player is neither benevolent nor malevolent vis-a-vis the other players. That is to say, he tries to maximize only his own payoff without regard for the payoffs of others, except to the extent that the projected payoffs of others give him information as to how others are likely to play. The rational player is thus neither gratified nor peeved by the winnings and losses of the other players" (Lichbach, 1989, p. 460).
Muller (1985)	Grievance deprived actor model	"If the mobilization of discontent is correlated with the extensiveness of inequality, such that when inequality is pervasive some mobilization is almost bound to occur, then the relationship between inequality and political violence should be positive and curvilinear, i.e., positively accelerated" (Lichbach, 1989, p. 437).
Gurr (1970)	Grievance deprived actor model	"The greater the scope and intensity of groups subject to economic discrimination, groups subject to political discrimination, and separatist groups in a nation, and the greater their size, cohesion, and coercive capacity, the greater the number of person-days lost from political violence in that nation" (Lichbach, 1989, p. 451).
Tocqueville	Revolution development	"Resulted from a demand for accelerated social and economic progress in a society already gradually moving in these directions. In his mind, revolution was tied to increasing prosperity" (Lipsky, 1976, p. 498).

Measuring Social Acts of Defiance Against the Government:
The Social Uprisings Composite Index (SUCI)

Bernd Hayo and Sondos Shaheen

Abstract

This paper introduces the Social Uprisings Composite Index (SUCI), a new indicator for measuring acts of public defiance against the government. In contrast to various extant binary indicators of social unrest, SUCI is a multidimensional concept covering both violent and nonviolent social uprisings. The index is computed using factor analysis and available for an unbalanced panel of 200 countries over the period 1946 to 2011.

1. Introduction

Social uprisings (SUs) against the government are important multidimensional phenomena. They not only affect the lives of individuals and social groups, but can change the course of nations. In their conceptually pure forms, they range across the spectrum from nonviolent protests to bloody civil wars, but in practice we usually find mixed forms, which make scientific classification difficult. Given their importance, theoretical concepts of SUs abound in various fields of social science research, particularly in psychology (e.g., Davies, 1962; Gurr, 1970), political science (e.g., Huntington, 1968; Tilly, 1975), and sociology (e.g., Sorokin, 1925; Skocpol, 1976).

Despite this abundance of theoretical research, there are relatively few empirical studies on the topic. Arguably, this is at least partially due to limitations of the available empirical indicators for the theoretical concepts (Jenkis and Bond, 2001). Indeed, there are various problems in applying SU concepts to real-world data. First, in extant literature, internal conflict is primarily operationalised as a one-step binary dependent variable. Binary variables do not allow studying the level of, or change in, the intensity of SUs. Second, existing datasets are insufficient for testing many of the theoretical propositions (Powell and Thyne, 2011). Arguably, survey datasets with comprehensive worldwide coverage would appear to be helpful in empirically examining SU theories, as citizen participation decisions likely depend on subjective factors. (Gaventa, 1982). However, survey data with worldwide coverage are limited and the available datasets, such as the World Value Survey and the Barometer Survey, neither cover each year or country comprehensively, nor are necessarily based on identical questionnaires or data-collection methodologies. Third, the quantitative empirical research that there is yields conflicting results and fails to adequately validate or reject proposed theories, which could be related to the use of binary indicators (Dixon, 2009). The conflicting results of empirical studies may also reflect the fact that extant theoretical approaches have various angles (Fearon and Laitin, 2003; Sambanis, 2004) which cannot be very well expressed with binary indicators.

In the light of these deficiencies, it appears worthwhile to construct a new indicator designed to have the following advantages. First, the indicator is continuous and hence allows analysis of the progress and intensity of SUs. Second, the indicator is an operationalisation of a clearly defined theoretical concept of SUs. Third, that the indicator is constructed for 200 countries allows study of conflict in various regions of the world. Fourth, the indicator focuses on commonalities rather than differences between the various facets of SUs. In this paper, we propose just such an indicator for

social unrest, the Social Uprisings Composite Index (SUCI). It is constructed based on various subindicators using factor analysis and includes the four desirable elements listed above. This new indicator can be used in empirical analyses as either a dependent or an independent variable. SUCI helps resolve the ambiguity of terminology in extant literature in that it identifies social unrest by its traits and not by its causes or consequences.

The rest of the paper is structured as follows. Section 2 provides the conceptual foundation of the composite index. Section 3 covers the methodology and construction of SUCI. The results of the factor analysis are presented in Section 4. Section 5 discusses the final index and shows its development over time and regions. Section 6 concludes.

2. Operationalising Theoretical Concepts of Social Uprisings

This section briefly discusses problems with and ambiguities of the literature and provides the conceptual foundation for the construction of an empirically applicable definition of SUs. The comprehensive reviews by Shugart (1989), Goldstone (2001), Stone (1966), and Kamrava (1999) show a large number of theoretical studies on social defiance against the government. However, different theoretical studies often employ similar terms in alternative ways and use alternative terms for the same concepts. Typical concepts describing different facets of social defiance are 'revolution', 'civil war', 'internal conflict', 'movement', 'political uprising', and 'coups'. Typically, these theoretical studies have a conceptual focus and do not seriously consider empirical operationalisation. At the same time, a number of empirical indicators for SUs are proposed in the literature, but these often lack a clear theoretical framework. Moreover, the name of the variable and the actual contents of the variable are sometimes only loosely connected. For example, Belkin and Shofer (2003) construct an index for coup risk, where revolutions are treated the same way as coups. In the theoretical literature, however, these two concepts are considered to be very different.

SUCI is designed for studying causes and consequences of SUs in the context of international comparisons. It is constructed as a broad indicator, although not every facet of SUs can be included. SUCI is based on finding commonalities between various subindicators of SUs, thereby resolving the ambiguity of relevant concepts and avoiding their arbitrary exclusion. A great deal of this ambiguity arises from the literature's focus on studying only one specific facet of SUs. As the theoretical literature indicates, however, there is usually a clear-cut dividing line between separate facets of SUs. Blattman and Migue (2010, p. 6) argue that the 'distinction between civil wars and other forms of political instability has largely been assumed rather than

demonstrated'. Collier and Hoeffler (2004) note that there is extensive empirical research allegedly concerned with studying civil wars, but the empirical choice of variables is actually based on theories of revolutions. Various theoretical angles make for a complicated terminology and have even been referred to as an 'untidy set of observations' (Kraminick, 1972, p. 26). Baev (2007, p. 247) calls this conceptual overlap the 'Grey Zones of Intersection' and points out that '[c]ivil war … overlaps with several other type of violent crisis: inter-state wars, civil unrest and revolutions'. Starr goes as far as to question the theoretical premises used in this strand of research and labels the extant literature as 'a-theoretical' (1994, p. 482). Altogether, this ambiguous terminology and muddled operationalisation of theories is a challenge for empirical studies.

SUCI reduces this ambiguity by focusing on the commonality of underlying facets rather than on artificial boundaries between theoretical concepts. Our review of the extant literature suggests that SUs can be classified according to their degree of violence. As pure forms, we can distinguish between violent and nonviolent conflict. For example, Tarrow (1995) acknowledges that revolutions possess characteristics also present in rebellions, riots, and protests. Waterman highlights the common properties of the terms 'revolution, political strikes, turmoil, electoral mobilisation and demonstrations' (1981, p. 554) and summaries them as actions of mass political movements. Bohlken (2010) argues similarly in the case of assassinations, rebellions, or insurgencies.

Based on the above argument, we do not strictly separate SUs between those that are 'violent' and those that are 'nonviolent'. And, indeed, the utility of this simple scheme was a topic of debate in the aftermath of Georgia's 2003 uprising (Kandelaki, 2009). Although it is likely that one dimension dominates the other in a specific situation, this does not imply that a particular conflict has to be coded as a purely violent or nonviolent. SUCI allows simultaneously measuring violent and nonviolent aspects of a SU in two separate indicators. Separating SU into two indicators is supported by a number of qualitative studies. A review of extant literature, especially after the Arab Spring, shows an increasing emphasis on nonviolent movements (Zunes, 2011). Such movements are referred to as the 'nonviolent revolutionary times' (Pearlman, 2012). For example, Arab Spring movements are now being compared to earlier nonviolent movements, such as Indonesia in the 1990s, Philippines in the 1980s, India in the 1940s, and civil rights movements in the US in the 1960s as well as major nonviolent protagonists, such as Mohandas Gandhi and Martin Luther King Jr. (Batstone, 2014; and Hoynes, 2014). Compared to violent movements, nonviolent movements were previously

neglected due to two main reasons: first, the view of nonviolent movements as rather passive social protest without much momentum for fostering change and, second, that violent uprisings lead to more important international repercussions (Chenoweth and Cunningham, 2013). However, an alternative reading of the literature rejects the view of passive nonviolent movements. There are a number of successful examples showing the ability of such movements to overturn long-standing dictatorships without resorting to violence (Nepstad, 2011; Thomas and Louis, 2013; Vander Zanden, 1963). Since SUCI measures both nonviolent and nonviolent SU, it makes it possible to study the respective influence of each type of social movement without having to rely on questionable *a priori* assumptions.

Another advantage of SUCI is that it can identify a situation as a SU without reference to causes and consequences. SUCI is explicitly constructed to capture social defiance against the government, which distinguishes it from a recent strand of literature focussing on fractionalisation and conflict (Esteban and Schneider, 2008; and Esteban and Ray, 2011). The fractionalisation literature is mainly interested in studying cleavages and eruption of violence between polarised groups within a country's borders, but does not specifically look at social actions against the government (Koubi and Boehmelt, 2014; Basedau and Pierskalla, 2014). Inasmuch as the government is included in the analysis, it is from the perspective of an authority providing a so-called 'peace-buying' mechanism (Wagenast and Basedau, 2012). Put differently, the government uses various methods to repress violence arising from fractionalisation, which of course may cause counteractions by social groups. In the construction of SUCI fractionalisation, or any other factor, does not play a specific role. Quite the reverse, as SUCI is an index that can be used in empirical studies on the causes of SU.

However, not all theoretical studies clearly separate between cause and effect when deriving a definition for SU. For example, de Tocqueville (1955) includes a possible consequence of a revolution in his definition of a revolution, which is the 'overthrow of a legally constituted elite'. Another example is Arendt's (1958) definition of revolution as a restoration of liberties that were lost. So the outcome of a revolution, namely, regaining lost liberties, is part of the definition of the process itself. In constructing an empirical indicator, theories that define the actual event are easier to operationalise. Such theories include, for example, Gurr's (1970) definition of political movements as collective attacks within political community against the political regime. Another example is Goldestone's (2001) definition of a revolution as an effort to achieve political change through actions such as mass demonstrations, protests, strikes, or violence.

The OECD (2008) stresses the importance of an appropriate theoretical framework in deriving a useful composite index. Reflecting these considerations, we define SUs as violent or nonviolent intra-state acts of defiance by groups of citizens against a country's government. Our definition of defiance covers demonstrations, revolutions, riots, revolts, strikes, and coups. Groups of citizens include political parties, organised groups, students, and workers, as well as the general public. This definition is the starting point for constructing SUCI as a composite empirical indicator.

Although we cannot avoid generalisations in the construction of an index covering a large group of countries over long periods of time, we want to emphasise one drawback of and one caveat about SUCI. The drawback is that specific subdimensions of SUs cannot be studied in isolation. The caveat is that the index headers can be misleading if not carefully interpreted. For example, a positive value of the nonviolent index does not imply that there were no violent actions. In creating SUCI, we followed John Elster's advice that it is preferable to have an indicator that is both broad and flexible (Center for the Study of Civil War, 2003).

A review of extant empirical studies shows that the variables most commonly employed for capturing social unrest are the number of deaths and the onset of social unrest (Parvin, 1973; Besançon, 2005; Jakobsen et al., 2013). Both variables have severe limitations as general indicators of SUs. The number of deaths (see, e.g., Parvin, 1973; Besançon, 2005), is conceptually problematic. As Sambanis (2004) emphasises, it is not clear when exactly the count should start, that is, when does an old war end and a new one start? Another problem is that the variable counting the number of deaths includes all sorts of conflicts as long as they incur deaths. Although number of deaths is a continuous variable that can be used to capture the escalation of SU intensity, it arguably measures a consequence of the conflict rather than the occurrence of the actual event. Moreover, using the number of deaths fails to discriminate between different types of SUs.

Indicators based on the onset of social unrest often are specified as step dummies over the course of the conflict (Jakobsen et al., 2013). This implies that they cannot capture variation in the intensity of a conflict over time. Moreover, such dummy variables measure only the occurrence of unrest in a certain year and do not distinguish between degrees of violence (Garrison, 2008). For example, onset indicators do not easily allow studying violent and nonviolent aspects of SUs. Another problem of onset variables is identified by Hendrix (2010), who argues, in the case of Cuba, that the often employed battle death dataset provided by the Peace Research Institute Oslo (Lacina and Gleditsch, 2005) does not consider insurgency movements occurring years

before the coded onset. In terms of modelling outcomes, the use of onset indicators can generate statistically significant results, but the underlying models have poor predictive power (Ward et al., 2010).

3. Deriving a New Indicator of SUs: SUCI

Technically, our composite index, SUCI, is based on factor analysis, which allows capturing similarities in various facets of SUs. Composite indicators are popular due to their ability to summarise complex relationships as numbers (Zhou and Ang, 2007). Moreover, since factor analysis generates variables with a metric scale, SUCI captures both the occurrence as well as the intensity of conflicts over time. Finally, the indicator can be employed for single-country analyses as well as for cross-country analyses. Combining these two dimensions allows using SUCI in panel-data models.

As a composite indicator, SUCI is based on aggregating various subindicators for measuring SUs, which typically do not have the same units of measurement. Thus, composite indicators help quantify complex terms with the assistance of various types of subindicators. According to Zhou and Ang (2007), the construction of composite indicators depends on two key elements: the choice of the underlying subcomponents and the weighing methods used for aggregation. The choice of the underlying variables should be guided by theory, but it is frequently the case that data limitations lead to an overreliance on rough proxies rather than precisely specified variables. Aggregation of noisy subcomponents generally leads to a better indicator than using one of the individual subindicators on its own.

The second key element in the construction of composite indicators is an appropriate weighing method. Index weighing methods include data envelopment techniques, principal components, factor analysis, equal weighing, simple average, and panel of experts (Cevik et al., 2012). Which of these is the 'best' weighing method is subject to debate and there is some reason to suspect that a certain degree of subjectivity in the weight assignment is unavoidable (Chyrche et al., 2008).

In our view, factor analysis, one of the most widely used methods of multivariate data reduction, is one of the least subjective methods of building a composite index. The weights are derived from the actual dataset by extracting the common variance of subcomponents, which is assumed to reflect the desired theoretical concept in the form of an underlying latent variable. One source of subjectivity in factor analysis is the

choice of subcomponents. In the context of constructing a composite index, factor analysis is used to derive weights for the index's subcomponents. This procedure allows creating one or more new variables, called factors, which account for the shared variances between the subindicators and reflect the underlying latent variable(s) corresponding to the theoretical concept(s).

A closely related statistical alternative to factor analysis is principal component analysis (PCA). However, Fabrigar et al. (1999) recommend using factor analysis when there is some theoretical basis for relationships between variables, whereas PCA should be used if the goal is to explore patterns in their data. Moreover, they the authors make a number of arguments for why factor analysis is the preferred method in theoretically guided research. Finally, factor analysis takes into account random errors in measurement of the subcomponents, whereas PCA does not.[1]

As a rule of thumb for statistically valid application of factor analysis, the OECD (2008) suggests a minimum of 30 cases per country, which is always met in our dataset. Factor analysis does not allow for missing data and outliers can affect the results. The dataset used in constructing SUCI has no missing values. To guarantee this, as well as meet the 30-minimum-cases requirement, the dataset is constructed as an unbalanced panel covering the period 1946 to 2011. The starting date for a country depends on the year the country was founded and data availability.

SUCI reflects the fact that SU is a multidimensional concept covering both violent and nonviolent acts of defiance against the government. As discussed in Section 2, SUCI encompasses various terminologies, such as demonstration, riot, strike, guerrilla warfare, and revolution, the boundaries of which are rather blurred. SUCI overcomes this ambiguity by utilising the factor loading of subcomponents on two main aspects of defiance, violent and nonviolent. The remainder of this section follows Booysen's (2002) sequence of composite index development: data selection, scaling, and weighing.

A. Data Selection

First, the underlying variables have to be chosen based on a theoretical and empirical foundation (Stock and Watson, 1989; Tata and Schultz, 1988). Following the

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[1] To check the robustness of our choice, an alternative composite indicator is constructed using PCA with the same variables. The correlation coefficients between the SUCI and the PCA indicator are 0.7 for the nonviolent index and 0.7 for the violent index. Thus, results are generally similar.

discussion above, SUCI is designed to capture the act of defiance, without regard to the causes and/or consequences of such an action. An extra advantage of such a strict definition is that the final index will be able to be used as both a dependent and an independent variable.

We collect suitable subindicators from three different databases. The Cross-National Time-Series (CNTS) is a quantitative dataset that covers commonly used terms for internal conflict, including demonstration, riot, strike, revolution, and guerrilla warfare. The subindicators 'magnitude' and 'intensity' are taken from datasets provided by the Peace Research Institute Oslo (PRIO) and the Political Instability Task Force (PITF), respectively. These seven variables are the subcomponents underlying the factor analysis used for constructing SUCI. Table 1 contains descriptions of how these concepts are operationalised in the respective databases.

The dataset contains nearly 10,000 observations and includes historic nation building and destruction as well as many small and forgotten disputes. The list of countries exceeds the 193 nations recognised by the United Nations in 2013, due to separations of states, creation of new states, and cessation of states (see Table A1 in the Appendix).

Table 1: Definitions of SUCI's Subcomponents

Variable	Definition	Source
Demonstration	Any peaceful public gathering of at least 100 people for the primary purpose of displaying or voicing their opposition to government policies or authority, excluding demonstrations of a distinctly anti-foreign nature	CNTS
Riot	Any violent demonstration or clash of more than 100 citizens involving in the use of physical force	
Strike	Any strike of 1,000 or more industrial or service workers that involves more than one employer aiming at national government policies or authority	
Guerrilla Warfare	Any armed activity, sabotage, or bombings carried on by independent bands of citizens or irregular forces aiming at the overthrow of the present regime.	
Revolution	Any illegal or forced change in the top govern-mental elite, any attempt at such a change, or any successful or unsuccessful armed rebellion whose aim is independence from the central government.	

Table 1 continued: Definitions of SUCI's Subcomponents

Intensity	The intensity variable is coded in two categories 1. Minor: between 25 and 999 battle-related deaths in a given year. 2. War: at least 1,000 battle-related deaths in a given year	PRIO
Magnitude	Scaled number of rebel combatants or activists (range 0–4)	PITF

The correlations between the subcomponents used for SUCI construction are given in Table 2. The inclusion of weakly correlated subcomponents is supported by the multicriteria decision-making adjustment proposed by Hill and Tzamir (1972) and Delft and Nijkamp (1976), which improves the ability of the factor analysis to consider theoretically valuable variables in the final index. Two statistical tests for the appropriateness of conducting a factor analysis are run: Bartlett's test of sphericity, testing whether the correlation is an identity matrix, and the Kaiser/Meyer/Olking test of sampling adequacy (KMO), which compares the magnitudes of the correlation coefficients in Table 2 with the partial correlation coefficients, i.e., after removing the linear influence of all other subcomponents. Bartlett's test is significant at a 5% level, suggesting that there is a sufficient degree of correlation of the underlying indicators with the predicted factor. The KMO test returns a value of 0.65, which implies adequacy of the dataset at a 5% level of significance.

Table 2: Pearson's Correlation Coefficients Between Subcomponents of SUs

	Demon-stration	Strike	Riot	Guerrilla Warfare	Revolution	Intensity
Demonstration	1					
Strike	0.29	1				
Riot	0.60	0.31	1			
Guerrilla Warfare	0.08	0.14	0.14	1		
Revolution	0.09	0.08	0.09	0.29	1	
Intensity	0.03	0.05	0.05	0.20	0.31	
Magnitude	0.07	0.044	0.07	0.27	0.28	0.28

Thus, both tests support the use of the selected subcomponents as a base for conducting factor analysis. To improve interpretability of the resulting factor estimates, we apply a varimax rotation.[2]

B. Data Scaling

As factor analysis does not allow for missing data, we restrict our attention to the time period from 1946 to 2011. Moreover, there are data availability issues and changes in the underlying group of countries, which make the panel data set unbalanced. Summary statistics for the variables used in SUCI construction are provided in Table 3. Higher values of the subcomponents reflect a more intense act of defiance against the government, irrespective of degree of violence.

The original datasets for magnitude and intensity of internal conflicts are amended to include periods of no conflict by adding zero for such years. Years of 'non-action' are taken from Cross-National Time-Series Data Archive (CNTS) (Banks and Wilson, 2013). Before aggregation, all subcomponents are standardised by subtracting their means and dividing by their standard deviations (Cevik et al., 2012).

Table 3: Descriptive Statistics of Subcomponents

Variable	Non Standardised Values				Standardised Values	
	Mean	Standard Deviation	Min	Max	Min	Max
Demonstration	0.49	2.06	0	74	−0.24	35.77
Strike	0.11	0.49	0	13	−0.22	26.49
Riot	0.40	1.66	0	55	−0.24	32.81
Guerrilla Warfare	0.17	0.71	0	34	−0.24	47.54
Revolution	0.16	0.48	0	9	−0.34	18.41
Intensity	0.12	0.38	0	2	−0.90	4.92
Magnitude	0.17	0.79	0	9	−0.22	11.24

C. Data Weighing

We follow the OECD (2008) factor analysis methodology for aggregating the subcomponents. It is presumed that each subcomponent captures one specific aspect of SU and that they jointly

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[2] Applying oblique rotation generates very similar results, both with respect to the factor loadings as well as the final index values. Using regional data, varimax and oblique-based rotations yield correlation coefficients for violent and nonviolent indices of 0.98 and 0.99, respectively.

reflect the level of unrest in a country. The weights of individual subcomponents in the composite SU index are based on their factor loadings, i.e., the correlation of individual subindicators with the newly constructed factor(s). Thus, variable weights reflecting the underlying structure of the data are obtained, rather than being based on the researcher's *a priori* judgments. Based on the factor loadings, factor scores are derived for each country and each available year covered by the subcomponents. Standardising these scores results in SUCI.

The specific sample used in factor analysis is of great importance. In principle, possibilities range from computing specific factor scores based on the observations for each country to computing general factor scores based on the full worldwide sample. The advantage of the former is that country-specific weighing controls for idiosyncratic structures in SUs in each state. The disadvantage is that country-based factor analysis is not feasible for those subcomponents that do not vary at a country level.

In the face of this trade-off, we compromise. We provide two versions of SUCI, one based on a world sample, the other based on dividing the dataset into geographic regions when estimating the factor scores. Although non-variation is an issue for some of the regions, too, e.g., there are no revolutions in North America during our sample period, dropping theoretically relevant subcomponents on a broad scale likely leads to inconsistent factor loadings and difficulties of interpretation.

Given the identical weighing scheme, the world sample SUCI is advantageous if the goal is to compare the *absolute* degree of SUs across countries. This version of SUCI allows comparing the severity of a SU in one country with that in another country or across time.

However, sometimes the research focus is on comparing the *relative* degree of SUs, i.e., whether a period of time is characterised by a relatively greater degree of unrest in a country compared to other periods, even though the severity of SU might not be high in absolute terms compared to other countries. Relative effects can be relevant for explaining social processes, e.g., the political consequences of social protest in a country where this happens very rarely are likely much greater than in a country where social protest is a regular occurrence.

Another advantage of regionally grouping a worldwide sample is that geographic proximity is accompanied by similarity in culture and political systems, which leads to similar types of SUs. Two good examples of this are the fall of the communist bloc in Eastern Europe in 1989 and the Arab Spring social uprisings in the MENA region in 2011. We choose 11 regional subsamples on which to conduct factor analysis: Africa, Middle East and North Africa (MENA), former

USSR and Yugoslavia, Eastern Bloc, South Asia, East Asia, Southeast Asia, Western Europe, Oceania, Latin America, and North America. The countries included in each region are listed in Table A2 in the Appendix.

4. Results of Factor Analyses

After conducting factor analyses based on different samples, as described above, it turns out that the worldwide sample SUCI is highly correlated with SUCI based on regional samples. However, there are notable differences between the two versions in terms of ranking the severity of violent and nonviolent conflicts, thus emphasising the difference between an absolute and a relative interpretation of the index.

A. SUCI World

Using the worldwide sample, the factor analysis results in three factors being retained. Only two of the three have acceptable Eigen values and factor loadings; the third factor always has an Eigen value lower than 0.02 and factor loadings lower than 0.01. As is apparent from Figure A1 in the Appendix, exclusion of the third factor is also supported by considering the breakpoint in scree plots (Osborne and Costello, 2005). In light of the theoretical distinction between violent and nonviolent conflicts, we re-estimate the factor imposing the restriction of only two factors. Implementing a valid restriction improves estimation efficiency, provides a better separation of the two factors as expressed in higher factor loadings, and, and least in our case, facilitates interpretation. Table 4 gives the outcome of the factor analysis.

Table 4: Factor Analysis Based on World Dataset

Factor	Nonviolent	Violent
Eigen Values	1.2	1.0
Explained Variance	77	65
Factor Loadings After Varimax Rotation		
Demonstration	**0.68**	0.04
Riot	**0.70**	0.07
General Strike	**0.42**	0.09
Guerrilla Warfare	0.16	**0.45**
Revolution	0.09	**0.52**
Magnitude	0.05	**0.50**
Intensity	0.03	**0.50**

In general, there is a clear division between variables based on their loadings into two factors. Demonstration, Strike, and Riot load onto Factor 1; Guerrilla Warfare, Revolution, Intensity, and Magnitude load onto Factor 2. Factor 1 can be interpreted as capturing an underlying latent variable 'nonviolent SU' and Factor 2 as capturing 'violent SU'. Thus, these factor loadings support dividing social uprisings into violent and nonviolent. Of course, a riot may also contain violent elements, but compared to the subindicators loading highly on the second factor, these tend to be quite limited.

As noted above, the greatest subjective element in a factor analysis is selection of specific subcomponents. Nonetheless, for what we believe are relatively less subjective reasons, we refrain from including two indicators sometimes found in the literature from SUCI (Bohlken, 2010; Sambanis, 2004). The first excluded subindicator reflects the number of coups. In our case, the omission is due to statistical as well as conceptual reasons. Conceptually, Belkin and Shofer (2003) argue that coups do not require widespread public support. Statistically, including coups in the factor analysis substantially lowers the Eigen values and this subindicator cannot clearly be allocated to the violent or nonviolent category of SUs. In practice, our indicator is not sensitive with respect to considering the number of coups: the correlation coefficients between indices including and excluding this variable are 0.99 for the nonviolent SUCI and for 0.98 for the violent SUCI.

Another variable that could be included in the factor analysis is intensity per capita of conflict, which is measured on a scale from 0 to 2. To account for population differences, a subcomponent is constructed as intensity per capita based on the absolute number of deaths and population size. It loads negatively on the factor reflecting the nonviolent dimension and positively on the one reflecting the violent dimension. However, the factor loading was lower than the rule of thumb cut-off range of 0.3, whereas the conceptually similar intensity range has a loading of almost 0.5. Again, using this variable does not lead to noteworthy differences in the constructed indicator. Thus, SUCI appears robust to changes in the underlying subindicators.

B. SUCI Regional

The factor analysis for each of the 11 regions is implemented in the same way and also results in three factors retained. The regional scree plots in Figure A1 show that exclusion of the third factor is justified. Table A3 provides the Eigen values and factors estimated for the 11 regions. Although all the factors chosen for each region are before the breakpoint of the scree plot, not all have an Eigen value larger than 1. To obtain a comprehensive index, we also include regions for

which the Eigen value is less than 1, which is particularly the case for regions rarely experiencing violent protests, e.g., North America.

The factor loadings support the division of SUs into violent and nonviolent. However, due to a lack of observations, Western Europe, Oceania, and North America have low loadings on the violent factor. Nevertheless, we retain these factors in SUCI based on theoretical background, scree plot results, and comprehensiveness of index. The correlation coefficients between the world-based and the region-based indicator are 0.9 for the nonviolent index and 0.8 for the violent index.

5. Describing Social Unrest Across Regions and Time

This section provides descriptive statistics and shows the relevance of SUCI by linking its specific values to real-world events and discussing regional particularities. Covering each of the 200 countries in detail is beyond the scope of this paper. Sample information on SUCI national data is given in Table A1 in the Appendix.

A. SUCI World

SUCI World provides annual values for violent and nonviolent uprisings using a worldwide average. It is constructed by computing the arithmetic mean of standardised country scores per year from 1946 to 2011. Figure 1 is a graphical representation of SUCI World and provides stylised facts about worldwide SU over time. In our sample period, there is no obvious trend, either in nonviolent or violent uprisings. However, the two series appear to be positively related; the correlation coefficient is 0.5. The figure shows that the peak years of violent and nonviolent uprisings are 1970 and 2011, respectively. The strong hike in nonviolent SUs is due to the events in the MENA region, the second strongest hike is also associated with 1970.

Figure 1: SUCI World
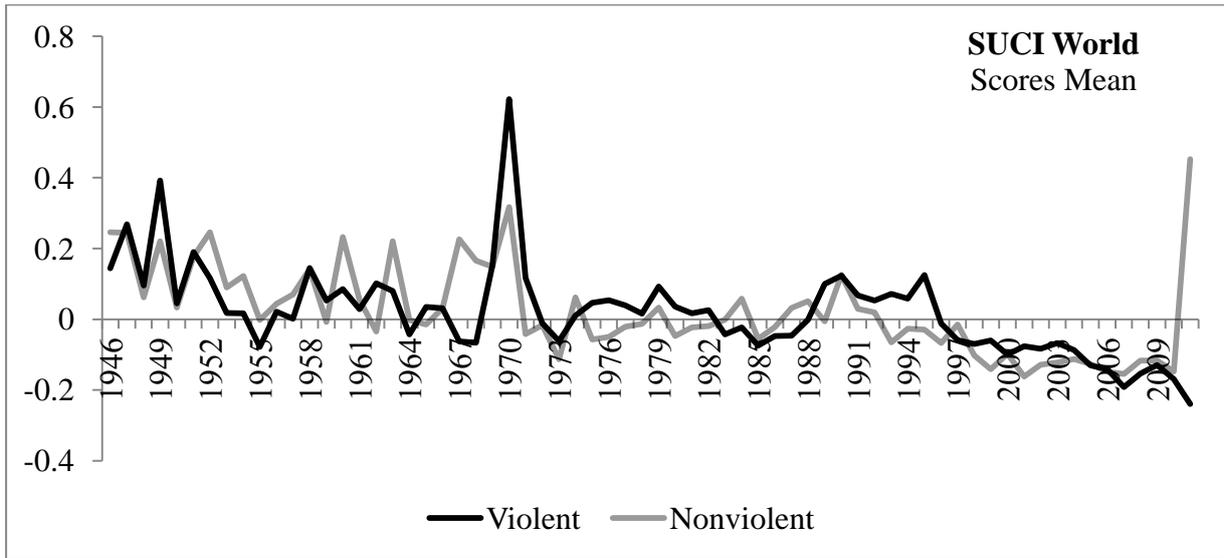
Looking at violent SUs, the peak in 1970 is strongly influenced by events in Jordan, Cambodia, Guatemala, Vietnam, and Chad.[3] There is no visible regional clustering in this year, as these countries are from different regions: MENA, Southeast Asia, Latin America, South Asia, and Africa, respectively. However, they were not the sole drivers of the index that year. Table 5 shows the share of countries with violent SUs and the intensity quartiles of this index at two points in time, 1970 and 1989.

For 1970, we find that about 40% of the countries were in the fourth quartile, i.e., the highest intensity level, and only less than 1% of all countries had no violent SUs. Comparing the two peaks in the violent index value in 1970 and 1989, i.e., after the phase of violence in the 1940s, provides further insight into the variation in the level of SUs. We find that in 1989, more than twice as many countries had no SUs and only about one-quarter of the countries are found in the fourth quartile.

Table 5: Quartile Percentages of Violent Social Uprisings Based on SUCI World

Social Uprising	Year	No Violent SU (in %)	Quartiles (in %)			
			1	2	3	4
Violent	1989	2.3	17	31	24	27
	1970	0.7	13	30	16	40

To get an impression of the reliability and practical relevance of SUCI, we list the top five countries showing the maximum standardised index values since 1946 in Table 6. Starting with the nonviolent SUCI in Panel A, the ranking is dominated by events in the United States in the 1960s. A review of extant literature shows that these uprisings, referred to as the 'Race Riots',

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[3] A qualitative review of events in the five countries supports the index's findings (available on request).

are extensively studied in various fields of research covering political science, sociology, and economics (Adams, 1972; Graham, 1980; Myers, 1997; Wilkinson, 2009). The three years shown in Table 6 highlight the most intense episodes of civil movements in Detroit, Chicago, and Cambridge, respectively. However, generally, the civil movements were geographically dispersed, with their common characteristic being 'major poverty concentration within large metropolitan areas' (Chikota, 1970, p. 155). Finally, two of the top five nonviolent SUs are in 2011 and involve the MENA region's 'Arab Spring' movement. These events capture mass protests in Syria and Yemen that later led to violent SUs.

Table 6: Top Social Uprising Incidents Based on SUCI (World Dataset)

Rank	A. Non-violent SUCI		B. Violent SUCI	
	Country	Year	Country	Year
1	United States	1967	Cambodia	1970
2	United States	1968	Brazil	1969
3	Syria	2011	Pakistan	1971
4	Yemen Republic	2011	Jordan	1970
5	United States	1963	Colombia	2004

The list of particularly violent SUs is led by events in Cambodia in 1970. As DeRouen and Uk (2007, p. 220) put it, 'the communist revolutionary movement initially spread in the form of protests or regional rebellions. However, the civil war entered a new phase that involved ordinary combat and guerrilla warfare'. In 1971, it is Bangladesh's liberation war, leading to its independence from Pakistan in the following year (Lyon, 2008), that causes a high SUCI value. The secession of East Pakistan can be traced back to a highly polarised election result in December 1970 (Sisson and Rose, 1991; Diener, 2010), which resulted in a nine-month-long uprising characterised by 'violence, militant rebellion, and urban terrorism' (Bose, 2005, p. 4463). Brazil experienced insurgency movements in the 1960s that attempted to overthrow the military dictatorship. The event in 1969 was fuelled by the activities of the Brazilian communist guerrilla movement 'National Liberation Action' (Asprey, 2002). Jordan is listed in 1970 due to what is now referred to as 'Black September'. The incident resulted in thousands of deaths following a failed attempt to oust the king (Hussein, 2000). The high violent SUCI value in Colombia in 2004 reflects the 'Minga protest', which resulted in armed conflicts between the indigenous population and the government (Murilloa, 2009). The Uribe Vélez's government

actions were questioned by national and international human rights and victims' organisations (Gleghorn, 2013).

B. SUCI Regional

Table 7 gives the country ranking based on the regional index. As it now includes Egypt in addition to Syria and Yemen, the nonviolent SUCI is even more dominated by the 'Arab Spring' movements in the MENA region. Reflecting the anti-apartheid demonstrations in 1985 (Kadalie, 1995), South Africa ranks highest in SUCI's nonviolent category. Argentine workers and students staged mass riots in May and June 1969. These nonviolent movements, labelled the 'Cordobazo' in Argentina, led to a change in government (Turner and Miguens, 1983).

Table 7: Top Social Uprising Incidents Based on SUCI

Rank	A. Non-violent SUCI		B. Violent SUCI	
	Country	Year	Country	Year
1	South Africa	1985	Jordan	1970
2	Syria	2011	Tajikistan	1992
3	Argentina	1969	Italy	1947
4	Yemen Republic	2011	France	1962
5	Egypt	2011	Cambodia	1970

SUCI's violent category is topped by Jordan's 'Black September'. Another example of a very violent uprising occurred after Tajikistan's presidential elections in May 1992, when violent riots erupted, which escalated into an armed confrontation in Dushanbe (Mikaberidze, 2011). Perhaps surprisingly, Table 7 also contains two European countries, Italy and France. This illustrates the importance of differentiating between the *absolute* and *relative* severity of SUs. Although the European countries do not show an absolutely high level of violent SUs when compared with the world sample, for Europe as a region, these were extraordinarily violent SUs. The Italian government faced major riots and other violent events in 1947 following demand for economic reform by the public and particularly by the communists (Ginsborg, 2003). Leading up to the Evian Accord in 1962, which ended the Algerian War, there was internal violence in France, consisting of terrorist attacks by the Algerian Secret Army and violent protests by the French public (Baron, 2013).

An average regional SUCI is computed for each of the 11 regions used in the factor analysis. As each of the 11 regions has a specific history, the regional index enables us to derive stylised facts

about regional SU as well as study aspects of SUs that that are not easily visible in SUCI World, e.g., the spillover of SU from one country to its regional neighbours. To economise on space, we illustrate the appropriateness of using a regional mean rather than a world mean with a few examples.

Figure 2 shows violent and nonviolent SUCI for Africa. Note that valid interpretation of the figure requires careful attention to the underlying data.

Figure 2: SUCI Africa (Mean) (1946–2011)
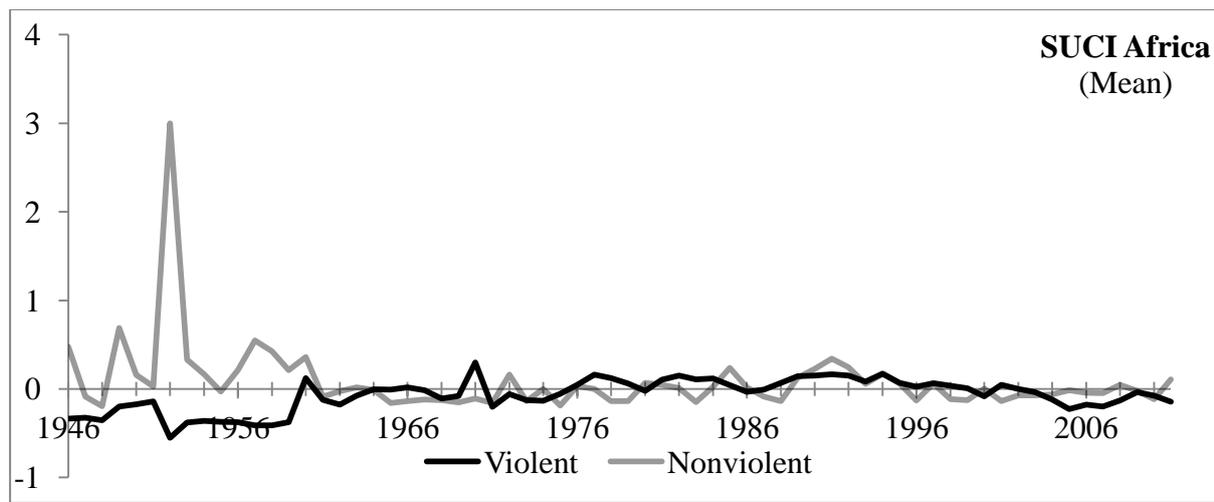
This is particularly important for understanding the peak in the nonviolent episodes before 1960. Do to colonisation, SUCI Africa before 1960 is based on only three countries: Ethiopia, Liberia, and South Africa. Moreover, it can be shown that the nonviolent uprisings over the period from 1946 to 1960 are driven by events in South Africa.

From the 1960s onward, known as the decade of African independence (Zack, 2012), SUCI covers many more countries. Figure 3 gives a detailed representation of data availability and decolonisation dates. Looking at the period from the 1970s onward, there are three waves of violent uprisings in each decade and a relative drop in the 2000s. The 1990s reflect the third wave of democratisation. The highest nonviolent peak in 1991 is due to protests against incumbent governments (Walle, 2001). Democratisation moved from protest to intense struggle over basic political rules. This also explains why nonviolent uprisings coexisted with violent uprisings in the 1990s. The nonviolent SU value in 1985 is primarily driven by South Africa and the struggle to abolish apartheid. The peak of nonviolent SUs in 1991 is due to events in several African countries, particularly Kenya, Nigeria, Togo, and Madagascar. There are relatively few violent SUs in Africa in the 2000s, but nonviolent SUs can still be found. This may have to do with the behaviour of opposition parties in many African parties (Barkan, 2009).

Figure 3: SUCI Africa (Mean) (1960–2011)

* **1960**: Nigeria, Congo DR, Mali, Senegal, Benin, Mauritania, Niger, Ivory Coast,
Burkina Faso, Togo, Cameroon, Gabon, Central African Republic, Chad, Congo,
Madagascar, Somalia

* **1961**: Sierra Leon, Tanzania
* **1962**: Uganda, Burundi, Rwanda
* **1963**: Kenya, Zanzibar, Zambia, Malawi, Lesotho, Botswana, Swaziland, Mauritius,
      Equatorial Guinea
* **1964**: Zambia, Malawi
* **1965**: Gambia

* **1966:** Lesotho, Botswana, 1968 Swaziland, Mauritius, Equatorial Guinea,
* **1974:** Guinea-Bissau
* **1975:** Comoros, Cape Verde, Sao Tome and Principe, Angola, Mozambique

SUCI Africa
Mean 1960-2011

A more recent episode of nation creation after a significant rise in SU levels is the fall of the communist regimes in Eastern Europe and the USSR. Figure 4 shows that the Eastern Bloc witnessed several nonviolent SUs that peaked in the late 1980s and early 1990s.

Figure 4: SUCI Former Eastern Bloc (Mean)
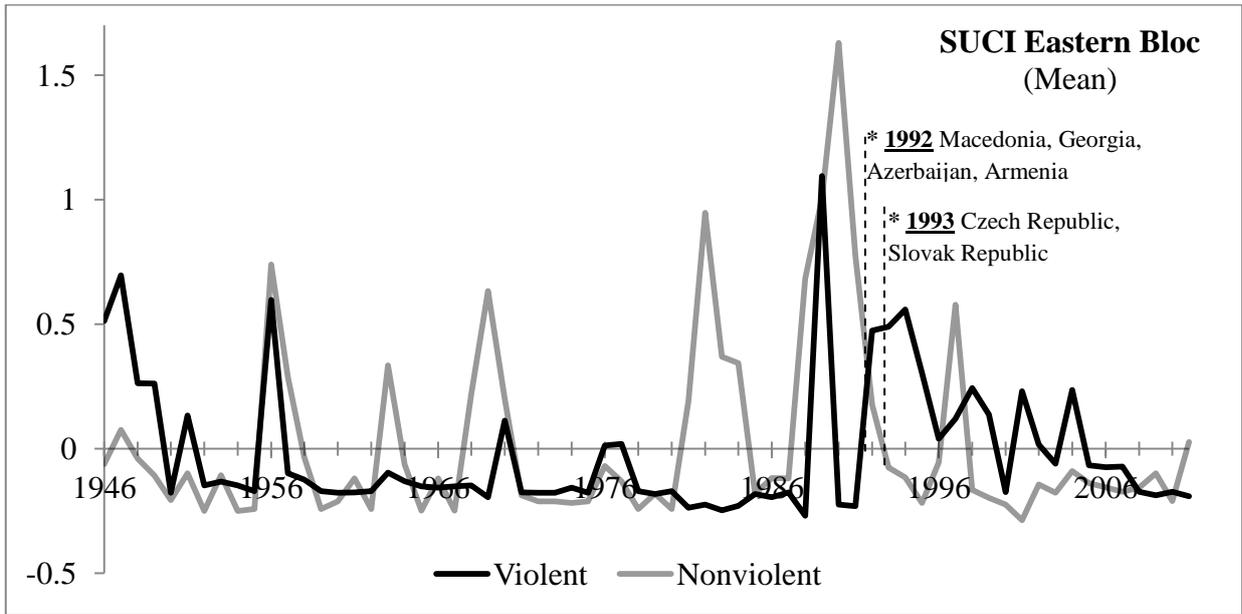
* **1946**: Poland, Czechoslovakia, Albania, Bulgaria, Romania, Hungary

Countries emerging out of the former USSR and Yugoslavia show a similar surge in nonviolent SUs starting in the mid-1980s and finishing in 1992 (see Figure 5). These protests were an important factor in the fall of the 'iron curtain'.

Figure 5: SUCI Former USSR and Yugoslavia (Mean)
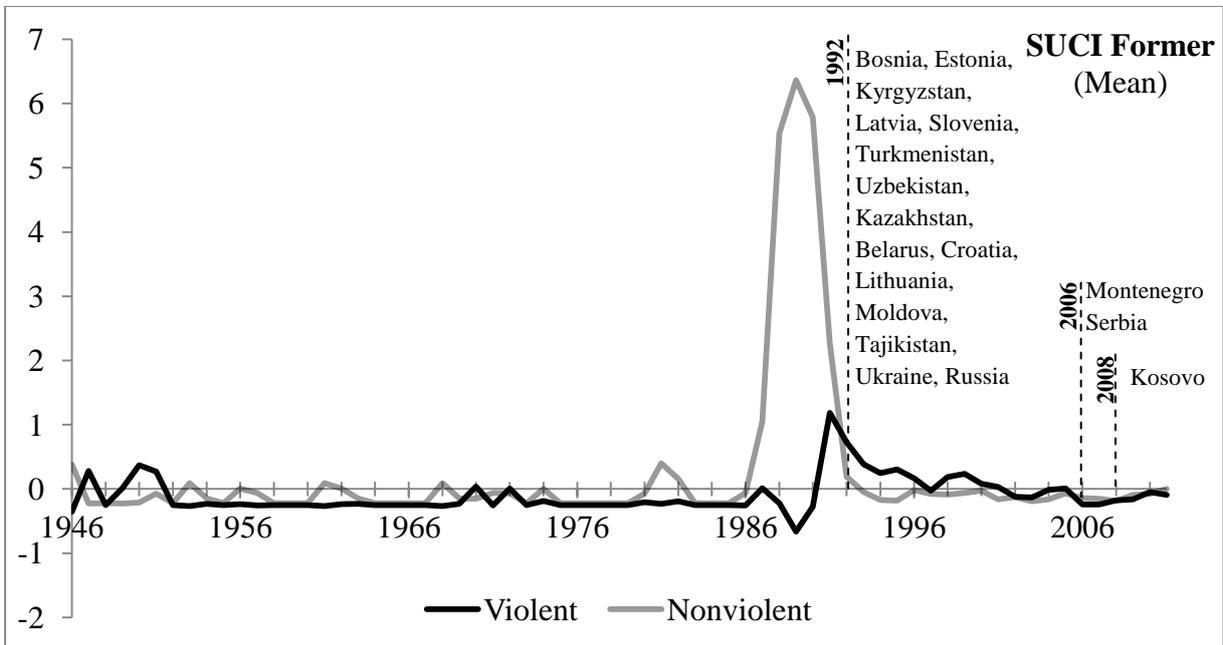
* **1946**: USSR, Yugoslavia

Figure 6 shows the development in the MENA region, which is dominated by the unprecedented rise in nonviolent SUs in 2011.

Figure 6: SUCI MENA (Mean)
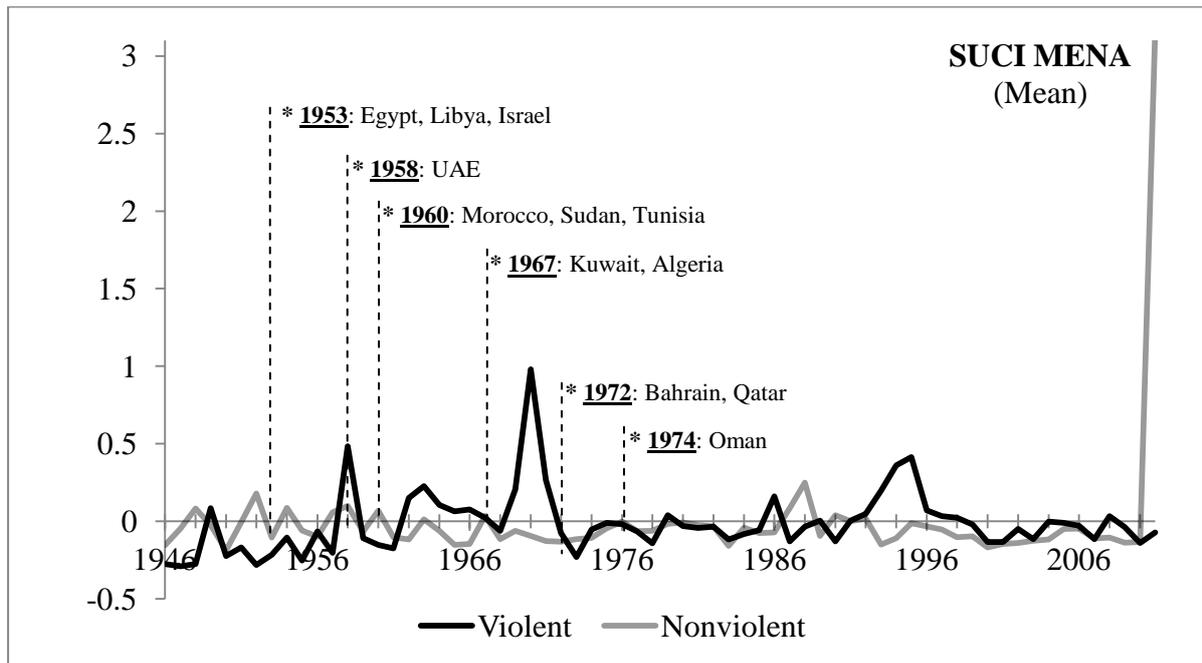
* 1946: Lebanon, Yemen, Jordan, Syria, Turkey, Iraq

However, 2011 also witnessed an increase in SU levels in several regions, including Europe, Latin America, and South and East Asia. The index measuring violent SUs does not show notable changes in the most recent period but, given the violent development in 2012 and 2013, we can expect to see a substantial increase after a data update. In our sample period, as noted above, the peak in violent SUs occurred in 1970.

Oceania is another interesting example of how background knowledge is necessary to appropriate interpretation of SUCI. This region consists of relatively small countries scattered across the Pacific Ocean, which creates substantial intra-regional heterogeneity. The peaks shown in SUCI Oceania's mean in Figure 7 are driven by specific developments in one particular country at a time rather than region-wide SUs. Moreover, the addition of new countries is not necessarily due to conflict resolution or nation creation. For example, in the case of Fiji, 'the Fijians themselves made no push for independence and [the independence] came as a surprise to most people' (Campbell, 1989, p. 199). The change in Tonga was 'imperceptible' as technically it has never lost its independence since 1905 (Campbell, 1989). Regarding violent SUs, it is worth mentioning that the subindicator magnitude is dropped from Oceania due to non-availability, which helps explain its low volatility before the mid-1980s.

Figure 7: SUCI Oceania (Mean)
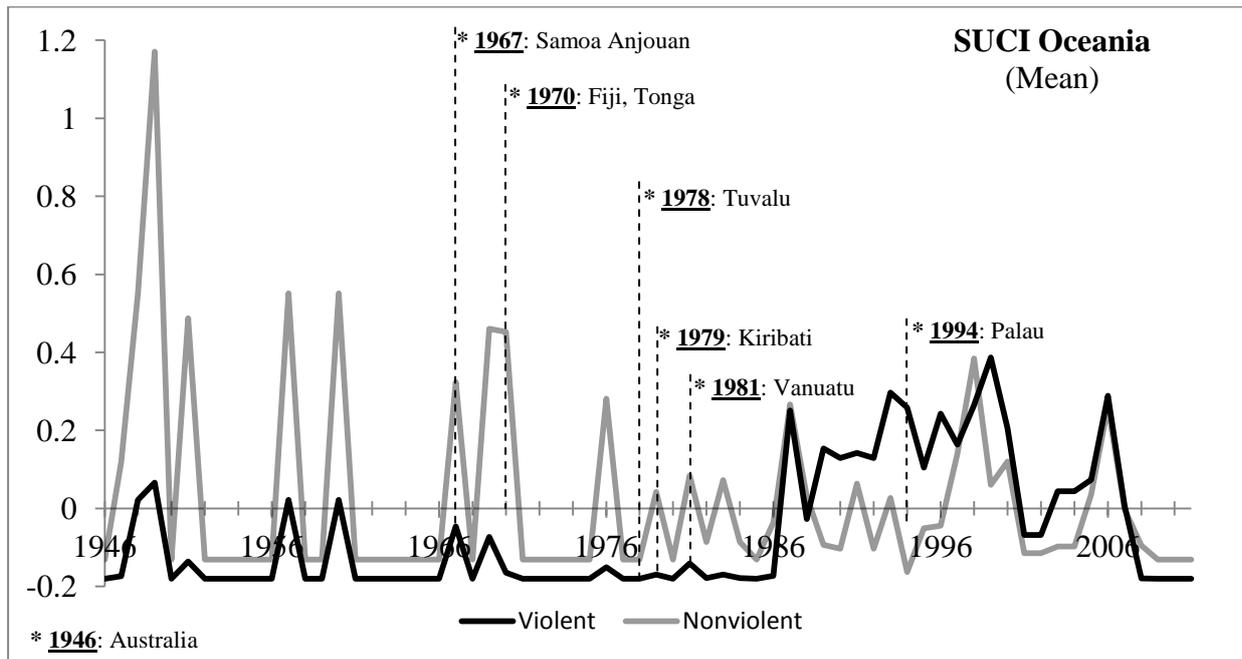
Latin America's SUCI is shown in Figure 8, where we find a cycle of violent uprisings in the 1970s and 1980s due to extensive guerrilla warfare and stringent military dictatorships (Imbusch et al., 2011). This cycle peaked in 1970 and 1989, and in both years it was not a single country that drove the indicator, but a widespread state of violent SUs in several countries.

Figure 8: SUCI Latin America (Mean)
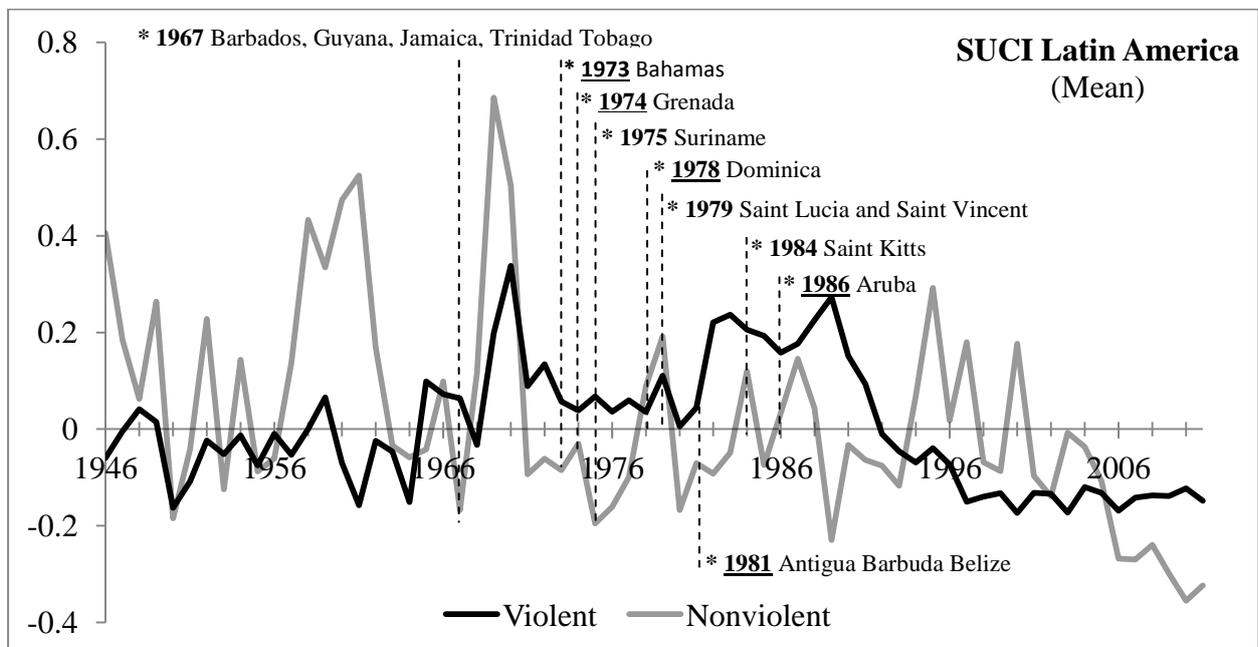
* **1946**: Brazil, Dominica, Bolivia, Uruguay, Argentina, Ecuador, Mexico, Colombia, Guatemala, Cuba, Haiti, Venezuela, Peru, Nicaragua, Costa Rica, Paraguay, El Salvador, Panama, Honduras, Chile, Bahamas

SUCI suggests that the violence in 1970 occurred mostly in Guatemala, Bolivia, Argentina, Colombia, Chile, and Brazil, whereas in 1989, violence was prevalent in Peru, El Salvador, Colombia, Guatemala, Nicaragua, Haiti, Paraguay, and Panama. As for the nonviolent SUs, SUCI identifies various peaks rather than a cycle. The highest peak in nonviolent uprisings occurred in 1969 and can be mainly attributed to the 'Cordobazo' movement in Argentina.

In contrast to Latin America, Europe's major SUCI uprisings tend to encompass only one country, or just a few, in a peak year. For example, Portugal's 'Carnation Revolution' leads to a rise in violent and nonviolent SUCI in 1973 and 1975. The Carnation Revolution ended with a military coup, which was supported by mass movement (Griffin and Griffin, 2007). Moreover, it was preceded by the widespread dissatisfaction of the Portuguese population with Portugal's colonial wars (Poddar et al., 2008). Another example is the uprising in the United Kingdom that dominates the SUCI index in 1981. Supporting groups such as Brixton Defence Campaign (BDC) were created, which fought against the police with increased violence (Collette and Laybourn, 2003). Briggs (2012) links the UK uprisings in 1982 with those in 2011, arguing that they have the same roots, ranging from racial concerns to unemployment. A final example is the Greece civil war, which dominates the index in 1946 and 1948 (Bærentzen et al., 1987).

Figure 9: SUCI Europe (Mean)
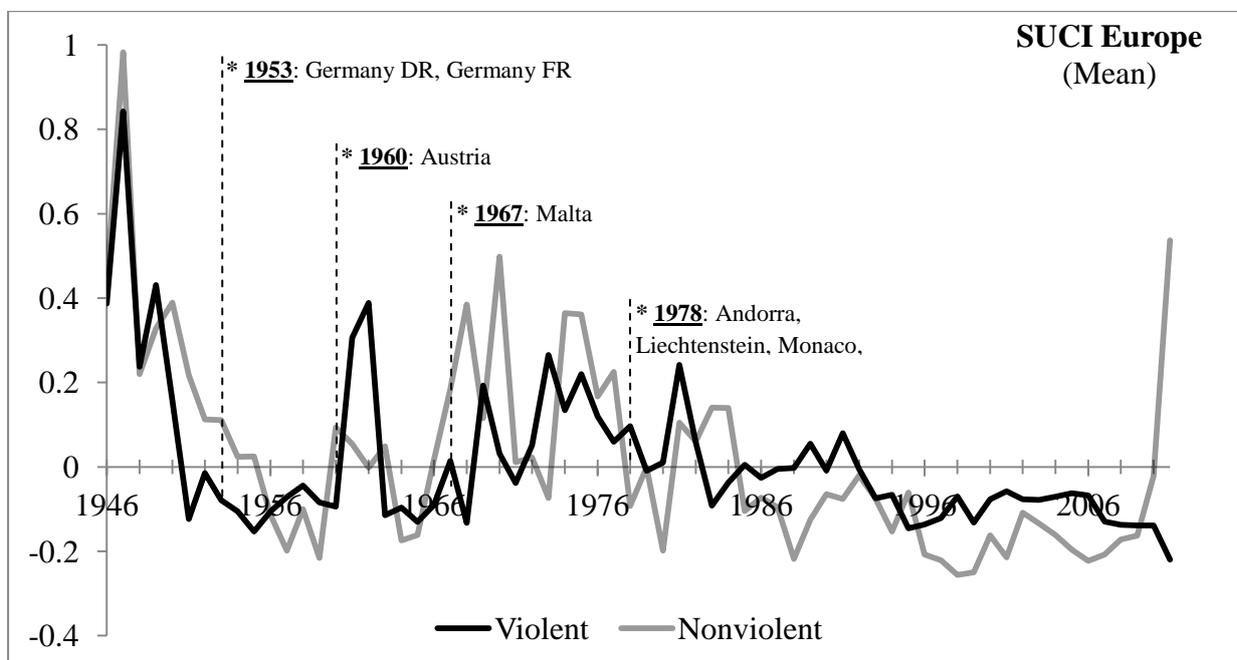
* **1946**: Finland, Luxembourg, Netherlands, Switzerland, Sweden, Ireland, Belgium, Norway, Portugal, France, United Kingdome, Iceland, Denmark, Spain, Greece, Italy

South Asia's major SUs are illustrated in Figure 10. Afghanistan has been leading the violent SUCI index since 1978. The Sauer Revolution in 1978 toppled Daoud and, consequently, Noor Taraki was appointed as the first president of the Democratic Republic of Afghanistan (Meher, 2008). Afghanistan's struggle with the Taliban movement is reflected in the high violent SUCI value in 2003 (Lansford, 2011). The peak in violent SUCI in 1971 reflects Bangladesh's liberation war. Other significant episodes of violence occurred in Nepal due to its 10-year civil war, which started in 1996 when the Maoist party strove to replace the parliamentary monarchy and the Hindu class system (Bisht, 2008). The increase in the intensity of Nepalese SU is reflected in high values of violent SUCI in the period from 2001 to 2006. Finally, between 1987 and 1989, South Asia's violent SUCI is dominated by the JVP insurrection in Sri Lanka, which led to the death of around 60,000 Sinhalese (DeRouen and Uk, 2007).

The major nonviolent SUCI event took place in 1983 in India. The 'Nellie Massacre' is considered the 'biggest riot incident in contemporary south Asia' (Kimura, 2013, p. 22). Preceding the Iranian revolution, the second highest peak of nonviolent SUCI occurred in Iran in 1978 following political mobilization by clerical activists (Clawson and Rubin, 2005). Adding to that, strikes started in September 1978, causing a decrease in oil exports from 'five million barrels a day to two million barrels threatening to bankrupt the government' (Clawson and Rubin, 2005, p. 92). Other notable episodes of nonviolent uprising took place in Bangladesh from 1994 until 1996.

Figure 10: SUCI South Asia (Mean)
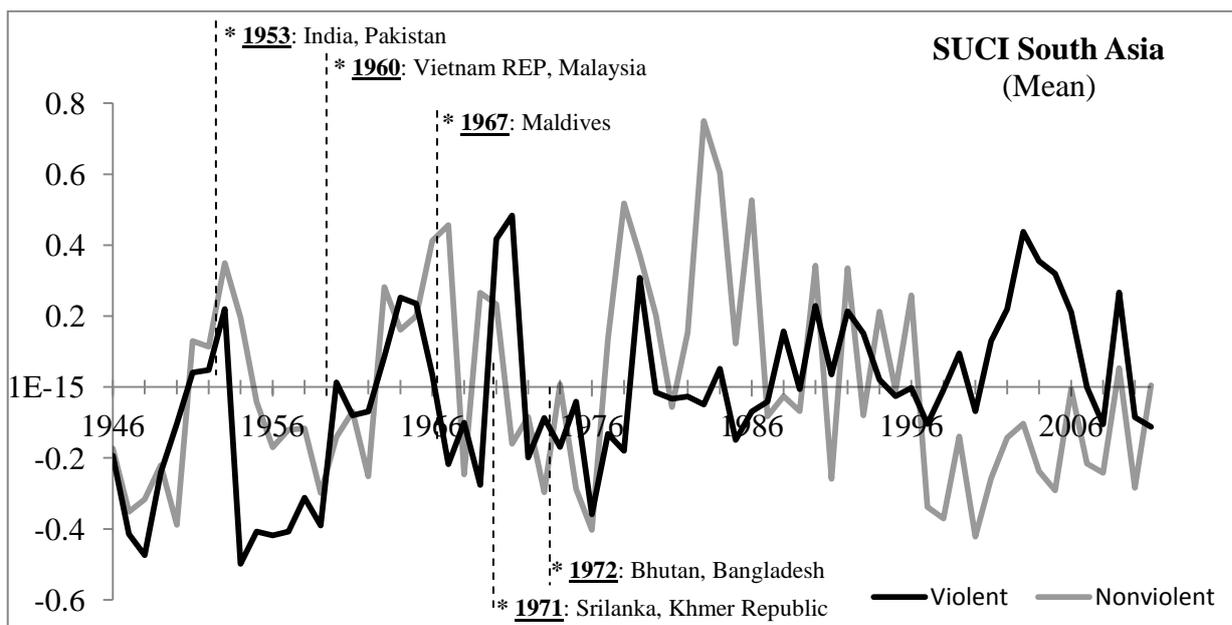
* **1946**: Nepal, Afghanistan, Iran

56

The development of SUCI in Southeast Asia is shown in Figure 11. Its most significant feature is the high peak in 1998 of the nonviolent index due to Indonesia's student riots in May 1998.

Figure 11: SUCI Southeast Asia (Mean)
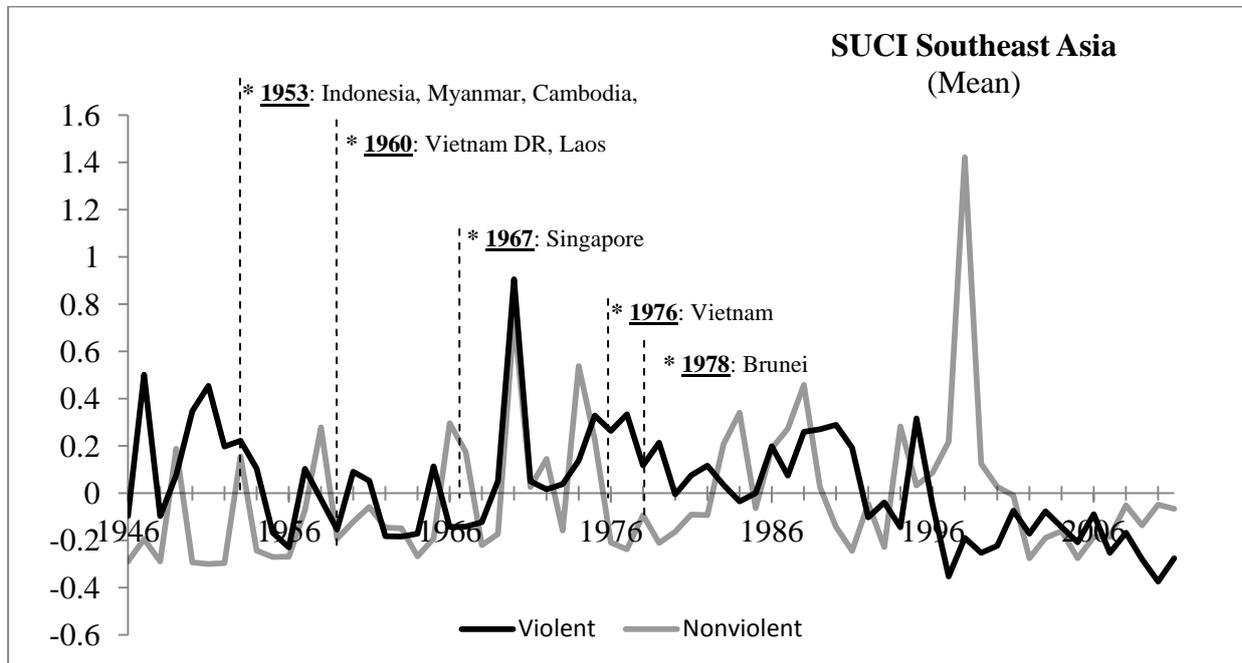
* **1946**: Thailand, Philippines

These protests led to the fall of the government and the resignation of Suharto, Indonesia's president (Katsiaficas, 2012). The second significant feature is the simultaneous increase of both violent and nonviolent SUCI in 1970, strongly influenced by events in Cambodia, as noted above. The Philippines's 'first quarter storm' uprising is also a significant determinant of the nonviolent SUCI in 1970 (Katsiaficas, 2012).

6. Conclusion

This paper introduces a novel social uprising composite indicator (SUCI) measuring social protest against the government in 200 countries over the time period from 1946 to 2011. SUCI is constructed to overcome ambiguities in the theoretical and empirical literature dealing with SUs. Despite the blurred borders between various facets of SUs, extant literature tends to concentrate on specific aspects of SUs in isolation. In contrast, SUCI focuses on capturing the commonality between these facets. Based on theoretical considerations, SUs are differentiated into two major categories: violent and nonviolent. This theoretical division is supported by the result of a factor analysis involving seven subindicators of SUs.

Since SUCI is based on clear conceptual grounds, it can be used by empirical researchers either as a dependent variable or an independent variable. As a standardised index, SUCI resolves

consistency problems, which plagued previous quantitative studies and were due to different operationalisation techniques of the underlying indicator for SU. In particular, SUCI avoids defining SU by reference to causes and consequences, which should be the outcome of theoretical and empirical investigation and not included *a priori* in the indicator. Moreover, SUCI is available both for worldwide comparisons as well as specific regional analyses. The former allows inclusion in general studies on SUs, whereas the latter more explicitly takes into account regional spillover effects in SUs. The indicator also allows differentiating between absolute and relative severity of SUs in a country.

SUCI is validated by showing that its variations reflect important real-world events. We discuss SUCI's conceptual basis as well as its construction and provide descriptive statistics of the final index as well as stylised facts about regional SUs. SUCI is designed to be a tool for theory-based empirical research on internal conflict. A straightforward suggestion for future research is to analyse the causes and consequences of SUs.

However, in deriving SUCI, arbitrary decisions had to be made. First, the choice of variables underlying the factor is partially constrained by the availability of subindicators. However, with some exceptions, SUCI appears to be stable with respect to changing variable definitions or extending the number of subindicators in its construction. Second, we assume that countries within geographical regions are subject to similar forces in the context of SUs. While we can show that applying the assumption that the weighing of subindicators across the worldwide sample generates a fairly similar indicator, country-specific weights may still be preferable. However, data limitations do not allow for such a disaggregated approach. Third, international solidarity protests are not included, as we focus on SU within one country. Fourth, instances of ethnical conflicts are excluded based on the theoretical premise that these sorts of actions are not usually directed against the government as such. However, in practice, we cannot exclude that they are related to, and have an impact on, government action. Finally, for a few regions, we face problems with respect to the availability and variability of subindicators, which causes our dataset to be an unbalanced panel.

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Appendix

Table A1: Sample: Countries and Years

Coverage		Countries
1946	2011	Afghanistan, Albania, Argentina, Australia, Belgium, Bolivia, Brazil, Bulgaria, Canada, Chile, China, Colombia, Costa Rica Cuba, Denmark, Dominican Republic, Ecuador, El Salvador, Ethiopia, Finland, France, Guatemala, Haiti, Honduras, Hungary, Iceland, Iran, Iraq, Ireland, Italy, Jordan, Lebanon, Liberia, Libya, Luxembourg, Mexico, Mongolia, Nepal, Netherlands, New Zealand, Nicaragua, Norway, Panama, Paraguay, Peru, Philippines, Poland, Portugal, Romania, Saudi Arabia, South Africa, Spain, Sweden, Switzerland, Syria, Thailand, Turkey, United Kingdom, United States, Uruguay, Venezuela, Yemen Arab Republic, Greece
1953	2011	Cambodia, Egypt, Indonesia, Israel, Japan, Korea, North Korea, South Pakistan
1960	2011	Austria, Cameroon, Cote d'Ivoire, Cyprus, Gabon, Ghana, Guinea, Mali, Mauritania, Morocco, Niger, Nigeria, Senegal, Somalia, Sudan, Togo, Tunisia
1967	2011	Algeria, Barbados, Burundi, Gambia, Kuwait, Lesotho, Malawi, Maldives, Malta, Rwanda, Samoa, Sierra Leone, Singapore, Taiwan, Tanzania, Trinidad and Tobago, Uganda, Zambia
1976	2011	Transkei, Central African Republic, Madagascar, Seychelles, Vietnam
1978	2011	Andorra, Botswana, Brunei, Djibouti, Dominica, Liechtenstein, Monaco, San Marino, Sao Tome and Principe, Solomon Islands, Tuvalu
1992	2011	Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Croatia, Estonia, Georgia, Kazakhstan, Lithuania, Macedonia, Moldova, Russian Federation, Slovenia, Somaliland, Tajikistan, Turkmenistan, Ukraine, Uzbekistan
1993	2011	Czech Republic, Eritrea, Slovak Republic
1975	2011	Angola, Benin, Cape Verde, Comoros, Holy See, Mozambique, Suriname

Table A2: Regional Classification of Countries

Region	Countries
Africa	Burundi, Comoros, Djibouti, Eritrea, Ethiopia, Kenya, Madagascar, Malawi, Mauritius, Mozambique, Rwanda, Seychelles, Somalia, South Sudan, Uganda, United Republic of Tanzania, Zambia, Zimbabwe, Angola, Cameroon, Central African Republic, Chad, Congo, Democratic Republic of the Congo, Equatorial Guinea, Gabon, Sao Tome and Principe Botswana, Lesotho, Namibia, South Africa, Swaziland, Benin, Burkina Faso, Cape Verde, Cote d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, Togo
MENA	Algeria, Egypt, Libya, Morocco, Sudan, Tunisia, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, State of Palestine, Syrian Arab Republic, Turkey, United Arab Emirates, Yemen, Bahrain, Iran
Oceania	Australia, New Zealand, Fiji, Papua New Guinea, Solomon Islands, Vanuatu, Kiribati, Marshall Islands, Micronesia, Nauru, Palau, American Samoa, Tonga, Tuvalu
Former USSR and Yugoslavia	Estonia, Latvia, Lithuania, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, Belarus, Moldova, Ukraine, Russia, Yugoslavia, Bosnia and Herzegovina, Croatia, Serbia, Slovenia, Montenegro
Latin America	Belize, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Uruguay, Venezuela, Antigua and Barbuda, Aruba, Bahamas, Barbados, Cuba, Dominica, Dominican Republic, Grenada, Haiti, Jamaica, Saint Kitts and Nevis, Saint Lucia, Trinidad and Tobago
North America	USA and Canada
Eastern Europe	Bulgaria, Czech Republic, Poland, Romania, Slovakia Hungary, Armenia, Azerbaijan, Cyprus, Georgia, Albania
Eastern Asia	People's Republic of China , Republic of Korea, Japan, Mongolia, Republic of Korea
Southern Asia	Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka
South Eastern Asia	Brunei Darussalam, Cambodia, Indonesia, Lao, Malaysia, Myanmar, Philippines, Singapore, Thailand, Timor, Viet Nam
Western Europe	Austria, Belgium, France, Germany, Liechtenstein, Luxembourg, Monaco, Netherlands, Switzerland, Denmark, Finland, Iceland, Ireland, Norway, Sweden, United Kingdom, Andorra, Greece, Holy See, Italy, Malta, Portugal, San Marino, Spain

Table A3: Factor Analysis Based on Regional Datasets

	Africa		Former		East Asia		South Asia		Latin America		MENA		Eastern Block		South East Asia		Western Europe		Oceania		North America	
Factor	N	V	N	V	N	V	N	V	N	V	N	V	N	V	N	V	N	V	N	V	N	V
Eigen values	1.6	1.0	1.7	1.1	1.3	1.0	1.6	1.0	0.8	1.5	1.6	0.8	1.5	0.8	1.8	0.5	1.7	0.3	1.2	0.3	1.2	0.1
Explained Variance	78	47	75	49	66	51	77	48	47	84	86	44	82	46	94	28	1.1	22	1.2	1.5	1.2	
Factor Loadings After Varimax Rotation																						
Demon-stration	**0.8**	0.04	**0.7**	0.15	**0.6**	0.01	**0.7**	0.1	**0.5**	0.04	**0.8**	0.02	**0.7**	0.01	**0.8**	0.2	**0.6**	0.1	**0.3**	0.1	**0.8**	0.1
Riot	**0.8**	0.1	**0.8**	0.01	**0.8**	0.1	**0.8**	0.01	**0.6**	0.03	**0.7**	0.1	**0.7**	0.1	**0.8**	0.3	**0.7**	0.2	**0.4**	0.3	**0.8**	0.02
General Strike	**0.3**	0.1	**0.7**	0.1	**0.04**	0.2	**0.6**	0.02	**0.5**	0.04	**0.5**	0.1	**0.5**	0.01	**0.4**	0.3	**0.6**	0.1	**0.3**	0.1	0.2	**0.3**
Guerrilla Warfare	0.1	**0.6**	0.01	**0.3**	0.2	**0.4**	0.2	**0.5**	0.3	**0.38**	0.1	**0.5**	0.02	**0.1**	0.3	**0.3**	0.3	**0.4**	0.1	0.5	0.1	**0.2**
Revolution	0.1	**0.5**	0.1	**0.7**	0.1	**0.7**	0.1	**0.6**	0.3	**0.32**	0.1	**0.6**	0.1	**0.7**	0.3	**0.4**	0.3	**0.4**	0.7	0.1	–	–
Magnitude	0.1	**0.5**	0.01	**0.6**	**0.4**	0.03	0.02	**0.6**	0.02	**0.71**	0.1	**0.4**	0.2	**0.5**	**0.4**	0.4	–	–	–	–	–	–
Intensity	0.03	**0.5**	0.00	**0.5**	0.04	**0.7**	0.1	**0.3**	0.1	**0.73**	0.1	**0.5**	0.1	**0.5**	0.1	0.1	0.1	**0.5**	0.1	0.5	–	–

Notes: N: Nonviolent, V: Violent.

Figure A1: Scree plot of Eigen values Extracted by Factor Analysis

Scree Plot Using World Dataset:
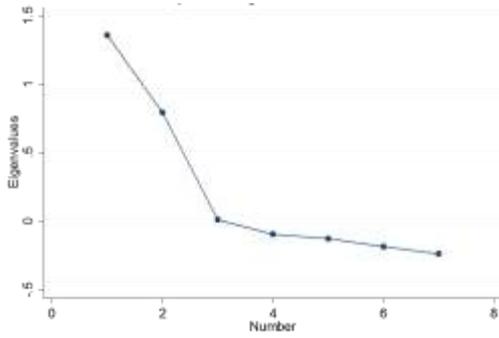
Scree Plot Using Regional Datasets:
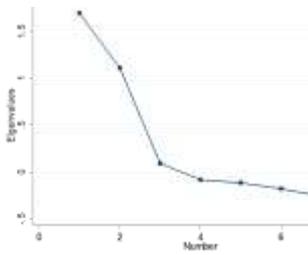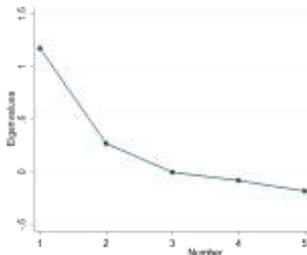
| Former USSR | Oceania | MENA | Africa |

| Eastern Bloc | Western Europe | North America | Latin America |

| World | South Asia | Southeast Asia | East Asia |
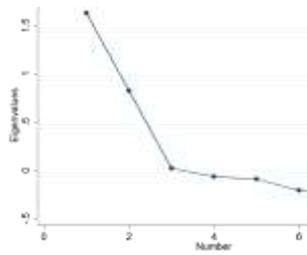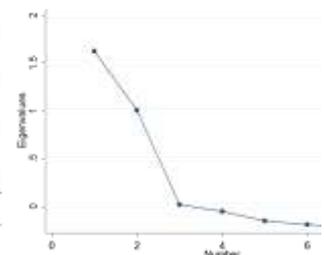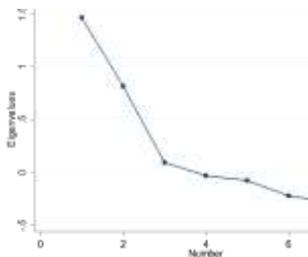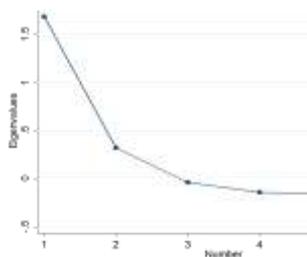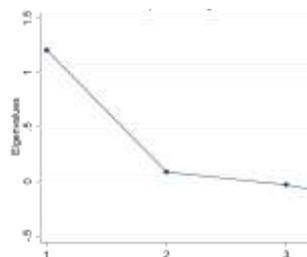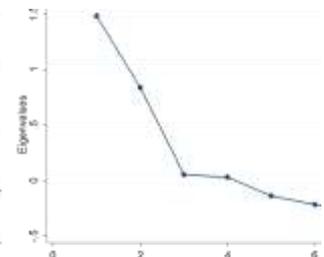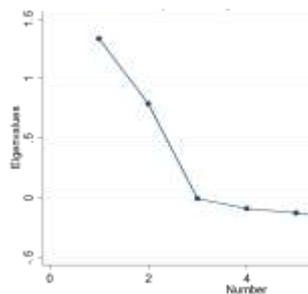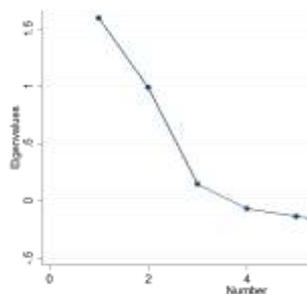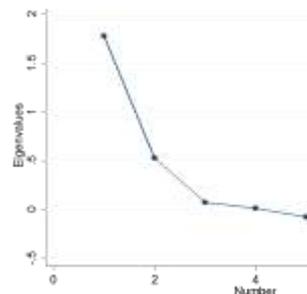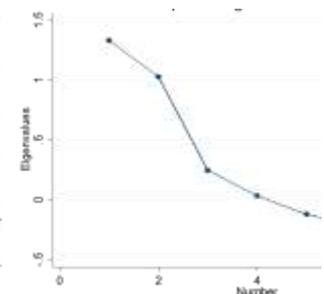
Determinants of Social Uprisings: An Empirical Analysis Utilizing a Novel Indicator

Sondos Shaheen

Abstract

This paper employs a newly constructed composite indicator of social uprisings (SUCI) to analyze the causes of their occurrence. This empirical study is based on an unbalanced panel of 45 countries over the period of 1982–2007. The paper's contribution to the literature is distinguishing between the determinants of violent and nonviolent uprisings. The analysis shows that that certain variables have a significant impact on both violent and nonviolent uprisings in terms of relative SUCI values, for example, ethnic fractionalization and mountainous terrain. Nevertheless, differences between the likelihood of occurrence of violent and nonviolent uprisings can be found. For example, life dissatisfaction is related to nonviolent social uprisings, but when life dissatisfaction is accompanied by democratic dissatisfaction, violent social uprisings are more likely.

Keywords: Social Uprisings, Relative Deprivation, Dissatisfaction, Mobilization, Anti-Government Movements, Causes

1. Introduction

This paper presents an empirical analysis of the causes of social uprising in the light of theoretical advancement. Empirical research shows inconsistent findings for the causes of social uprisings. For example, Fearon and Laitin (2003) and Collier and Hoeffler (2004), the two most often cited large-*N* studies, offer contradicting explanations for the causes of social uprisings. In his study of insurgencies, Staniland (2012) provides a comprehensive review of these inconsistent causes found for social uprisings, including resources, external support, and social division. Dixon (2009) and Hegre and Sambinis (2006) provide a detailed analysis of possible reasons for such inconsistency.

This paper takes two approaches to filling this gap in the quantitative literature: first by utilizing a new index for social uprisings (SUs) and, second, by operationalizing relative deprivation, thus offering new dependent and independent variables. The empirical analysis uses the Social Uprisings Composite Index (SUCI), a new index that captures both violent and nonviolent forms of social uprising (Hayo and Shaheen, 2014). Contrary to the prevalent approach in empirical studies on SUs, this paper distinguishes between two types of social uprising—violent and nonviolent. A theoretical review shows the importance of studying nonviolent uprising as an separate type of social uprising (Bond, 1988; Cunningham, 2013; Zunes,1994; Martin and Varney, 2003; Schock, 2003). Differentiating between the two types of SUs permits analyzing government reactions to SUs. Schock (2003) argues that the use of violence justifies government use of force. Determining whether this statement is true is beyond the scope of this paper, yet it illustrates the importance of dividing the analysis between violent and nonviolent SUs. Chenoweth and Lewis (2013) were the first to empirically investigate the necessity of distinguishing between the two types of SUs. Utilizing their NAVCO dataset, they conducted an empirical replication of the study presented by Fearon and Laitin (2003). Although Chenoweth and Lewis (2013) contribute to the literature by pointing out that different causes do exist depending on the nature of the SUs, their dataset has the disadvantages of other onset binary variables used in the extant literature (Sambanis, 2004). SUCI has an analytical advantage over the NAVCO dataset in that it provides both the absolute and relative level of SUs in a country over the years. SUs are defined as violent or nonviolent intrastate acts of defiance by groups of citizens against their country's government. "Defiance" is defined to include demonstrations, revolutions, riots, revolts, strikes, and coups. "Groups of citizens" include political parties, organized groups, students, workers, and general public support.

The aim of this paper is to achieve a better understanding of what mobilizes a mass of people (i.e., "groups of citizens") to act in defiance against their government. This defiance manifests as

either violent or nonviolent uprisings and is captured using SUCI. The reason for identifying social uprisings of two types is based on the result of factor analysis capturing the commonality and is intended to avoid the ambiguous terminology found in the extant literature[1]. Splitting SUs into these two types provides the opportunity to discover if the causes of SUs differ depending on their nature and is a somewhat novel approach: most empirical studies on this topic operationalize a certain type of action in isolation (Carey, 2006; Buhaug, 2006; Belkin and Schofer, 2003; Boix, 2008; Dixon, 2009). A type of action such as strike or protest is operationalized with a variable that is not unique to this action. For example, the number of deaths is used to analyze the causes of civil war, protest, and revolutions.

This shortcoming (at least for some purposes) of the quantitative literature is this paper's motivation lead to move beyond existing empirical studies and incorporate what has been provided for in literature. For example the occurrence of social uprisings are most likely in countries with mountainous terrain and relatively high level of fractionalization in the society (Collier and Hoeffler, 2004; Parvin, 1973; Fearon and Laitin's 2003). In the extant literature empirical analysis, the discrepancy in the impact of economic growth on social movements is attributed to the theory of relative deprivation (Davis, 1962; Gurr, 1970). Hence, this paper's second contribution is to complement the extant literature with the operationalization of relative deprivation (RD) utilizing a survey dataset. RD theory provides valuable understanding to subjective views of citizens taking part in the social uprisings that has not been extensively studied empirically. In this paper, new variables are operationalized from a survey dataset to serve as proxies for relative deprivation, which is then used as one of the core independent variables for the analysis. In this paper, two sets of social characteristics are argued to influence the level of social uprising: the degree of relative deprivation in a society, measured as dissatisfaction with life and/or democracy, and the degree of cohesiveness in this perception, measured as the standard deviation of the dissatisfaction variable. In addition to testing for the effect of relative deprivation on social uprising, other control variables that measure absolute deprivation and country-specific characteristics are also included.

The empirical study is intended to discover how defiance varies or is similar across its different manifestations, with the end goal of understanding the determinants associated with higher level of violent and nonviolent SUs. The empirical analysis is based on unbalanced panel data covering 45 countries for the period from 1982 to 2007. A general-to-specific framework is used to test whether there are different determinants for the two types of social uprising, with a

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[1] For full details on construction of SUCI, see Hayo and Shaheen (2014).

particular focus on the role played by dissatisfaction. The analysis differentiates between absolute and relative dissatisfaction.

The rest of the paper is structured as follows. Section 2 provides a theoretical review of various causality dimensions covered in the extant literature. Section 3 provides a review of empirical studies on the causes of social uprising. Section 4 covers the methodology employed in this paper. The results are provided in Section 5. Section 6 provides robustness checks. Section 7 concludes.

2. Extant Literature on the Causes of SUs

Several approaches for studying the causes of SUs are provided in the literature, both theoretical and empirical, with a lively debate between the two camps. The debate covers issues ranging from the inability to operationalize proposed theory to inaccurate generalization on the part of empirical researchers (Lancaster and Montinola, 2001; Saxton, 2005). A third way of studying this topic is to employ a case study method, which is done, for example, by Brinton (1952), who analyzes the "Great Revolutions." However, case studies are rarely generalizable given that they usually only involve one incident (Eckstein, 2000). An example of a generalized model aimed at understanding the SU phenomenon is the quantitative model offered by Fearon and Laitin (2003).

The drivers of SUs are also a matter of debate. Some researchers focus on a single driver; for example, ethnic groups (Toft, 2005), resource effects on mobilization (Ross, 2004), or mass media (Weatherburn, 2006). Other researchers have developed fully fledged models; for example, the rational choice model by Skocpol (1976) and the flashpoint model analyzed by Waddington (2010).

In this section, some of this literature is discussed in detail as it is the starting point for constructing the model employed in this paper's empirical analysis. The section is divided into two parts: Part A, "Causality Dimensions," discusses studies that focus on certain dimensions in isolation and how they relate to and impact SUs. Part B covers examples of causality models, which provide a multidimensional analysis of the causes of social uprisings.

A. Causality Dimensions

Modernization

Huntington argues that modernization lead to SUs. The main thesis of his book *Political Order in Changing Societies* is that violence and instability are a result of "rapid social change and rapid mobilization of new groups into politics with slow development of political institutions"(2006, p. 4). More specifically, the rate of modernization is related to the degree of

political instability. This argument is supported by Gillis's (1970) analysis of European revolutions in the 18th century. However, a different argument to Huntington's analysis was provided by Sorokin (1962) as there is no direct connection that either supports or reject the modernization assumption. Tilly (1973) argues that one reason for the different results of these two authors is methodological. Huntington's reliance on "static cross-section comparison" is less comprehensive than Sorokin's (1962) longitudinal study. Hence, it is possible that a time-specific connection was the reason for the link between political instability and modernization.

Resources

Resource mobilization theory views resource availability as a direct cause of SUs (McCarthy and Zald, 1977). Resource mobilization theory has been extensively tested, both with empirical work and case studies. For example, based on 13 case studies of civil war, Ross (2004) argues that abundant natural resources availability, especially oil and nonfuel minerals, made civil war more likely and that there is no correlation with agriculture dependence. This view is contravened by Humphreys's (2005) empirical analysis in which he argues dependence on agriculture as a primary commodity makes the state more vulnerable to insurgency. A refined dataset presented by Humphreys (2005) illustrates that past natural resource dependence is more relevant than future levels in analyzing uprisings. Ross (2004) and Humphreys (2005) agree that having abundant resources enables the government to reduce the duration of the struggle. Debate still exists in literature to whether having abundant natural resources will benefit the state or the rebels. The grievance models argue that access to natural resources is a mobilizing factor for rebels. Staniland (2012) argues that it is a society's structure and developed institutions that are key to whether the resources will help insurgents or the state.

Social Division

Knowledge of a country's social characteristics is critical to understanding what mobilizes the people against their government. There are various social divisions that can be studied, including ethnic groups, religious groups, geographic distribution, and age structure. Staniland (2012) makes a link between social division and resources. He argues that having a highly segmented society in a country rich with resources will result in internal rivalries. Hence, for a fragmented society, the division of resources can hinder SUs; on the other hand, resources held by integrated societies may enable a SU. Staniland argues that "fragmented organizations" are a barrier to "robust institutions" (2012, p. 10). Therefore, institutions determine whether resources will prevent or provoke social uprisings.

Imperialist View

Wright (1966) argues that the first colonial protests arose out of grievances and that battles are just an "outward sign" of "factual divergence." He argues that "revolution arose from a conflict of interest not a debate over rights" (1996, p. 76). According to this author, then, it may be erroneous to assume that revolt against colonialism arises purely from a desire for democratic rights; it is just as, if not more, likely that the revolt is a due to a clash of economic interests.

Functionalist Approach

Marx's explanation for why revolutionary change would occur is bound to a model of social change. He expected the change to occur in countries with less developed industrial structure, that is, revolutionary change would occur within a country, not between countries (Cohan, 1975). A contradictory view is presented by the functionalist approach to analyzing revolutions. For example, Talcott Parson argues that conflict is not due to the fact that "one class has the goods" but to the absolute scarcity of valuable goods in a society (Cohan, 1975 p. 120). This is the motivation for distinguishing between relative and absolute deprivation.

B. Model Analysis

Waddington (2010) developed the "Flashpoints Model of Public Disorders." This model, although originally designed to study riots in Sheffield area during the 1980s, has been refined and is now appropriate for investigating "both violent and nonviolent crowd events over the world and across history" (Prince, 2012, p. 395). Waddington's (2010) essential argument is that public movements cannot be explained by one variable and thus his "Flashpoints Model" encompasses six dimensions: political, ideological, cultural, contextual, situational, and interactional. This multidimensional model is appropriate for analyzing political demonstrations (Weatherburn, 2006); however, it is not useful for empirical analysis, and this failure to provide statistical analysis limits it generalizability.

Another model, proposed by McAdam et al. (1996), is designed to investigate the political opportunity for social change. The authors argue that four dimensions provide an opportunity for a social change: openness of the political system, stability of elite alignment, presence of elite allies, and the state's repressive capacities. This model, however, is subject to some of the same criticisms as is Waddington's Flashpoint Model, specifically that it is inoperational and endogenous to political mobilization (Lawrence, 2010).

Gurr (1970) conducts a careful study of "strife events," providing a model that incorporates many of the previously mentioned dimensions. His empirical analysis takes the form of correlation coefficients that relate variations in the conflict variable to variations in underlying

dimensions. He provides a level of generalization by giving explanatory weight to the illegitimacy of the regime, problems in communication within the country, external country intervention with material support, existence of illegal parties, economic discrimination, political discrimination, and religious fractionalization. Based on significant statistical results, Gurr extended his analysis to investigate the relationship between rebellion and economic discrimination, studying in detail the concept of unfulfilled expectation and hence differentiating between relative and absolute deprivation. The issue of relative deprivation is taken up by the structuralist school, which posits that SUs are a result of economic disappointment. This view assumes that if the disappointment becomes "sufficiently" widespread, there will be a SU.

Relative Deprivation

This paper's main interest is to understand the determinants that increase the liklehood of social uprising. Relative deprivation is a core element for this empirical study as it helps in understanding the motivation behind certain actions. Therefore, in this section, a detailed analysis of the concept of relative deprivation is provided. Relative deprivation (RD) is studied in various fields of social sciences; indeed, it is said that "RD is a social psychological concept par excellence" (Smith et al., 2012, p. 203). Relative deprivation is an individual's dissatisfaction due to a gap between his current state compared to that of a reference group.

The theory of relative deprivation often shows up in the field of economic analysis. For example, studies on poverty, resource allocation, and migration are among the many that consider relative deprivation in their analysis (Sen, 2004; Townsend, 1987; Runciman, 1966). Runciman (1966) provides the most commonly used economic definition of relative deprivation. Among the first scholars to link relative deprivation with SUs are Davies (1962) and Gurr (Ramirez, 1981). However, operationalization approaches aimed at theoretical advancement are scarce; indeed, Pettegrew once stated in one of his lectures that economists "have given up on using relative deprivation."[2] Most work on relative deprivation falls under the rubric of experimental economics and is based on games such as "performance incentives in career games" (Paul, 1991, p. 337). Conceptually, there are two hurdles to studying relative deprivation: discontent is too common in politically stable societies and the threshold of discontent is unknown (Kuran, 1991). Nevertheless, a few scholars have attempted to empirically analyze relative deprivation. For example, Charkravarty and Charkraborty (1984) and Yitzhaki (1979) provide theoretically-based propositions for indices of relative deprivation. Yitzhaki (1979) proposes using the average

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[2] "Relative Deprivation: A Valuable Individual Predictor," November 16, 2012, Marburg University.

income in a society multiplied by the Gini coefficient to measure relative deprivation in a society. The idea is that the society's relative deprivation is an aggregate of individual values. Moreover, Yitzhaki posits that satisfaction and deprivation are complementary and thus that using either one or the other will provide similar results (p. 323). Charkravarty and Charkraborty (1984) build on Yitzhaki and view his measure of relative deprivation as a "normative index." Charkravarty and Charkraborty see an index as representing only one social welfare function. The use of a "normative averaging rule" allows deriving an index of average deprivation. Charkravarty and Charkraborty view marginal deprivation as a focus of their normative average rule, which they define by quoting Runicman (1966), who said that "the magnitude of relative deprivation is the extent of the difference between the desired situation and that of the person desiring it" (Charkravarty and Charkraborty, 1984, p. 284). This perspective provides a concave social welfare function that takes individual deprivation into account.

Stark (1984) employs the concept of relative deprivation to theoretically analyze migration from rural to urban areas. Empirical support for the theory of relative deprivation is provided in a paper by Stark and Taylor (1989) that studies migration from Mexico to the United States. This empirical study supports the hypothesis that potential gain in absolute income is an important factor in migration decisions. Therefore, in the current paper's empirical analysis, absolute as well as relative deprivation dimensions are considered. The literature considers the absolute level of deprivation as an additional explanation for dissatisfaction with a country's economic and social conditions (Kawachi et al., 1999; Foster, 1998; Anderson and Esposito, 2013; Duclos, J. and Grégoire, 2002; Sen, 2004). Kawachi et al. (1999) argue that absolute deprivation, measured, for example, as poverty, unemployment, and low education, is a critical element in understanding the overall level of dissatisfaction. Foster (1998) argues for using the poverty line level as a threshold because it is constant even in cases of economic growth. Below this threshold level, dissatisfaction is so strong that it can lead to apathy and/or inactivity (ØStby et al., 2009, p. 303). According to Heldt (1999), dissatisfaction is driven by the relative level of deprivation, not by the state of the economy. In this paper, both absolute and relative deprivation, referred to in the literature as double relative deprivation (Foster and Matheson, 1995), are studied.

3. Empirical Survey

A survey of the SU empirical literature reveals that the main focus has been on violent movements; indeed, there almost seems to be an assumption that SUs need to be violent. This has led to a debate over whether nonviolent movements are entitled to be called revolutions. Chenoweth and Cunningham (2013) give three reasons for why nonviolent SUs, compared to

violent, are less studied: (1) they are more difficult to measure, (2) some scholars consider nonviolent SUs to be passive, and (3) violent SUs receive more global attention, giving their study a sense of urgency. As to reason (2), however, a quick glance at nonviolent SUs shows them to be anything but passive. Indeed, nonviolent action is being increasingly used as a means to combat injustice and oppression (Carter, 2005). Bond provides a "common sense" definition of nonviolent movement as being that in which there is no "intention to cause physical injury or harm in that particular effort" (1988, p. 82). The extant literature does not give much attention to the difference in determinants between the likelihood violent and nonviolent SUs. Cunningham (2013) explains this lacuna as being the result of studying violent and nonviolent SUs separately, with studies of violent SUs often based on a civil war dataset. Nevertheless, these empirical studies provide valuable information that serves as the basis for the choice of variables in this paper.

In the literature, number of deaths is one of the most commonly used proxies for social uprisings. Number of deaths may be interesting for specific research questions but the statistic in no way explains why people defy their government. Hence, this dependent variable is not used in the current analysis. Another dependent variable often used in the literature is event onset. However, even onset is a binary variable and does not contain much, if any, information about the duration and intensity of social uprisings. Due to the nature of this variable, this analysis employs logit and probit modeling.

Based on a cross-section dataset, Parvin (1973) argues that income inequality is a contributor to political unrest. Parvin finds that higher income growth can actually induce violence. This finding supports Gurr (1970) as the increase in income will intensify relative deprivation. Gurr argues that economic development poses an increased risk of political unrest due to unfilled expectations. However, Parvin continues his analysis by stating that relative deprivation is only of secondary importance compared to absolute level of deprivation. A shortcoming of Parvin's empirical study of political unrest is its use of number of deaths as a dependent variable.

Carey makes an important contribution to the empirical study of political unrest by stressing the importance of feedback loops. He shows that political unrest is a result of "unitary actors" responding to each other (2006, p. 3). Carey views both government and opposition as unitary actors. The opposition's goal is to bring about change in the government or its policies. However, Carey does not incorporate the theory of deprivation and his analysis is restricted to incidents of political unrest in nine countries.

The two most frequently cited empirical papers on the economic determinants of social uprisings are Collier and Hoeffler (2004) and Fearon and Laitin (2003), both of which are large-N studies. Contrary to Parvin (1973), Fearon and Laitin's (2003) empirical analysis shows that economic growth may correlate with fewer civil wars. Fearon and Laitin (2003) do not focus on relative deprivation, but on ethnic fractionalization, making their work complementary to that of Collier and Hoeffler (2004), who found that ethnic fractionalization does not increase the probability of civil war. Parvin (1973), Carey (2006), Collier and Hoeffer (2004), and Fearon and Laitin (2003) are all based on incidences of civil war, that is violent episodes of SUs. Chenoweth and Lewis (2013) replicate the model provided by Fearon and Laitin (2003), but advance the empirical literature by differentiating between violent and nonviolent SUs. They find that the only common factor between violent and nonviolent SUs is that a country with a larger population is more likely to experience SUs; for the rest of the variables, Chenoweth and Lewis (2013) obtained reversed or insignificant results.

4. Methodology

This paper uses a general-to-specific approach for identifying determinants associated with violent and nonviolent SUs. The general model starts with large set of variables, chosen based on the extant literature. The model is then restricted to significant variables (Hoover and Perez, 1999). The restriction is based on a series of F-tests for insignificant variables (Krolzig and Hendry, 2001). The novel contribution of this empirical study is its use of new operationalized variables in its regression analysis. For the independent variables, the SUCI is used as a measurement for SUs. The key dependent variables—democracy and life dissatisfaction—are operationalized to empirically test the relative deprivation theory. Due to data limitations, the empirical analysis is conducted with an unbalanced panel of 45 countries for the period from 1982 to 2007. A list of the included countries can be found in Table A1 of the Appendix.

Empirical Model

A random effects model is employed in the general-to-specific approach of obtaining a restricted model for discovering the causes of SUs. The random effects model accounts for heterogeneity among the sample countries, thus allowing the discovery of variations beyond those associated with fixed effects. A pooled OLS model is not used due to an unobserved state-level error term (Wooldridge, 2003). Additionally, the "RE estimator is more efficient than pooled OLS" (Antweiler, 2001, p. 132). Using a random effects model with a panel dataset allows controlling for nested characteristics of the underlying countries. There are two reasons for preferring a random effects model over a fixed effects one. First, the random effects model allows controlling

for country-specific time-invariant characteristics, which is not possible with a fixed effects model. Second, the Hausman test supports the choice of a random effects model. However, as it could be argued that the Hausman test is not a strong enough reason for final model choice, in a robustness check the model is re-estimated using fixed effects.

The Dependent Variables

This paper uses the Social Uprisings Composite Indicator (SUCI) with its two components, violent and nonviolent SUs, in separate empirical models (Hayo and Shaheen, 2014). In contrast to the usual practice of using binary dependent variables, SUCI is a continuous variable and captures occurrences and intensity levels of SUs. SUCI is available for both the relative and absolute levels of SUs. Relative SUCI is calculated based on region-specific factor analysis and hence is more sensitive to regional intensity levels of SUs. Absolute levels of SUs are based on a factor analysis of a world dataset. To create a general model, it is beneficial to study the causes of SUs from both perspectives so as to differentiate between region-specific and world-general contributing factors. Therefore, as dependent variables this paper uses both relative and absolute levels for the two components of SUCI, violent and nonviolent SUs. The relative SUCI is presented in the Table 1; the other models can be found in Tables A3 and A4 of the Appendix.

Independent Variables

Explanatory variables are divided into four groups: dissatisfaction levels, socioeconomic variables, political dimensions, and time-invariant variables. The first three groups of explanatory variables are lagged to understand their relation to the likelihood of occurrence of SUs. As controls, dummy variables for years and regions are included in the empirical model.

Dissatisfaction Levels

A review of the literature reveals the importance of considering relative deprivation theory in analyzing the likelihood of SUs. However, lack of data makes this difficult. Nevertheless, a subjective view of relative deprivation can be captured with representative survey data, which is accomplished here by operationalizaiton of the Barometer surveys. The Barometer surveys have better coverage than the World Values Survey in regard to both number of countries and time dimensions. To operationalize relative deprivation, data are extracted from the Asia, Arab, America, Europe, and Afro Barometer surveys (Chu et al., 2013; Abderebbi et al., 2010; Leonard, 2012; European Commission, 2012; Centre for Democratic Development, 2008). The Barometer surveys are nationally representative surveys of non-institutionalized adults older than 18 years. The number of survey waves varies across different regions, with minimum of two waves per country for a total of 45 countries. As defined in literature, relative deprivation can be in terms of politics or economics. The operationalization of two questions asked in the

Barometer surveys provides valuable information on the levels of dissatisfaction with well-being and democracy in a country. The relevant questions from the Barometer survey are reproduced in Table A2 of the Appendix. The two questions of interest have to do with the respondents' satisfaction with their well being and the level of democracy in their country. The population shares are calculated to operationalize these two questions. The computed variables are then used as the primary independent variables for the empirical study. In addition to the population share of satisfaction level, the standard deviation from the survey respondents is calculated as an additional control variable. The standard deviation gives valuable information about the unity of population share responses. Double deprivation is considered by accounting for relative deprivation in the levels of dissatisfaction and absolute deprivation in additional explanatory variables that are described below.

The link between SUCI and dissatisfaction levels is shown in Figures 1 and 2. SUCI violent and nonviolent indicators are divided into quartiles to show different intensity levels of SUs. The average level of dissatisfaction with both life and democracy is then provided for every quartile. Surprisingly, Figure 1 reveals that the highest intensity levels of violent SUs, as presented in the fourth quartile, correspond to the lowest level of democracy dissatisfaction and are equivalent to mean life dissatisfaction levels in the first quartile.

Figure 1: Quartiles of Violent SUCI and Dissatisfaction Levels
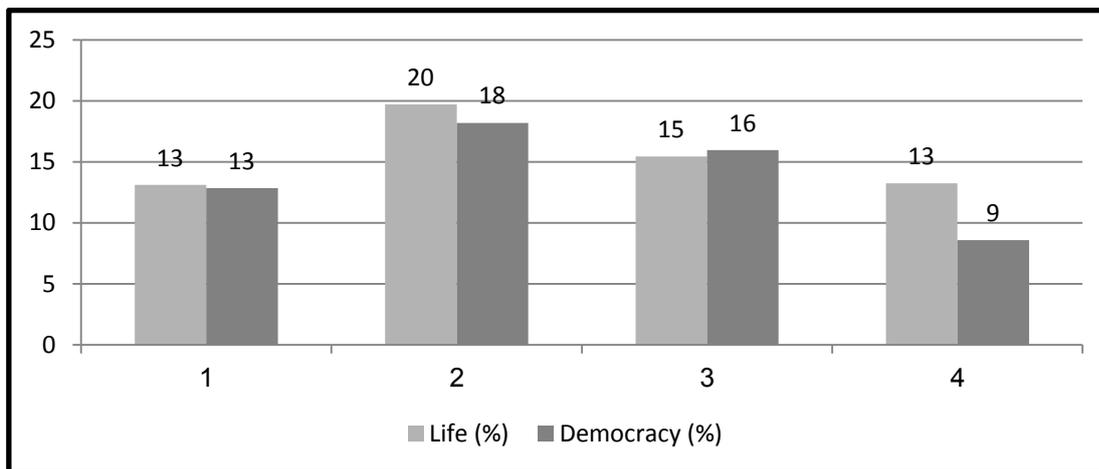
Figure 2 shows a comparable trend; however, in the case of nonviolent SUs, the highest levels of dissatisfaction correspond to nonviolent SUs in the third quartile.

Figure 2: Quartiles of Nonviolent SUCI and Dissatisfaction Levels
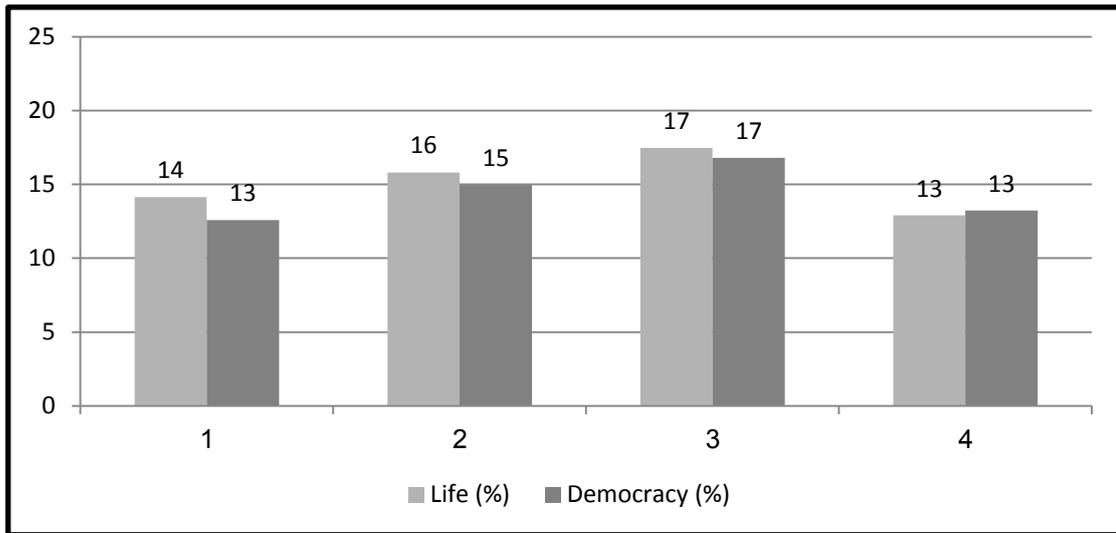
These two figures are perplexing in that they show no direct link between the intensity of SUs and the level of dissatisfaction. However, they do confirm the theoretical notion that although dissatisfaction is a critical element in causing SUs, lack of knowledge as to the triggering threshold level is a major problem.

Figure 3 provides an overview of the two main variables of relative deprivation. In this figure, the means for both life and democracy dissatisfaction population shares are graphically represented with a reference to the average SUCI values, with regional divisions indicated. Note that the average population share of dissatisfaction in a single year never exceeds 25%.

Figure 3: Dissatisfaction and SUCI
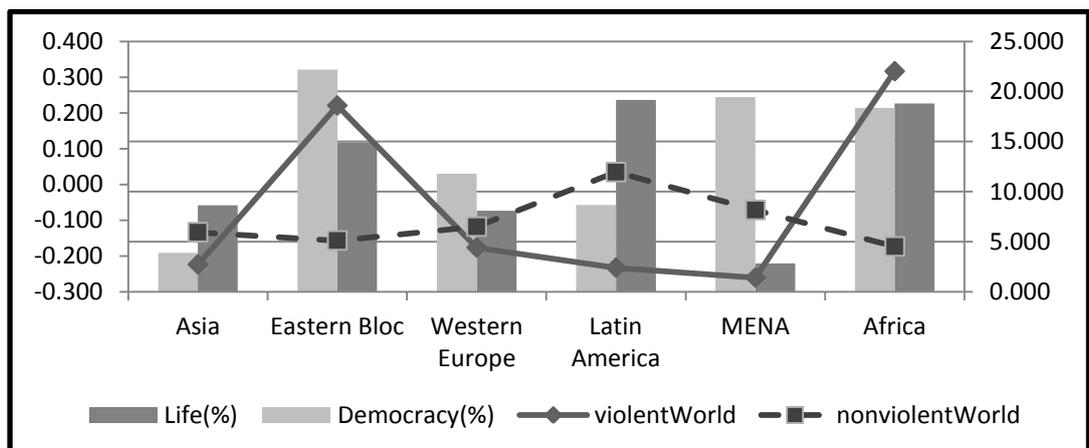
Time-Invariant Variables

One reason for including time-invariant variables is to control for differences across countries in the panel dataset. Country characteristics provide insight into the causes of SUs. Another reason is that time-invariant variables are among the most commonly used in the empirical literature that analyzes cases of civil war. An argument against using time-invariant variables is that although they can indicate the probability of SUs, they cannot predict the onset of SUs (Lawrence, 2010). Time-invariant variables fail to address temporal variation and hence cannot be considered as triggers for SU. Examples of macro factors include rough terrain, ethnic domination, natural resources, and type of regime. The research question can be focused on predicting when a SU occur or more generally aim to understand its general features. In large-*N* studies, the aim is not to explain when the SUs will happen, but to generally characterize them (Lawrence, 2010, p. 122). For the general empirical model, colonial history,[3] ethnic, religious, and linguistic fractionalization,[4] languages,[5] geography both in terms of terrain and access to the sea,[6] and mineral resources are considered as potential factors in SUs. Figure 4 shows that SUCI levels are considerably higher in countries rich with mineral resources and nearly nonexistent otherwise.

Figure4: SUCI Level and Mineral Resources

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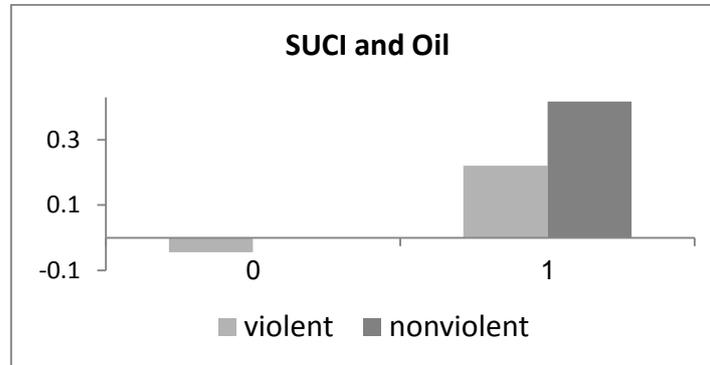
[3] Colonial history is coded 1 if the country has never been colonized by a Western overseas colonial power. Source: Bernard et al. (2004).
[4] Ethnic and religious fractionalization is a measure of how the population is fractionalized. Source: Fearon and Laitin (2003).
[5] Two variables are included for the language dimension. The country's official language and language fractionalization in the country. Source: Alesina et al. (2003).
[6] Mountainous terrain: The proportion of a country's terrain that is mountainous. Source: Collier and Hoeffler (2004).
Access to the sea: A country that borders the ocean (a "coastal economy") and that has a container port is given a value of 0, reflecting complete access to international shipping. A landlocked country without navigable access to the sea via rivers is given a value of 1.
Source: (Sachs and Warner, 1997).

Political Dimensions

Governance[7] and new constitutions[8] are the two political dimension variables. Governance is measured using the Polity IV dataset in which countries are ranked from autocratic to democratic. Figure 5 shows the average SUCI level per governance scale; hence the dataset does not focus on just one governance type. New constitutions is a dummy variable indicating with a value of 1 that a new constitution was adopted in this country for a certain year. Very few changes occur in these two variables as they tend to be constant over time. However, since any such changes could be triggers for SUs, they are included as a separate category of this empirical analysis.

Figure 5: Governance and SUCI
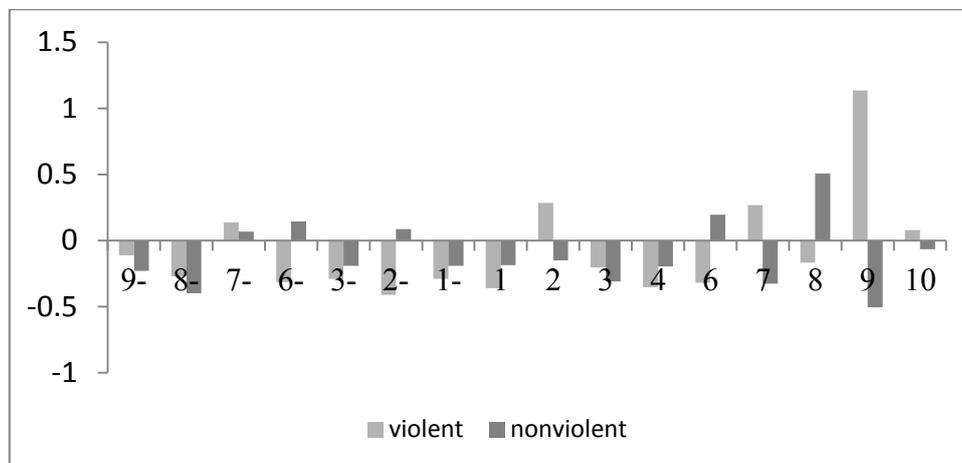
Socioeconomic Variables

The literature distinguishes between relative and absolute deprivation. Relative deprivation is captured by the dissatisfaction variables; absolute deprivation in a country can be captured with macroeconomic variables. The absolute deprivation dimension is captured with country macro-economic indicators. The macro-level variables included in the empirical analysis are unemployment,[9] GDP/capita, and GDP growth.[10] Some demographic variables commonly used in literature are included as additional controls: total population, population growth, and population under the age of 15.[11]

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7 Polity score. Source: Marshall and Jaggers (2012).
8 New constitution. Source: Widner (2008).
9 Unemployment: The share of the labor force that is without work but available for and seeking employment. Source: World Bank (2012b).
10 GDP per capita and GDP growth rate. Source: Heston et al. (2009).
11 Age dependency: Age dependency ratio, young, is the ratio of younger dependents—people younger than 15—to the working-age population—those ages 15–64. Data are shown as the proportion of dependents per 100 working-age population. Source: World Bank (2012a).

Table 1 : Random Effect Panel Regression

	Dependent variable	Violent		Nonviolent	
	Model	RE		RE	
		General	Restricted	General	Restricted
Dissatisfaction	Life Dissatisfaction (%)	0.06**	**0.06***	0.03	**0.06***
		(0.03)	(0.01)	(0.02)	(0.01)
	Life Dissatisfaction (s.d)	-1.88	**-1.27**	-1.52	**-1.98***
		(2.04)	(0.57)	(1.77)	(0.51)
	Democracy Dissatisfaction (%)	0.03*	0.02*	-0.00	
		(0.02)	(0.01)	(0.01)	
	Democracy Dissatisfaction (s.d.)	-3.51***	**-2.73***	-0.56	
		(1.31)	(1.02)	(1.14)	
	Democracy x Life Dissatisfaction	-0.18**	**-0.15***	0.10*	
		(0.07)	(0.05)	(0.06)	
Time Invariant	No Colonial History	0.75**	**0.68***	0.40	**0.32**
		(0.35)	(0.13)	(0.31)	(0.13)
	Religious Fractionalization	-0.10		0.19	
		(0.47)		(0.41)	
	Ethnic Fractionalization	1.10***	**0.92***	0.73**	**0.53**
		(0.34)	(0.29)	(0.30)	(0.26)
	Language Fractionalization	-0.53*	-0.39	-0.52*	-0.26
		(0.30)	(0.25)	(0.26)	(0.23)
	Official Language	0.13***	**0.12***	-0.03	-0.02
		(0.02)	(0.02)	(0.02)	(0.02)
	No Access to the Sea	-0.03		-0.10	
		(0.16)		(0.14)	
	Mountainous	0.07*	**0.07***	0.09***	**0.04***
		(0.04)	(0.03)	(0.03)	(0.02)
	Oil	1.48**	**1.46***	0.41	
		(0.59)	(0.47)	(0.51)	
Socio-Economic	Unemployment	0.02*	0.01	0.01	0.01
		(0.01)	(0.01)	(0.01)	(0.01)
	GDP/Capita (Log)	-0.19	**-0.09**	0.08	
		(0.13)	(0.05)	(0.11)	
	GDP Growth (%)	-0.02	-0.02	-0.03*	
		(0.02)	(0.01)	(0.02)	
	Total Population	-0.01***	**-0.01***	0.01	0.01
		(0.001)	(0.001)	(0.001)	(0.001)
	Population Growth	0.10	0.02	0.24**	0.06
		(0.12)	(0.07)	(0.11)	(0.08)
	Population % under age of 15	-0.00		-0.01	-0.00
		(0.01)		(0.01)	(0.00)
Political	Governance (Autocratic-Democratic)	0.01		0.01	
		(0.01)		(0.01)	
	New Constitution	-0.42		-0.12	
		(0.64)		(0.55)	
	Time and Region Dummies are included				
	Constant	1.33	0.31	-1.07	-0.45*
		(1.59)	(0.52)	(1.38)	(0.27)

Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

5. Regression Results

The regression results in Table 1 use violent and nonviolent indicators from the relative SUCI dataset as the dependent variables. Using the absolute SUCI dataset leads to similar results; any differences will be indicated. The full regression output using absolute SUCI is set out in Table A3 of the Appendix. SUCI is constructed to be standardized across countries, thus allowing interpretation of the regressors' coefficients and their influence on the final SUCI level in the model.

The regression output presented in Table 1 shows a difference between the determinants associated with violent and nonviolent uprisings. This difference is most prominent in the dissatisfaction group of variables. Within this group, nonviolent SUs are more likely due to life dissatisfaction, but violent uprisings are associated with both life and democracy dissatisfaction. In contrast to violent SUs, democracy dissatisfaction is rejected from the restricted model for nonviolent SUs. Cohesion in opinion is a critical factor for SUs. The negative coefficient for life dissatisfaction standard deviation, which is significant for both violent and nonviolent SUs, indicates a more coherent opinion within the population share. This illustrates that common opinion is necessary for mobilizing a mass of people to defy their government. That there are differences between the likelihood of violent and nonviolent SUs is also supported by using the absolute dataset. Indeed, the differences are even more prominent with this dataset as only democracy dissatisfaction is statistically significant for violent SUs and life dissatisfaction is significant for nonviolent SUs.

That violent and nonviolent SUs are associated with different types of dissatisfaction is easily understood. A SU that occurs due to discontent with democracy aims to topple the system and obtain change. This can be expected to be strongly resisted by the current government, leading to a more violent confrontation. On the other hand, a SU that occurs solely due to dissatisfaction with living conditions has as its chief objective not a change in government structure, but a change in or adoption of policies that will improve the quality of life. However, the reasons a SU begins does not dictate its outcome. A SU may start as a nonviolent movement but if the government is excessively intransigent, the situation may escalate into a nonnegotiable demand for regime change. A real-world example of such a case is the Arab Spring. At their start, these SUs were not directly aimed at toppling the regime; however, when the population's demands met with resistance, they situation escalated and resulted in regime change.

Inconsistent output between the absolute and relative datasets for the interaction term makes it difficult to generalize the relationship between life and democratic dissatisfaction. In the relative

dataset, this relationship is statistically significant at the 1% level for violent SUs. The negative coefficient for the interaction term rejects the assumption that coexistence of both dissatisfactions leads to violent SUs, whereas a difference in dissatisfaction levels between life and democracy leads to nonviolent SUs. That assumption was based on Figure 3's display of SUCI levels and regional dissatisfaction. Using the absolute SUs dataset, the interaction variable is insignificant for violent uprisings and significant at the 5% level for nonviolent uprisings.

The second group of time-invariant variables shows that there are no significant differences between the causes of violent and nonviolent SUs. The empirical outputs show statistically significant positive coefficients for no colonial history, ethnic fractionalization, and mountainous terrain for both violent and nonviolent SUs. The positive coefficients for all the previous variables, using absolute and relative datasets, show that a country with no colonial history, high ethnic divisions, and a high percentage of mountainous region are more prone to SUs. With regard to the fractionalization variables, only ethnic fractionalization is significant; the other fractionalization variables were rejected for the restricted models. The significance of ethnic fractionalization for both violent and nonviolent uprisings, in both the absolute and relative datasets, supports the strand of literature that finds ethnic divisions to be important in explaining social uprisings.

The mountainous terrain variable confirms previous empirical findings on the association between this type of geography and violent uprisings. Moreover, when using the SUCI variable, it turns out that mountainous terrain is also related to nonviolent uprisings. Prior literature focuses on civil war and explains that mountainous terrain is a significant factor in this type of conflict in that it allows rebel groups to organize themselves in areas difficult for the government to control.

The official language and oil variables were significant at the 1% level only for violent SUs. An increase in the number of official languages can be linked to the number of ethnic divisions, so it was surprising to see that linguistic fractionalization is not significant. Having more than one official language could be interpreted as an indirect indication that the government officially recognize subgroups in the community. Violent uprisings are also linked with democracy dissatisfaction; hence a larger number of officially recognized languages possibly implies a greater interest in changing the regime. However, linguistic fractionalization does not capture an official statistic, but is instead defined as "the probability that two randomly selected people from a given country will not belong to the same linguistic group."

As revealed by the literature review, time-invariant variables are not appropriate for capturing SU triggers; however, in large-N studies they are useful for helping to identify which

characteristics give a region a higher probability of SUs. The empirical model presented in this paper confirms the inability of time-invariant variables to shed any light on SU triggers: the time-invariant variables employed in this paper's random effects model could not unambiguously differentiate between the violent and nonviolent uprisings. Hence, the fixed effect model is reconsidered and presented in a robustness test.

The third group of socioeconomic variables showed surprising results. GDP/capita and total population were the only two variables significant for violent SUs and none of the variables remained significant in the restricted model. The surprising result is that in this model, nonviolent uprisings are associated with life dissatisfaction, and yet the macroeconomic variables were not statistically significant. This finding could be the result of using an unbalanced panel. Therefore, they were omitted from the restricted model.

6. Robustness Check

In recognition that time-invariant variables cannot distinguish between the causes of violent and nonviolent SUs and that the Hausman test is not a strong enough reason for using a random effects model, in this section the model is recalculated using fixed effects with robust standard errors. The pooled OLS model utilizing Newey-West standard errors was rejected despite its ability to deal with heteroscedasticity and autocorrelation (Newey and West, 1987). The pooled OLS model cannot control for country-level heterogeneity. Nevertheless, the OLS model was run using country dummies and the results can be found in Table A3 of the Appendix. The output of the fixed effects model is provided in Table 2. This regression is also conducted with the unbalanced panel dataset using both absolute and relative SUCI datasets. The regression outputs support the conclusion derived from the random effects model: there is a clear difference between the determinants associated with violent and nonviolent SUs.

Democratic dissatisfaction variables are significant only for violent SUs. Life dissatisfaction is significant for both violent and nonviolent SUs. The fixed effect model shows statistical significance for GDP/capita at the 5% level for both violent and nonviolent SUs. The negative coefficient of GDP/capita means that a less developed economy is more likely to experience a SU. As for the political dimension, the fixed effect results are consistent with the random effect model findings, and thus these variables are omitted from the fixed effects restricted model.

Table 2: Fixed Effects Panel Regression

	Dependent variable	Region (FE)		World (FE)	
		Violent	Nonviolent	Violent	Nonviolent
Dissatisfaction	Life Dissatisfaction (%)	**0.06***	**0.03***	0.00	0.02
		(0.03)	(0.02)	(0.02)	(0.02)
	Life Dissatisfaction (s.d)	0.75	**-2.10***	1.97	**-1.56**
		(2.68)	(0.73)	(1.61)	(0.65)
	Democracy Dissatisfaction (%)	**0.03***		**0.02**	0.01
		(0.02)		(0.01)	(0.01)
	Democracy Dissatisfaction (s.d.)	**-3.60**		**-2.11**	-1.83
		(1.67)		(1.00)	(1.30)
	Democracy x Life Dissatisfaction	**-0.23***	**0.09***	-0.06	**0.10***
		(0.07)	(0.05)	(0.04)	(0.06)
Socio-Economic	Unemployment	-0.00	0.00	-0.02	0.02
		(0.02)	(0.02)	(0.01)	(0.02)
	GDP/Capita (Log)	**-1.36**	**-0.28**	**-0.80**	**-0.21**
		(0.55)	(0.11)	(0.33)	(0.10)
	GDP Growth (%)	-0.01	-0.02	-0.01	-0.02
		(0.02)	(0.02)	(0.01)	(0.02)
	Total Population	-0.01	0.01	-0.01	0.01
		(0.01)	(0.01)	(0.01)	(0.01)
	Population Growth	0.03	0.34	-0.16	0.27
		(0.27)	(0.25)	(0.16)	(0.22)
	Population % under age of 15	-0.03		-0.03	
		(0.03)		(0.02)	
Political	Governance (Autocratic-Democratic)				
	New Constitution	-0.85		**-0.86**	
		(0.60)		(0.36)	
	Control Dummies	Year and Region Dummies Included			
	Constant	16.40**	1.60	10.51**	0.87
		(7.15)	(1.49)	(4.29)	(1.30)

Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

7. Conclusion

This paper utilizes the novel Social Uprisings Composite Indicator (SUCI) to empirically analyze whether there are different factors associated with violent and nonviolent social uprisings. The model is constructed to include major elements derived from the extant literature by utilizing a general-to-specific reduction methodology. SUCI allows the analysis to be conducted separately for violent and nonviolent uprisings. The random effects models are applied to an unbalanced dataset of 45 countries over the period 1982–2007.

The chief result of this paper is that there are, indeed, different determinants associated with violent and nonviolent SUs. The distinction is most prominent in the dissatisfaction dimensions. Citizens' dissatisfaction with their current situation is relevant in the context of relative deprivation. The output showed that a coherent opinion, measured by low level of standard deviation, accompanied by a high percentage of life dissatisfaction can lead to nonviolent SUs. If life dissatisfaction is accompanied by democratic dissatisfaction, the probability of a violent SU increases. No clear differences between the determinants of violent and nonviolent SUs can be found in time-invariant, political, or socioeconomic variables.

This paper's chief contribution is its use of SUCI as an indicator for the dependent variable that allowed distinguishing between violent and nonviolent SUs, along with its use of data from the Barometer surveys to measure relative deprivation. Dissatisfaction was found to be the main differentiating factor. The limitation of the empirical study is the model's restricted range of application due to data unavailability. Deriving a general model applicable worldwide will require more observations. More specifically, being able to add more lagged periods for the macroeconomic variables and having a dynamic panel would have improved the model. One suggestion for future research is to incorporate relative deprivation theory with a focus on dissatisfaction as a motivator for people's actions; however, this will require a cross-country dataset.

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Appendix

Table A1: Country Coverage

Countries	Region
Botswana, Ghana, Malawi, Mali, Senegal, South Africa, Tanzania	Africa
India, Indonesia, Japan, Korea, Malaysia, Philippines, Singapore, Sri Lanka, Thailand	Asia
Hungary, Poland	Eastern Bloc
Chile, Costa Rica, Dominican Republic, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay	Latin America
Algeria, Morocco, Turkey	MENA

Table A2: Barometer Survey Excerpt

Afro Barometer	
Overall, how satisfied are you with the way democracy works in [South Africa]?	
Dmpsat	Variable Name
Satisfaction with Democracy	Variable Label
0=This country is not a democracy, 1=Very dissatisfied, 2=Somewhat dissatisfied 3=Neutral, 4=Somewhat satisfied, 5=Very satisfied, 9=Don't Know, 97=Not Applicable, 98=Refused to Answer, 99=Missing Data	Value Labels
Americas Barometer (Paraguay)	
Would you say that you are very satisfied, satisfied, dissatisfied or very dissatisfied with the way democracy works in the Paraguay?	
Pn4	Variable Name
Democracy Satisfaction	Variable Label
(1) Very satisfied, (2) Satisfied, (3) Dissatisfied, (4) Very dissatisfied, (88) DK, (98) DA	Value Labels

Table A3: Random Effects using Region(Relative) and World (Absolute) SUCI

Dependent variable	Region		World	
	violent	nonviolent	Violent	Nonviolent
Life Dissatisfaction (%)	**0.06*****	**0.06*****	0.02	0.02
	(0.01)	(0.01)	(0.02)	(0.01)
Life Dissatisfaction (s.d)	**-1.27****	**-1.98*****	0.24	**-1.08****
	(0.57)	(0.51)	(1.22)	(0.49)
Democracy Dissatisfaction (%)	**0.02***		**0.02****	0.00
	(0.01)		(0.01)	(0.01)
Democracy Dissatisfaction (s.d.)	**-2.73*****		**-1.82****	-0.48
	(1.02)		(0.82)	(0.91)
Democracy x Life Dissatisfaction	**-0.15*****		-0.04	**0.11****
	(0.05)		(0.04)	(0.05)
No Colonial History	**0.68*****	**0.32****	**0.51****	**0.25***
	(0.13)	(0.13)	(0.22)	(0.13)
Religious Fractionalization			-0.51*	0.01
			(0.31)	(0.20)
Ethnic Fractionalization	**0.92*****	**0.53****	**0.68*****	**0.49****
	(0.29)	(0.26)	(0.26)	(0.24)
Language Fractionalizaiton	-0.39	-0.26	-0.07	**-0.51****
	(0.25)	(0.23)	(0.24)	(0.22)
Official Language	**0.12*****	**-0.02**	**0.05*****	-0.02
	(0.02)	(0.02)	(0.02)	(0.02)
No Access to the Sea			-0.07	0.01
			(0.11)	(0.11)
Mountainous	**0.07*****	**0.04***	**0.06****	0.03
	(0.03)	(0.02)	(0.03)	(0.02)
Oil	**1.46*****		**1.19*****	-0.17
	(0.47)		(0.36)	(0.40)
Unemployment	0.01	0.01	0.01	**0.02****
	(0.01)	(0.01)	(0.01)	(0.01)
GDP/Capita (Log)	**-0.09****		**-0.20****	-0.03
	(0.05)		(0.08)	(0.05)
GDP Growth (%)	-0.02		-0.00	**-0.02***
	(0.01)		(0.01)	(0.01)
Total Population	**-0.01*****	0.01	**-0.01*****	0.01
	(0.01)	(0.01)	(0.01)	(0.01)
Population Growth	0.02	0.06	0.04	0.09
	(0.07)	(0.08)	(0.08)	(0.07)
Population % under age of 15		-0.00	-0.00	-0.00
		(0.00)	(0.01)	(0.00)
Governance (Autocratic-Democratic)			**0.01***	**0.01****
			(0.01)	(0.00)
New Constitution			**-0.80****	-0.07
			(0.36)	(0.41)

Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

97

Table A4: Pooled OLS using Region(Relative) and World (Absolute) SUCI

	Dependent variable	World Nonviolent	World Violent	Region Nonviolent	Region Violent
Dissatisfaction	Life Dissatisfaction (%)	**0.05***	-0.02	0.04	0.01
		(0.03)	(0.02)	(0.05)	(0.03)
	Life Dissatisfaction (s.d)	**-3.51***	2.25	-4.98	1.27
		(2.03)	(1.69)	(3.19)	(2.08)
	Democracy Dissatisfaction (%)	0.01	0.01	-0.00	0.01
		(0.01)	(0.01)	(0.02)	(0.01)
	Democracy Dissatisfaction (s.d.)	-0.80	-1.38	-1.12	-1.35
		(1.46)	(1.24)	(1.90)	(1.25)
	Democracy x Life Dissatisfaction	0.01	0.02	0.15	**-0.10***
		(0.07)	(0.04)	(0.13)	(0.06)
Time Invariant	No Colonial History		-7.71	1.54	
			(8.81)	(12.52)	
	Religious Fractionalization			0.00	
				(5.81)	
	Ethnic Fractionalization		0.00	0.00	0.00
			(21.00)	(0.00)	(0.00)
	Language Fractionalizaiton		0.00	0.00	0.00
			(0.00)	(0.00)	(0.00)
	Official Language	**0.35****	1.64	1.28	1.04
		(0.18)	(2.19)	(0.83)	(1.00)
	No Access to the Sea			-2.43	
				(9.80)	
	Mountainous			-0.27	-0.39
				(2.16)	(1.16)
	Oil	**2.46****	0.00	0.00	0.00
		(0.78)	(3.33)	(0.00)	(0.95)
Socio-Economic	Unemployment		-0.02	0.01	-0.02
			(0.02)	(0.03)	(0.02)
	GDP/Capita (Log)		-0.00	-0.00	-0.00
			(0.00)	(0.00)	(0.00)
	GDP Growth (%)	**-0.01****	-0.01	-0.04	-0.02
		(0.01)	(0.01)	(0.03)	(0.02)
	Total Population	**-0.01****	-0.01	-0.01	-0.01
		(0.01)	(0.01)	(0.01)	(0.01)
	Population Growth	0.02	-0.06	0.58	0.24
		(0.29)	(0.17)	(0.53)	(0.33)
	Population % under age of 15		0.01	0.00	0.02
			(0.02)	(0.04)	(0.04)
Political	Governance (Autocratic-Democratic)	0.01		-0.02	
		(0.03)		(0.59)	
	New Constitution		**-0.73***	0.08	**-0.50***
			(0.39)	(0.49)	(0.30)
	Control Dummies	Year and country dummies included			
	Constant	-1.04	5.96	-2.46	-1.84
		(0.84)	(0.00)	(0.00)	(0.00)

Standard errors in parentheses, *** $p<0.01$, ** $p<0.05$, * $p<0.1$

The Impact of Recipients' Social Uprisings on Donors' Foreign Aid Allocation

Sondos Shaheen

Abstract

Foreign aid is an invaluable source of support for countries in transition. There are many events that can put a country into a period of transition, and social uprisings fall into this category. Social uprisings might be seen as either an opportunity or a threat for a donor nation. In this study, foreign aid allocation decisions are empirically analyzed using a three-dimensional panel (recipient-donor-year) for the period from 1970 to 2011. The analysis incorporates commonly used control variables in regard to recipient need and donor interest, and also includes social uprisings as a novel dimension using the Social Uprisings Composite Indicator (SUCI). The empirical analysis highlights the importance of adding social uprisings to the commonly used dimensions of aid allocation. Including social uprisings could change the extant literature findings.

Key Word: Foreign Aid, Social Uprisings, Aid Allocation, Determinants

1. Introduction

How aid affects economic development is a much researched topic and it is generally conceded that the aid receipt is beneficial for a country's economy (Hansen and Tarp, 2001; Tezanos et al., 2013; Wamboye et al., 2013; Mekashaa and Tar, 2013), although some studies are less sanguine about the benefits to the recipient nation (Doucouliagosa and Paldam, 2011; Conyers and Mellors, 2005; Morrissey, 2004; Headey, 2008). This paper is not concerned with the effectiveness of aid, but with aid allocation decisions made by donor countries. One of the paper's chief aims is to empirically test, from a donor's perspective, the impact of social uprisings (SUs) on bilateral foreign aid allocation.

Bilateral aid is that which is transferred directly from a donor nation to a recipient. In such cases, it is thought that donors tend to provide aid based on their own commercial and geopolitical interests, rather than on the developmental concerns of the recipient country (Younas, 2008). Bilateral aid allocation is relatively strongly related to a single country's policies, and less focused on humanitarian assistance, which is the type of aid multilateral institutions are more likely to provide (Hawkins et al., 2006). While acknowledging that there are various channels through which and reasons for granting aid, this paper investigates the determinants of donors' bilateral aid allocation (Raschky and Schwindt, 2012).

A review of the extant literature makes clear that the link between foreign aid and social uprisings needs to be conceptualized and empirically studied. For example, countries emerging from conflict have a high need for assistance; "from Cambodia to Bosnia, El Salvador to Rwanda, and Tajikistan to Lebanon, bilateral donors have supported post conflict peace building with generous packages of assistance" (Forman, 2000). Generous packages of assistance are one form of foreign aid. But, as is also clear from the literature, foreign aid is not necessarily related to peace building. For example, countries of Eastern Europe needed aid to cope with their economic transition after the 1989 color uprisings (Lancaster, 2000).

Even though social uprisings can make donors aware of recipients' needs, donors may actually decrease aid in the event of social uprisings due to fear that their projects will fail or at least be severely compromised because of the conflict (Knack, 2001). Therefore, there is not a direct or consistent relation between foreign aid allocation and social uprisings. Moreover, there is no reason to assume homogeneity in donor assessments of need, even when the aid is intended to address the same situation. For example, two donors, both with conflict resolution as a primary goal, could handle aid differently, depending on each donor's assessment of the mechanisms underpinning the aid/conflict relationship (Kang and Meernik, 2004).

The effectiveness of an action, in this case, providing foreign aid, can only be measured if the intentions and basis for giving the support are known. The extant literature critical of foreign aid comes to that conclusion mainly by focusing on the debt burden aid imposes on recipients or the less than optimal ability of aid to actually alleviate poverty. However, these aspects are of relevance to the recipient country, but not necessarily to the donor, which highlights the importance of differentiating between donor interest and recipient need when investigating aid allocation. This paper takes what might be viewed as the donor's perspective on aid in that it is more interested in how donor's decide to allocate aid than it is in the said effectiveness of aid.

The paper extends the donor interest and recipient need framework by incorporating social uprisings. This is done by using a novel index of social uprisings, the Social Uprisings Composite Indicator (SUCI), which differentiates between violent and nonviolent uprisings. This paper analyzes the effect of social uprisings in a recipient nation on the allocation of bilateral foreign aid from OECD donor nations.

What are the determinants of foreign aid allocation? The paper answers this question, the first step in which is a review of the literature on this topic to find out what is already known and what needs to be discovered. Section 2 contains this literature review. This is followed by an empirical analysis that is conducted using a three-dimensional panel dataset (recipient-donor-year) with 1,343 recipient-donor pairs covering the period from 1970 to 2011. Section 3 presents the dataset used for the analysis. Section 4 describes the methodology. Sections 5 and 6 contain the regression outputs and robustness checks, respectively. Section 7 concludes.

2. Aid Allocation Literature Review

A. Transition Aid

Social uprisings, *per se*, are not the much studied in the extant literature; however, much can be learned from the research on transition aid, sometimes referred to as transition assistance. Transition aid to Eastern Europe in the 1990s was of various types (Stone, 2002). The effectiveness of this transition aid to eastern Europe was less than optimal due to the large number of small grants that were not demand driven and that were tied to specific projects set by the donor nations (Nuti, 1996).

Yet, aid for Eastern Europe was viewed as a necessary element of economic transition after 1989 (Szent-Iványi and Tétényi, 2008). The donors' main intention in providing this transition aid was to support Eastern European countries in their move toward a free market and democracy (Lancaster, 2000). The amount and speed of aid allocated by Western countries was highly

dependent on the donors' interest, which can be summarized with this statement: "the quicker you change the more we'll give" (Creed and Wedel, 1997). Aid can be viewed as a foreign policy tool that new political leaders can wield to gain influence and assert control (Cooley, 2003).

In the case of social uprisings, however, it is possible that the revolutionaries might not welcome external support in the form of foreign aid. In the case of the Czech Republic, the government decided to limit its use of foreign assistance, which met with popular approval; the Czechs say that "reforms starts and ends at home" (Wedel, 1994). Despite the negative reaction to external aid on the part of some, the transition aid programs were key to these countries' eventual EU accession (Grabbe, 1999). The literature contains many examples of transition states that needed foreign assistance to allow for their economic development (Braithwaite et al., 2000). For example, after the social uprisings in the Arab world, the Deauville Partnership was established to assist these countries in their transition (Dadush and Dunne, 2011). The downfall of several governments as a result of social uprisings opened up new possibilities for donor countries. The color revolution in Eastern Europe opened the door for this part of the world to establish a relationship with the West and forced the West to consider what sort of relationship this should be. Social uprisings resulting in a change in the governing regime can be viewed as an opportunity for foreign donors and creates a situation in which the "competition for economic rents has become more open" (Frot, 2014). Some studies illustrate how the emergence of sudden strategic concerns can lead to a dramatic increase in aid, or how events like the end of the Cold War can shift donor priorities and leverage more generally (Boschini and Olofsgård, 2007; Fleck and Kilby, 2010).

B. Aid and Social Uprisings

There are to date no large-N studies on the effect of social uprisings from a general perspective. The literature provides detailed analysis of the relation between foreign aid and the democratization process and its effects on leader survival, but no work has been done of the relationship between foreign aid and social uprisings (SUs) (Bermeo, 2011; Kono and Montinola, 2009). This paper fills this gap by empirically evaluating the impact of social uprisings on aid allocation. The probable uses of foreign aid by the recipient country can have a significant impact on the donor's timing of the allocation and, indeed, on whether it will even provide aid. After a social uprising, a country's leaders can try to "buy off" the anti-government movement (Mesquita and Smith, 2010). Buying off revolutionaries can be accomplished by various methods; for example, "provision of public goods, freedom of assembly, transparency

and free press" (Mesquita and Smith, 2010, p.936). A country with substantial resources, either natural resources or foreign aid, is able to use its assets to counter revolutionary movements. Therefore, whether a donor will provide foreign aid to a recipient nation that has experienced a social uprising depends on whether the donor wants to support the revolutionaries or the current government (Bearce and Tirone, 2010). Since foreign aid is a foreign policy tool, one country's long-time support of "dictators" (e.g., Western countries support of leaders in the Middle East prior to the Arab Spring) can make even the offer of aid to an opposing group arouse suspicion as to motives (Goldstone, 2011, p. 15). One example of how donors signaled their approval of a regime change occurred in Libya. This country was under many sanctions from the West, and yet the revolutionaries received humanitarian aid at an early stage of the social uprisings in Libya in 2011 (Hurd, 2005; Ardıç, 2012). Another example of an aid allocation reaction to a social uprising was the U.S. announcement that it was freezing military aid to Egypt as a result of President Morsi being ousted from power (Faris, 2013). It is important to take a time lag into account when studying the effect of social uprisings on aid allocation. Events which took place at an earlier time point affects the donors' decisions for aid allocation.

Literature on the impact of foreign aid on democratization highlights the influence of recipients' regime type on aid allocation. It is argued that long-run aid allocation helps autocratic governments more than democratic ones (Kono and Montinola, 2009). An argument of extant literature states that autocratic government are most likely to promotes economic development in exchange for foreign aid (Goldstone, 2011).

C. Social Uprisings and SUCI

In the literature, it is common to find lists of events considered to be instances of unrest in a recipient country, with such lists including conflict, civil war, and demonstrations, among others. In the 1990s alone, over $100 billion were spent on assisting three dozen nations to recover from conflicts (Kang and Meernik, 2004). Qualitative analysis demonstrated that various types of conflicts in a recipient country impact donors' aid allocation decision. However, an empirical analysis is difficult because "none target and measure conflict systematically" (Balla and Reinhardt, 2008, p.2568). The need for a reliable index has been provided by the construction of the Social Uprisings Composite Indicator (SUCI) (Hayo and Shaheen, 2014). SUCI is a variable with a metric scale and captures both the occurrence as well as the intensity of conflicts over time. The index also measures social uprisings, which are defined as the "violent or non-violent intra-state acts of defiance by groups of citizens against a country's government."

The relevance and possible application of SUCI are illustrated in Table 1 and Figure 1, which use India and Colombia as example countries. Each country has its own index for both violent and nonviolent social uprisings per year. The mean value of violent SUCI is higher in Colombia than in India. The significance of the index value level is country specific. This index is the starting point for this paper's analysis of the effect of social uprisings on foreign aid allocation decisions.

Figure 2 shows the link between social uprisings and foreign aid allocation. The figure gives averages for Africa, the Eastern Block, Eastern Asia, and MENA regions. Social uprisings are measured using SUCI and averages for the regions are provided to facilitate the comparison. Similarly, total aid commitment value to recipients in million US$ is also averaged for each region.

Even these average values of aid clearly demonstrate that there are regional differences in the relationship between foreign aid and social uprisings, which shows that a commonly used approach in literature of averaging the aid value not only across regions but also over a certain time period may not be appropriate. The usual reason for using averages is to even out fluctuation across years, but such an approach results in the loss of valuable information. Therefore, in this study the value level of aid and SUCI is used instead.

In the case of Africa, an increase in average social uprisings results in decrease in aid allocation. In contrast, in the Eastern Block, a increase in social uprisings is accompanied by a rise in aid allocation. Looking at the two other regions shown in Figure 2 reveals no clear link between social uprisings and aid allocation.

One reason aid might be decreased in the face of more social unrest is that donors are concerned that aid will end up in the "wrong" party's hands (Grossman, 1992). Another reason for decreasing or even stopping aid could be that continuing to send aid to a country that appears to be engaging in escalating conflict may make the general population of the donor country question the wisdom of its government (Knack, 2001). The illustrative figures and discussion of them lead to this paper's first hypothesis.

H_1 *Countries with high SUs receive less aid.*

The empirical aid allocation literature is extensive, yet it still lacks a comprehensive analysis of social uprisings as an important element of allocation decisions, a gap this paper intends to fill, which provides the foundation for the paper's second hypothesis

Table 1: SUCI Examples: India and Colombia

	Violent				Nonviolent			
	min	max	mean	std.dev.	min	max	mean	std.dev.
India	1.19	5.08	2.57	0.79	1.54	12.05	3.73	2.38
Colombia	2.19	9.66	4.56	1.69	1.49	3.14	1.99	0.50

Figure 1: SUCI Examples: India and Colombia
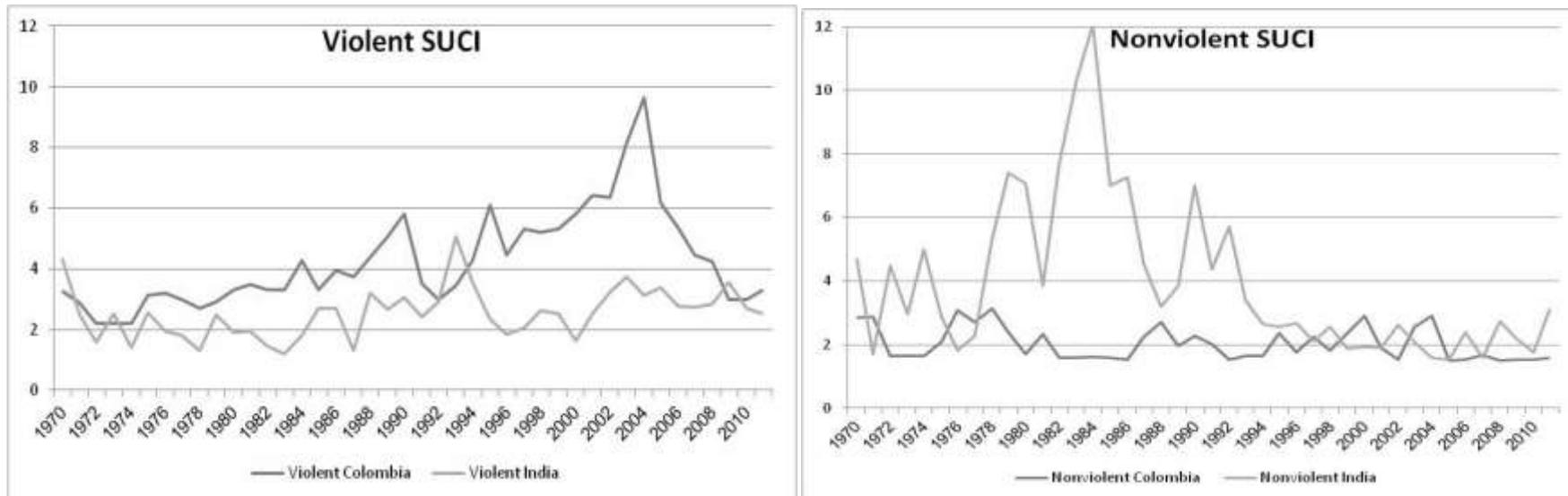
Figure 2: SUCI and Foreign aid Allocation
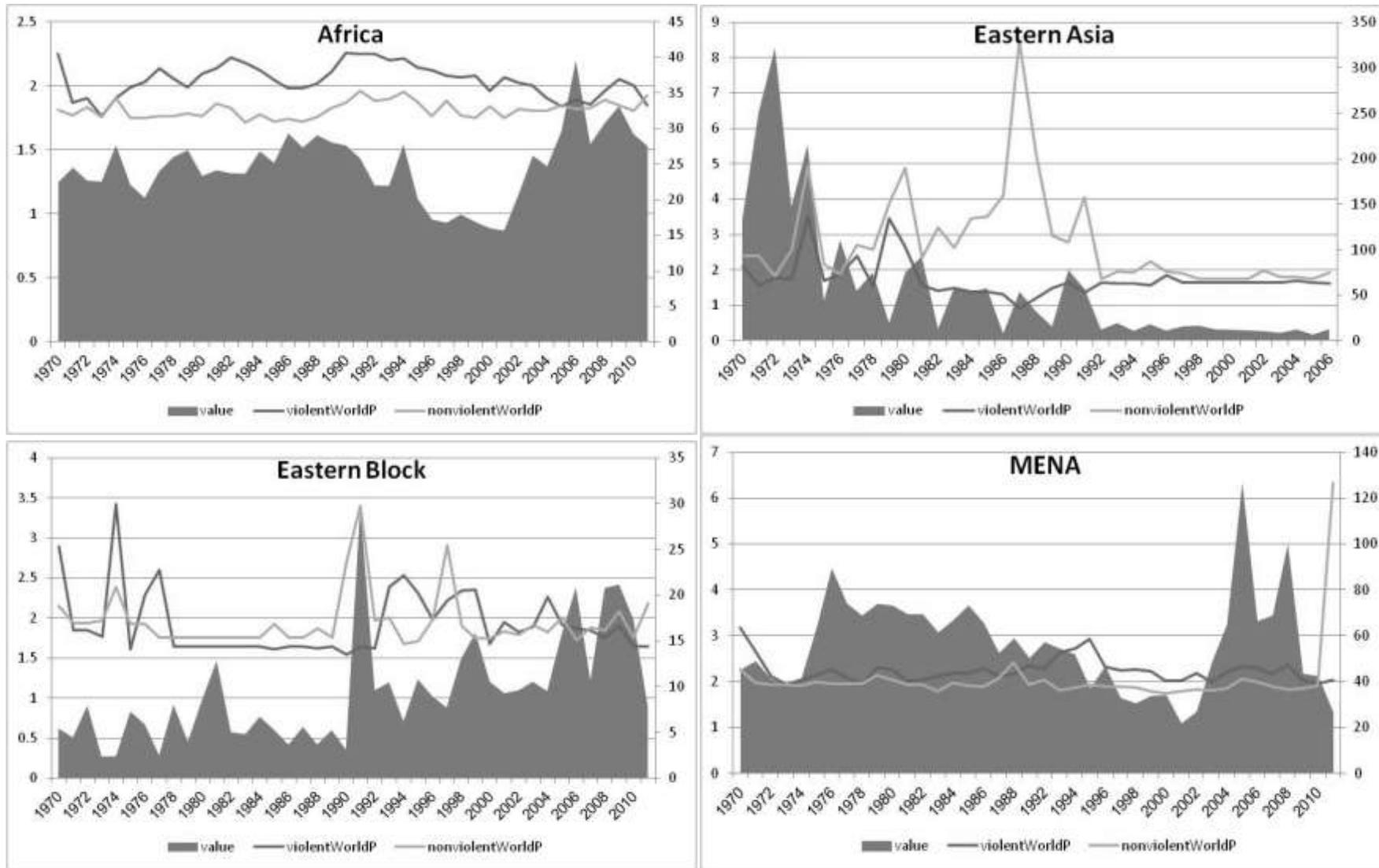
H_2 Adding SUs to the list of commonly used determinants alters the regression output.

This hypothesis argues that considering social uprisings in the analysis of aid allocation, as an addition to commonly used determinants in extant literature, may actually change the regression outputs and hence affect the interpretation of the determinants in those studies. Before moving to the empirical specification, the commonly used determinants of aid allocation are reviewed.

Aid Allocation Determinants Studied in the Extant Literature

The aid allocation literature contains a detailed analysis of the impact of the donor's own macroeconomic conditions on aid allocation (Beenstock, 1980). These macroeconomic indicators of donors are important analytical points for studies focusing on a single nation with one channel of bilateral foreign aid. However, this paper takes a more comprehensive view and studies all the donor nations that are members of the Development Assistance Committee (DAC), which engages in bilateral aid allocation. Therefore, the focus is to understand donor reaction to social uprisings given that other commonly used dimensions are still considered. An overview of the literature shows that allocations are governed by donors' geopolitical and commercial interests and by humanitarian motives (Younas, 2008; Gounder and Sen, 1999; Lahiri and Raimondos-Møller, 2000)

Donor Geopolitical Interest

Donor provision of foreign aid cannot be considered a unilateral transfer—that is, donors expect "getting something in return," even if it is intangible (Dudley and Montmarquette, 1976). In fact, the "something in return" is most likely to be something intangible, as a transfer of something tangible falls more into the category of an exchange relationship, not a donor-donee. The donor's objectives are believed to have a major role in its aid allocation for the development needs of the recipient country (Alesina and Dollar, 2000; Kuziemko and Werker, 2006). Interestingly, the literature shows that corrupt governments receive as much aid as less corrupt governments (Alesina and Weder, 2002).

Past studies find a bias in aid allocation against countries with larger populations. Two reasons have been put forth to explain this: (1) the impact of aid decreases as the population increases and (2) it is easier for donors to gain political influence in a smaller country (Isenman, 1976; Dowling and Hiemenz, 1985; Trumbull and Wall, 1994; Wall, 1995; Alesina and Dollar, 2000). Based on these arguments, it is expected that in an empirical study that excludes social uprisings from the analysis, *that countries with lower population receive more aid.*

Donors tend to provide aid to countries that are like-minded and potential political allies. Moreover, there is a relationship between having a colonial past and aid receipt (Berthélemy, 2006). Another point of comparison for the second hypothesis is that a country will provide aid to a recipient country that has an external political policy in alignment with that of the donor country. A country's foreign policy support of a donor nation is reflected by its alliances and U.N. voting record (Wang, 1999; Alesina and Dollar, 2000).

Donor Commercial Interest

Empirical work shows that all donors have a commercial interest in providing foreign aid (Berthélemy and Tichit, 2004), and this is often related to the donor's interest in acquiring a larger share of the recipient's imports (Boschini and Olofsgård, 2007; Bagwell and Staiger, 2001). Empirical analyses reveal that *countries with low import levels from their donors receive more aid.* It is argued that in bilateral foreign aid allocation, the self-interest motive "dominates" developmental motives. Self-interest predominantly manifests as the commercial interest a donor has in the recipient country. On an aggregate level, commercial interest plays an even greater role in aid allocation than does geopolitics (Berthélemy, 2006; McKinaly, 1978).

Donor Humanitarian Motives and Recipient Need

The third reason for providing aid is the "official" one set out in donor nation's foreign aid statements. Often, these reasons involve the desire to provide aid to the neediest countries or to those countries that are believed to be able to alleviate poverty with sound governance. For example, "the basic purpose of the aid program is alleviation of poverty in developing countries" (H. M. Treasury, 1986, p. 55). The developmental reason for providing aid is argued to have become more prevalent since the end of the Cold War.

In the literature, recipient characteristics are often employed as control variables rather than considering them to be a reflection of need. Such characteristics include per capita income, infant mortality rate, and number of people affected by war or disaster (Fielding, 2013). Empirical work that employs only recipient need models is based on the assumption that "donors are purely motivated by humanitarian motives" (Gounder and Sen, 1999), and the literature provides a long list of variables intended to capture this important dimension of aid allocation. The most commonly used variable for measuring humanitarian motives, however, is GDP per capita. Hence, *countries with low GDP per capita receive more aid.*

3. Data

An unbalanced panel dataset with 20,085 observations covering the time period 1970 to 2011 is used for the empirical analysis. The panel is constructed to pair donors with recipients, hence making it possible to analyze all donors' aid allocations at the same time. This dataset moves this study beyond the single donor model commonly used in the extant empirical literature. Specifically, the dataset is a three-dimensional (donor-recipient-year) panel of 1,343 paired donor-recipient groups.

A. The Dependent Variable

The extant empirical literature uses an average of aid allocation to recipient nations as the dependent variable. This averaging approach is not taken in this study as doing so would result in the loss of valuable information. This study instead takes a donor-based approach in which the donor aid allocation to a certain recipient nation at one point in time, in this case yearly, is considered.

The dependent variable of aid allocation in the empirical regression is aid commitment, which is defined as "a written obligation by a government to provide resources of a specific amount for the benefit of a recipient country" (OECD, 2014). The choice of aid commitments over aid disbursements or aid per capita is consistent with the consensus in the literature that it is a better reflection of donor aid allocation decisions (McGillivray, 1989; Tarp et al., 1999; Berthélemy, 2006). The aid commitment data for are obtained from the OECD Stats for Aid data. The aid commitments are included as a percentage of the respective donor's GDP. This approach of making the dependent variable a percentage of GDP is taken to avoid a bias for countries with higher aid allocation budgets. The aim of the study is to analyze a donor's allocation decision to provide aid to a recipient nation by looking at the amount of aid as a percentage of its GDP value. This allows the empirical model to analyze the allocation decision for even a relatively low amount of aid, but which is, in fact, a considerable percentage of this respective donor's GDP.

B. The Independent Variables

The Social Uprisings Composite Indicator (SUCI) with its two components is used as the key independent variable for the empirical model. SUCI is a quantitative variable that measures the occurrence and intensity of social uprisings in a country per year (Hayo and Shaheen, 2014). Social uprisings are defined as violent or nonviolent intrastate acts of defiance by groups of citizens against a country's government. "Defiance" includes demonstrations, revolutions, riots,

revolts, strikes, and coups. "Groups of citizens" include political parties, organized groups, students, workers, and general public support.

The presence of a unit root in a variable can affect the regression estimates (Levin et al., 2002). There are two tests for the unit root that can be performed on a panel dataset. The first is the Levin-Lin-Chiu, which requires a strongly balance panel; the second is the Dicky-Fuller test, which accepts an unbalanced dataset (Im and Shin, 2003). Both tests were conducted on the SUCI panel data; for the first test, the data were restricted to be a balanced panel. The two unit root tests were significant at the 1% level, indicating that SUCI is stationary. This highly significant result means that the variable can be used in the empirical model with a stationary assumption (MacDonald, 1996).

Note that since the violent and nonviolent social uprisings were computed based on two factor loadings in the factor analysis they are not correlated and it is thus empirically sound to include both violent and nonviolent SUCI in the regression analysis.

In addition to SUCI, variables commonly used in the aid allocation literature are included as control variables: population, GDP, donor export percentage to recipient, and U.N. General Assembly voting. Table 2 provides summary statistics for the dependent and independent variables used in the empirical model.

Table 2: Summary Statistics

Variable	Mean	Std. Dev.	Min	Max	Source
Aid % GDP	0.02	0.03	0.01	0.67	OECD (2014)
Violent	2.20	0.92	0.73	10.06	Hayo and Shaheen (2014)
Nonviolent	2.19	1.10	1.21	18.69	
Population log	3.39	1.60	0.02	7.19	World Bank (2014)
GDP log	11.10	1.78	6.40	16.35	
Export%	0.30	0.64	0.00	13.09	Barbieri and Keshk (2012)
U.N. vote	0.75	0.17	-0.42	1.00	Voeten (2013)

Population is among the most commonly used control variables in empirical analyses of aid allocation irrespective of the study's research focus, and a "small country effect" has been identified (Cashel-Gordo and Craig, 1997; McGillivray, 1989; Dollar and Levin, 2006). The OECD interprets this phenomenon as reflecting smaller countries' need for more aid to finance

their imports (Dudley and Claude, 1976), which contradicts the common assumption that heavily populated countries need more aid than less populated ones (McGillivray, 1989).

Another macroeconomic variable is GDP per capita, which reflects the recipient nation's needs. The macroeconomic variables are obtained from the World Bank database, and are the most conventional recipient need indicators (Neumayer, 2003). GDP is used to reflect a recipient nation's level of development (Demirel-Pegg and Moskowitz, 2009). In the literature, it is argued that foreign aid is provided to countries with lower levels of GDP (Kang and Meernik, 2004).

As a measure for commercial interest, the value of the donor's exports to a recipient country as a percent of the donor's total exports is used to reflect the recipient nation's potential commercial importance for the donor. As argued in the literature, a recipient nation with lower imports from the donor is expected to receive higher aid to motivate higher trade levels.

Finally, U.N. voting is employed to measure political alignment. This variable can take values from −1 to 1, where −1 means having the least similar votes and 1 is fully aligned voting in the U.N. General Assembly (Voeten, 2013). U.N. votes is a commonly used variable to reflect two nations' similar ideologies. It is argued that there is greater aid allocation to recipient nations that have voting patterns similar to those of the donor country.

4. Methodology

The data are analyzed using fixed effects with robust standard errors. This approach is takes so as to achieve a robust empirical analysis, given the large dataset of 20,085 observations. To handle this dataset in such a way as to make use of all possible information, two adjustments need to be made.

First, all regressors are lagged by one year. In the aid allocation literature, explanatory variables measuring either recipient need or donor interest are "likely to be endogenous" to aid (Dalgaard et al., 2004, p. 193). Therefore, explanatory variables were not included as level values to avoid problems of endogeneity (Miguel et al., 2004). Instead, lagged values of independent variables are included in the empirical model (Collier and Hoeffler, 2002; Fearon and Laitin, 2003). To aid in understanding the lag effect on aid allocation, a lag of one year is applied to all control variables. Another conceptual argument for not having the level values for both dependent and independent variables is that decisions and their underlying determinants do not occur instantaneously. Foreign aid decision making is not equivalent across all donor nations or in all situations. For example, foreign aid in response to humanitarian and conflict crises tends to be a

relatively quick reaction to an event rather than a routine yearly budget appropriation (Margesson, 2006).

Second, all regressors in the empirical model were interacted with donor dummy variables. This approach was taken due to the extant literature's identification of donor motives as heterogeneous (Berthélemy, 2006; Alesina and Dollar, 2000). This approach provides a coefficient for each donor for every independent variable, thus allowing for donor-specific determinants for aid allocation decision .Since the panel is set in a three-dimensional setting (donor-recipient-year), the fixed effects are for the pairs of donor-recipients in the model.

Finally, it is important to note that some literature argues that it can take an average of three or even five years of aid to even out foreign aid shocks (Landau, 1986; Alesina and Dollar, 2000). However, given that this paper's main interest is to study the impact of social uprisings, among other determinants, on aid allocation, such a long time perspective is inappropriate. Social uprisings are sudden and unexpected actions (Kecskemeti, 1961; Castells, 2013). Therefore, this paper follows other aid allocation literature that takes aid allocation values on yearly basis and, for reasons previously stated, does not follow the averaging approach (Fielding, 2013). To control for temporal variation in the data, year dummies are included in the model.

5. Regression Output

The fixed effects regression is conducted twice on the same sample. For the first hypothesis (H_1), the first regression is conducted on a model including social uprisings (M_1). For the second hypothesis (H_2), it will be necessary to compare M_1 with a model that excludes social uprisings (M_2). The output for the two regressions including and excluding SUCI variables is set out in Tables 3 and 4, respectively. To make the output table easily interpretable, all donor nations' interaction terms are presented by rows, thus identifying every donor with its own regressors. The control variables are presented in columns, starting with the key variables of interest—the SUCI variable, with its violent and nonviolent components. The remainder of the columns show controls derived from the extant literature: population, GDP per capita, export percentage to recipient, and voting in the U.N. General Assembly. Note that Tables 3 and 4 only show coefficients that are significant at the 1%, 5%, and 10% levels. Comprehensive tables with all coefficients, standard deviations, and year dummies for the models including and excluding SUCI are presented in the Appendix (Tables A1 and A2).

Table 3: M_1 Regression Output

	Violent	Nonviolent	Population	GDP pc	Export%	U.N. vote
Australia	0.002***	-0.006***	0.043***	-0.017***	0.003***	0.031***
Austria			0.009**			
Belgium	-0.001***					
Canada						
Czech	-0.002***	-0.005***	-0.052***	0.022***	-0.022**	
Denmark						0.041**
Finland						0.032***
France						
Germany				-0.003*		
Greece				-0.004**	-0.001***	
Ireland			0.012***			
Italy			0.004**			-0.009***
Japan						
Korea				0.004**		0.013***
Luxembourg	-0.002**					
Netherlands				-0.008**		
New Zealand	-0.005***	0.009***	-0.165***	0.017***	-0.005***	0.013***
Norway				-0.008**	0.021**	
Portugal		-0.027**				
Slovak	-0.003**					
Spain	-0.001**	-0.001***	-0.013**			
Sweden		-0.001**				
U.K.				-0.003*		0.005**
U.S.			0.005**	-0.003**		
Positive	4%	4%	21%	12%	8%	24%
Negative	25%	21%	13%	29%	13%	4%
Explained	29%	25%	33%	42%	21%	29%

*** p<0.01, ** p<0.05, * p<0.10

Observations 20,085

Table 4: M$_2$ Regression output

	Population	GDPpc	Export	U.N. vote
Australia	0.045***	-0.019***	0.002**	0.026***
Austria	0.008**		0.004*	
Belgium				
Canada				
Czech				
Denmark				0.034**
Finland				0.031***
France				
Germany				0.003*
Greece		-0.003**	-0.001***	
Ireland	0.012***			
Italy	0.005**			-0.007***
Japan				
Korea		0.004**		0.017***
Luxembourg				
Netherlands		-0.007**	0.006*	
New Zealand	-0.168***	0.036***	0.008***	0.012***
Norway		-0.006**	0.014**	
Portugal				
Spain	-0.006*			
Sweden	-0.030*			
U.K.		-0.002*		0.005**
U.S.	0.004**	-0.002**	0.0001*	
Positive	22%	9%	30%	30%
Negative	13%	26%		4%
Explained	35%	35%	30%	35%

*** p<0.01, ** p<0.05, * p<0.10

Observations 20,085

The first step in the analysis, before analyzing any particularities, is to look at the global outcome, for which the last three rows—"Positive," "Negative," and "Explained"—are of great assistance. "Positive" refers to the percentage of significant coefficients with a positive value, meaning a higher share of aid to GDP. "Negative" refers to the percentage of significant coefficients with a negative value, meaning that the aid share allocated by donors has been decreased. "Explained" is the percentage of all "positive" and "negative" coefficients that have significant values.

Starting with the "Explained" row, at first glance it seems that both SUCI variables (i.e., violent and nonviolent) have explanatory power comparable to that of the variables commonly used in the literature, such as exports and U.N. votes. This comparable outcome highlights the importance of including social uprisings in the analysis of aid allocation. In fact, both violent SUCI and U.N. vote have 29% explanatory power. Moreover, the nonviolent SUCI's 29% explanatory power actually surpasses the export percentage variable, which is 21%. On the other hand, both GDP and population have higher explanatory power than the SUCI variables. The regression in Table 4, which excludes social uprisings, overstates the importance and significance of U.N. votes in aid allocation decisions. In M_2, U.N. vote reaches 35% explanatory power, but when including social uprisings (M_1), this reduces this to 29%. Adding social uprisings to the model does not have any effect on GDP and population, which continue to have high and, in some cases, even higher explanatory power in the model containing social uprisings. In regard to the control variables' significance, whether it be "positive" or "negative," it is important to remember that this analysis is not based on an assumption of donor homogeneity as donor motives are different and it is necessary to analyze such differences. Table 3 shows that nearly all donors that have significant violent SUCI, except Australia, have negative coefficients. Looking more closely at the case of Australia, it appears that the major reason for this positive link is due to Australia's generous foreign aid allocation to its former colony Papua New Guinea (PNG). Australia is the largest foreign aid provider to PNG, donating "$300 million a year" (Feeny, 2005, p. 1095). Other than Australia, the 25% explained positive significance shows that an increase in the violent SUCI indicator decreases the aid share of the donor country. Nonviolent SUCI have a similar negative link to foreign aid allocation; 21% of the countries have a negative significant coefficient. The exception to this in the case of nonviolent SUCI is New Zealand with its bilateral aid links to the Philippines (Round and Odedokun, 2004). Bearing in mind the assumption of non-homogeneity among donors, H_1 cannot be rejected as Table 3 empirically show a negative link between both of SUCI components and aid allocation. Hence, countries with a high level of social uprising receive less aid from donor nations.

In the theoretical literature, it is expected that there will be a positive significant link between export and bilateral aid (Berthélemy, 2006). This expectation is only met in M_2, the model excluding social uprisings (see Table 4). And indeed, this expectation of a significant positive link is not found in any of the extant empirical literature (Fielding, 2013). M_1, the model including social uprisings (see Table 3), sheds light on this disconnect between theory and the extant literature empirical findings.

There are two main difference between M_1 and M_2. The first is the change in the interpretation of the link between exports and aid allocation. Including social uprisings in M_1 results in having a 13% negative coefficient, which is in strong contrast to M_2's 30% positive coefficient in aid allocation and 0% negative coefficients. This results supports the argument of non homogeneity among donor nation decisions. Donors can actually increase aid allocation to countries they have a lower level of export with in an attempt to foster commercial cooperation. The second difference is that the explanatory power of U.N votes is overstated in M_2. Thus, the results fail to reject H_2. Including social uprisings does in fact change the output results.

The small country effect is not found in either M_1 nor M_2. Both regression results show a significant positive coefficient linking population and foreign aid allocation. That is, a more populous country is expected to receive more aid.

One of the regressions' most interesting results is the revealed variation across countries. In the literature, it is typically assumed that there is one reaction to each of the control variables and hence that is what the empirical findings present. However, these analyses are not based on a panel data model that differentiates across donor countries. The output of the regression presented in this study shows that countries are not uniform in their preferences or interests. This finding indicates that by averaging aid allocation across donor nations a great deal of information is lost and that lost information can explain how countries actually behave.

6. Robustness Check

A fixed effects model was chosen for the analysis conducted in this paper to benefit from its robustness. With a dataset including more than 20,000 observations, robustness, rather than efficiency was the major criteria for model selection. Nevertheless, a random effects model, using the same sample, is employed in this section as a robustness check. There are, indeed, a few differences in the results of the two models, but in general the output is very similar and the results of the random effects model support the main study findings.

Table 5 : M_1 Random Effects

	Violent	Nonviolent	Population	GDP pc	Export	U.N. vote
Australia	0.004***	-0.007***	0.024***	-0.003***	0.002**	0.032***
Austria			0.002**		0.005*	-0.009**
Belgium	-0.002***					
Canada			0.003***	-0.002***		
Czech	-0.0004*	-0.004***			0.003**	
Denmark		0.004*	0.009***	-0.005**		0.037*
Finland	-0.001**		0.004***	-0.003***		0.021**
France			0.002***	-0.001***		
Germany			0.002***	-0.001***	0.005***	
Greece	-0.0004***		0.001***	-0.001***	0.001***	-0.002**
Ireland					-0.003**	-0.015***
Italy			0.002***	-0.001**	-0.001**	-0.011***
Japan			0.005**			
Korea			0.001***	-0.001***	0.0004**	
Luxembourg	-0.003**					
Netherlands			0.007***	-0.003***		
New Zealand	-0.008***	0.012***	-0.119***	-0.006***	-0.010***	0.011***
Norway		0.002*	0.005***	-0.003***	0.019**	0.017*
Portugal	0.004**		0.013*	-0.011**		
Slovak				-0.001**		
Spain	-0.001***	-0.0004***	0.001***	-0.001***	0.005***	
Sweden			0.011***	-0.009***		0.076***
U.K.			0.004***	-0.002***		
U.S.			0.002***	-0.002***	0.0002**	-0.003***
Positive	8%	13%	75%		38%	25%
Negative	29%	13%	4%	75%	13%	21%
explained	38%	25%	79%	75%	50%	46%

*** $p<0.01$, ** $p<0.05$, * $p<0.10$ Observations 20,085

The main difference between the fixed effect and random effect models is the change in sign for the export percentage to recipient, indicating an increase in aid to those recipients with high imports from the donors. Similar to the fixed effects output, the social uprisings violent variable has a negative coefficient. The nonviolent social uprisings variable in the random effects model is inconclusive, with equivalent outputs for both negative and positive coefficients. Therefore, from the random effects model, it can be concluded that in the event of a violent social uprising, donors provide less aid. Again, no small country effect is found by the random effect model, confirming the expectation that more populous countries will receive more aid.

An area for future research would be to include specific aid sectors, for example, humanitarian aid, in the analysis. Restricted data availability did not allow estimating the full model in such an

attempt and U.N. vote had to be excluded from the analysis. Table A3 in the Appendix provides the reduced model using aid share as the dependent variable for sound comparison. Nearly all previous conclusions hold when using humanitarian aid as the dependent variable. For example, violent SUCI is negative, the small country effect is rejected, and aid to recipients with a lower share of exports so as to foster commercial cooperation are all still valid outcomes in the humanitarian aid analysis.

Table 6: Humanitarian Aid

	Violent	Nonviolent	Population	GDP	Export
Australia	3.15***	-12.17***		0.123***	34.82***
Austria				2.544*	-0.73***
Belgium				-34.49*	
Czech					172.4**
Denmark			343.4**	-108.6**	
Finland		-1.09**			
France			30.57**		
Germany			32.55*		
Korea					-52.15**
Luxembourg			47.06*		
Netherlands			22.72**		
New Zealand	-3.94***	55.87***		-35.96***	-25.79***
Norway					-70.42***
Portugal	-0.92**		26.95**		
Slovak				5.564*	
Spain	-4.01***	9.54*	86.83***		
Sweden				-25.91**	
U.K.			156.6***	-18.91*	
Positive	5%	9%	36%	14%	9%
Negative	14%	9%		23%	18%

*** p<0.01, ** p<0.05, * p<0.10 Observations 5,136

7. Conclusion

Despite the considerable empirical research on foreign aid, the determinants of aid allocation are still not completely understood. Several empirical approaches, ranging from pooled OLS to GMM dynamic models, have been taken to study the effect of donor geopolitical, commercial, and humanitarian interests on aid allocation, all of which include a long list of determinants, but as yet the findings have been inconclusive. Hence, there is a need not only to use new methodological approaches but also to refine the conceptual approach to foreign aid determinants.

The current paper takes a step in this direction by looking at how social uprisings in the recipient country affect donor foreign aid allocation by employing the newly constructed Social Uprisings

Composite Indicator (SUCI), which measures not only the occurrence but also the intensity of social uprising in a large sample of countries on an annual basis.

Taking a donor perspective approach, this paper offers an empirical analysis of aid allocation determinants that adds SUCI to the list of variables usually employed in this line of research. The analysis was performed on globally representative panel dataset of 20,085 observations covering the time period from 1970 to 2011. The data set encompasses 1,343 pairs of recipient-donor groups, hence providing a three-dimensional panel dataset—recipient-donor-year. Results from the fixed effects analysis support the theoretically-based argument that social uprisings influence aid allocation. SUCI has explanatory power comparable to that of more commonly used variables, such as GDP, U.N. voting, and population. The empirical results show that excluding social uprisings from an analysis of aid allocation changes the significance of other commonly used variables. Therefore, researchers in the field of foreign aid who omit social uprisings from their analyses risk model mis-specification and may arrive at erroneous conclusions.

In this paper's empirical analysis, donor-recipient homogeneity was relaxed, allowing for paired countries specific effects. The output shows that social uprising has an explanatory power of 33%. However, due to the heterogeneity assumed to exist in the dataset, the direction of the effect is inconclusive. A negative significant effect on aid allocation is predominant in the output results, meaning that a country experiencing a high level of social uprising is less likely to receive a high share of a donor's aid allocation budget.

There remains a great deal of room for future research. For example, a dynamic panel fixed effect model could be very useful in understanding how previous aid allocation influences current aid decisions. Also, it would be very interesting to study interactions other than those between recipients and donors, for example, interactions between various donor groups. Foreign aid allocation decisions might actually be subject to some underlying coordination among donor groups.

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Appendix

Table A1: Fixed Effect M_1

Constant	0.028***	1980.year	0.001	1990.year	0.0004
	(0.008)		(0.002)		(0.002)
1973.year	0.002	1981.year	0.001	1991.year	0.001
	(0.002)		(0.002)		(0.002)
1974.year	0.002	1982.year	0.001	1992.year	0.001
	(0.002)		(0.002)		(0.002)
1975.year	0.002	1983.year	0.001	1993.year	-0.001
	(0.002)		(0.002)		(0.002)
1976.year	0.001	1984.year	0.002	1994.year	-0.001
	(0.002)		(0.002)		(0.002)
1977.year	0.003	1985.year	0.001	1995.year	-0.001
	(0.002)		(0.002)		(0.002)
1978.year	0.004**	1986.year	0.002	1996.year	-0.001
	(0.002)		(0.002)		(0.002)
1979.year	0.002	1987.year	0.001	1997.year	-0.001
	(0.002)		(0.002)		(0.002)
2000.year	-0.001	1988.year	0.001	1998.year	-0.001
	(0.002)		(0.002)		(0.002)
2001.year	-0.001	1989.year	0.001	1999.year	-0.001
	(0.002)		(0.002)		(0.002)
2002.year	-0.001	2003.year	0.001		
	(0.002)		(0.002)		

Table A1 cont'd: Fixed Effect M_1

Fixed Effect	Violent	Nonviolent	Population	GDP pc	Export	U.N. vote
U.S.	-0.0002	0.0001	0.005**	-0.003**	0.0002	-0.001
	(0.0003)	(0.0001)	(0.002)	(0.001)	(0.0001)	(0.001)
Canada	-0.0001	0.001	-0.002	-0.003	0.011	0.003
	(0.001)	(0.001)	(0.003)	(0.002)	(0.010)	(0.002)
U.K.	-0.001	0.0001	0.003	-0.003*	-0.0003	0.005**
	(0.001)	(0.0002)	(0.002)	(0.002)	(0.001)	(0.002)
Ireland	-0.001*	0.0002	0.012***	-0.001	0.001	-0.005
	(0.001)	(0.0002)	(0.004)	(0.002)	(0.001)	(0.004)
Netherlands	-0.0002	0.0002	0.005	-0.008**	0.006	0.004
	(0.0004)	(0.001)	(0.004)	(0.003)	(0.004)	(0.004)
Belgium	-0.001***	-0.002	-0.039	0.015	0.015	0.006
	(0.001)	(0.001)	(0.028)	(0.013)	(0.023)	(0.005)
Luxembourg	-0.003**	-0.0001	0.035	-0.019	0.001	0.010
	(0.001)	(0.001)	(0.037)	(0.027)	(0.048)	(0.013)
France	-0.0001	-0.0001	0.004	-0.001	-0.001	-0.003
	(0.0002)	(0.0003)	(0.002)	(0.001)	(0.002)	(0.002)
Spain	-0.001**	-0.001***	-0.013**	-0.003	0.003	0.001
	(0.0003)	(0.0001)	(0.006)	(0.002)	(0.006)	(0.002)
Portugal	0.003	-0.027**	-0.177*	0.041	-0.017	0.031
	(0.002)	(0.013)	(0.099)	(0.038)	(0.029)	(0.019)
Germany	0.0001	0.0002	-0.001	-0.003*	0.003	0.002
	(0.0003)	(0.0002)	(0.003)	(0.001)	(0.003)	(0.002)
Austria	-0.001	0.001	0.009**	-0.003	0.005*	-0.003
	(0.001)	(0.001)	(0.004)	(0.003)	(0.003)	(0.004)
Czech	-0.002***	-0.005***	-0.052***	0.022***	-0.023**	-0.0012
	(0.0001)	(0.001)	(0.019)	(0.004)	(0.009)	(0.005)
Italy	0.0004*	0.0004	0.004**	-0.001	-0.001	-0.009***
	(0.0002)	(0.0003)	(0.002)	(0.001)	(0.001)	(0.003)
Greece	-0.0002	0.0001	-0.005	-0.004**	-0.001***	-0.0002
	(0.0001)	(0.0001)	(0.004)	(0.002)	(0.0002)	(0.001)
Finland	-0.001	-0.001	-0.002	-0.0003	0.001	0.032***
	(0.001)	(0.001)	(0.009)	(0.003)	(0.003)	(0.009)
Sweden	-0.003	-0.001**	-0.034*	-0.007	0.025	0.012
	(0.002)	(0.0003)	(0.020)	(0.011)	(0.019)	(0.024)
Norway	-0.001	0.001	-0.005	-0.008**	0.021**	-0.005
	(0.001)	(0.001)	(0.009)	(0.003)	(0.009)	(0.009)
Denmark	-0.002	0.004*	-0.012	0.002	0.033	0.041**
	(0.002)	(0.002)	(0.011)	(0.007)	(0.025)	(0.012)
Korea	-0.0003	0.0004	-0.002	0.004**	-0.001	0.013***
	(0.0002)	(0.0002)	(0.003)	(0.00175)	(0.0004)	(0.005)
Japan	-0.0003	-0.001	0.008	-0.0004	-0.001	0.004
	(0.001)	(0.001)	(0.011)	(0.005)	(0.001)	(0.011)
Australia	0.003***	-0.006***	0.043***	-0.017***	0.003***	0.031***
	(0.0003)	(0.001)	(0.007)	(0.003)	(0.001)	(0.002)
New Zealand	-0.005***	0.009***	-0.165***	0.017***	-0.005***	0.013***
	(0.0005)	(0.0007)	(0.007)	(0.003)	(0.001)	(0.002)

Table A2: Fixed Effect M$_2$

	Population	GDP pc	Export	U.N. vote				
U.S.	0.004**	-0.002**	0.0001*	-0.001	1972	-0.001	1996	-0.001
	(0.002)	(0.001)	(0.0001)	(0.001)		(0.002)		(0.002)
Canada	-0.001	-0.003	0.012	0.003	1973	0.001	1997	-0.001
	(0.003)	(0.002)	(0.010)	(0.002)		(0.001)		(0.002)
U.K.	0.002	-0.002*	-0.0004	0.005**	1974	0.002	1998	-0.001
	(0.002)	(0.001)	(0.001)	(0.002)		(0.001)		(0.002)
Ireland	0.012***	-0.001	0.001	-0.002	1975	0.002	1999	-0.001
	(0.004)	(0.001)	(0.001)	(0.003)		(0.002)		(0.002)
Netherlands	0.005	-0.007**	0.006*	0.004	1976	0.001	2000	-0.001
	(0.004)	(0.003)	(0.004)	(0.004)		(0.002)		(0.002)
Belgium	-0.040	0.016	0.018	0.008	1977	0.002	2001	-0.001
	(0.027)	(0.012)	(0.027)	(0.005)		(0.002)		(0.002)
Luxembourg	0.032	-0.012	-0.006	0.007	1978	0.003*	2002	-0.0004
	(0.020)	(0.014)	(0.021)	(0.011)		(0.002)		(0.002)
France	0.003	-0.001	-0.001	-0.003	1979	0.002	2003	0.0002
	(0.002)	(0.001)	(0.002)	(0.002)		(0.002)		(0.002)
Spain	-0.006*	-0.002	-0.0001	0.001	1980	0.001	1994	-0.001
	(0.003)	(0.002)	(0.007)	(0.001)		(0.002)		(0.002)
Portugal	0.004	-0.008	-0.026	0.022	1981	0.001	1995	-0.001
	(0.009)	(0.006)	(0.037)	(0.028)		(0.002)		(0.002)
Germany	-0.003	-0.001	-0.001	0.003*	1982	0.001	Constant	0.021***
	(0.002)	(0.001)	(0.001)	(0.002)		(0.002)		(0.007)
Austria	0.008**	-0.003	0.004*	-0.003	1983	0.001		
	(0.003)	(0.003)	(0.002)	(0.005)		(0.002)		
Czech	-0.010	0.006	0.0002	0.001	1984	0.002		
	(0.011)	(0.005)	(0.001)	(0.003)		(0.002)		
Italy	0.005**	-0.001	-0.001	-0.007***	1985	0.001		
	(0.002)	(0.001)	(0.001)	(0.003)		(0.002)		
Greece	-0.004	-0.003**	-0.001***	0.00004	1986	0.002		
	(0.003)	(0.001)	(0.0001)	(0.001)		(0.002)		
Finland	0.003	0.005	0.002	0.032***	1987	0.001		
	(0.007)	(0.002)	(0.003)	(0.009)		(0.002)		
Sweden	-0.030*	-0.008	0.014	-0.001	1988	0.0004		
	(0.018)	(0.009)	(0.009)	(0.020)		(0.002)		
Norway	-0.004	-0.006**	0.014**	-0.003	1989	0.001		
	(0.008)	(0.003)	(0.006)	(0.008)		(0.002)		
Denmark	-0.003	0.001	0.026	0.034**	1990	0.0007		
	(0.011)	(0.006)	(0.021)	(0.016)		(0.002)		
Korea	0.003	0.003**	-0.001	0.017***	1991	0.001		
	(0.004)	(0.001)	(0.0004)	(0.005)		(0.002)		
Japan	0.006	0.0002	-0.001	0.006	1992	0.004		
	(0.012)	(0.006)	(0.001)	(0.010)		(0.002)		
Australia	0.045***	-0.019***	0.002**	0.026***	1993	-0.001		
	(0.006)	(0.003)	(0.001)	(0.001)		(0.002)		
New Zealand	-0.168***	0.037***	0.008***	0.012***				
	(0.006)	(0.002)	(0.001)	(0.001)				

Table A3: Fixed Effects Aid Share Restricted Model

	Violent	Nonviolent	Population	GDP	Export
Australia	-0.0002***	-0.012***		-0.022***	-0.018***
Austria					-0.002**
Belgium				-0.017*	
Czech					
Denmark	-0.004**			-0.084*	
Finland					
France			0.086*	-0.023*	
Germany				0.006*	
Greece					
Ireland					
Italy					-0.006*
Japan					
Korea		-0.002***			
Luxembourg					
Netherlands					-0.001**
Norway				-0.011*	
Portugal					
Slovak					
Spain					
Sweden				-0.017**	
U.K.					
Positive			5%	5%	
Negative	9%	9%		27%	18%

List of Donor Countries

Australia, Austria, Belgium, Canada, Czech, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Korea, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, United Kingdom, United States

List of Recipient Countries

Afghanistan, Albania, Algeria, Angola, Antigua and Barbuda, Argentina, Armenia, Azerbaijan, Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belize, Benin, Bhutan, Bolivia, Bosnia-Herzegovina, Botswana, Brazil, Brunei, Burkina Faso, Burundi, Cambodia, Cameroon, Cape Verde, Central African Republic, Chad, Chile, China, Colombia, Comoros, Congo, Democratic Republic, Congo, Rep., Costa Rica, Cote d'Ivoire, Croatia, Cuba, Cyprus, Djibouti, Dominica, Dominican Republic, Ecuador, Egypt, El Salvador, Equatorial Guinea, Eritrea, Ethiopia, Fiji, Gabon, Gambia, Georgia, Ghana, Grenada, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, India   , Indonesia, Iran, Iraq, Israel, Jamaica, Jordan, Kazakhstan, Kenya, Kiribati, Korea, Dem. Rep., Korea, South, Kuwait, Kyrgyz Republic, Laos, Lebanon, Lesotho, Liberia, Libya, Madagascar, Malawi, Malaysia, Maldives, Mali, Malta, Marshall Islands, Mauritania, Mauritius, Mexico, Moldova, Mongolia, Montenegro, Morocco   ,
Mozambique, Myanmar, Namibia, Nauru, Nepal, Nicaragua, Niger, Nigeria, Oman, Pakistan, Palau, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Qatar, Rwanda, Samoa, Saudi Arabia, Senegal, Serbia, Seychelles, Sierra Leone, Singapore, Slovenia, Solomon Islands, Somalia, South Africa, Sri Lanka, Saint Kitts-Nevis, St. Lucia, St. Vincent and Grenadines, Sudan, Suriname, Swaziland, Syria, Tajikistan, Tanzania, Thailand, Timor-Leste, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, Ukraine, UAE, Uruguay, Uzbekistan, Vanuatu, Venezuela, Vietnam, Yemen, Zambia, Zimbabwe.