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Focus on the Forest, Not the Trees: A Changepoint Model of Forced Displacement

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What causes forced displacement flows, defined as refugee or internally displaced person (IDP) flows, to vary over time within conflict? While forced displacement displays clear relationships with conflict dynamics, little is known about what actually causes forced displacement to vary during a conflict and when that variation is likely to occur. This article explores whether fluctuations in daily violence levels, structural aspects of conflict or both cause variation in forced displacement within conflict. Analysis of daily displacement data and violent events data finds that structural aspects, particularly changes in the conflict's geographical scope and balance of power, drive increases or decreases in forced displacement. These effects occur due to the portion of the population affected by conflict, security disruptions and fear. There are two main contributions. First, the findings illustrate the complexity of the violence–displacement relationship. Second, this article demonstrates the importance of considering structural aspects of conflict even as data and methodological advancements have allowed scholars to zoom in on the details of conflict.

Keywords: displacement, violence, conflict, Somalia

Introduction

Living through conflict can be a horrifying and traumatic experience. Villages and cities get destroyed, women get raped, soldiers and civilians may get tortured, thousands die from battle, disease and food insecurity tends to proliferate, and countless other evils take place. Facing such horror, civilians instinctively will want to leave areas affected by conflict, where they or their loved ones may be harmed. Yet, displacement does not happen at a constant rate throughout a conflict. Displacement ebbs and flows. For example, on 28–29 April 1994, an estimated 250,000 Rwandan Hutus crossed the border into Tanzania within a 24-hour period (Terry 2002). On 9 November 2012, Syria experienced one of its largest refugee exoduses of its conflict when 11,000 Syrians crossed the border in one day (Gladstone and MacFarquhar 2012). At the same time, there are many time periods during all conflicts

when little to no displacement occurs. While progress has been made on what conditions cause conflicts to produce more or less displacement, little attention has been paid to the variation in displacement within conflicts.

The general consensus to date is that more violence causes more displacement. Numerous case studies have been used to illustrate this relationship (Zolberg *et al.* 1989). Large-*N* statistical analyses have also supported this relationship (Schmeidl 1997; Davenport *et al.* 2003). Even the individual-level analysis of Prakash Adhikari from civil war in Nepal has found that violence is the strongest predictor of displacement during conflict (Adhikari 2013).

However, this research has tended to either use static forms of analysis or employ monthly or annual data for time-series cross-sectional statistical tests. Such forms of analysis miss the rapid and dramatic fluctuations in displacement that occur during conflict. Conflict in Somalia since 2008 has seen over 20,000 people displaced on several days, all of which have been followed shortly by rapid declines in displacement levels. These fluctuations should not be dismissed as noise. Civilians react to conflict dynamics very quickly (Liu *et al.* 1979). These reactions can be captured by daily displacement counts from the United Nations High Commissioner for Refugees (UNHCR) Population Movement Tracker system. Meanwhile, the assessment of structural factors prevents the analysis from 'missing the forest for the trees'. These structural factors include the balance of power and geographical scope of the conflict. Balance of power and geographical scope certainly are related to daily violence fluctuations, but they are conceptually distinct because they capture broader trends within a conflict.

Of course, people can become displaced for a plethora of reasons. Drought, famine, lack of economic opportunities, floods and a number of other reasons can cause people to leave their homes. However, it is crucial to note that this article focuses exclusively on people who flee their homes explicitly due to violence and insecurity. Civilians rarely move for one single reason, but there is usually a primary reason for displacement. The task in this article is to assess what it is exactly about that violence that causes people to flee their homes. Results indicate that structural factors, rather than fluctuations in daily violence, are what drive variation in forced displacement within conflict. Structural factors affect displacement by influencing the proportion of a country affected by conflict, creating fear or disrupting security.

This article will proceed in the following manner. First, it explains the theoretical grounding for why violence levels and structural factors should impact forced displacement. This will lead to the hypotheses. Daily displacement flow data in Somalia from the UNHCR and violent event data from the Armed Conflict Location and Event Dataset (ACLED) allow testing of the hypotheses. After that, results are explained and discussed. Lastly, the conclusion provides implications and thoughts on how to proceed with this research programme.

Theory

For this analysis, it is assumed that people make strategic choices about whether and when to flee their homes during conflict (Davenport *et al.* 2003; Moore and Shellman 2004, 2006, 2007; Adhikari 2013). People weigh the benefits of fleeing their homes against the costs of becoming displaced. Within this framework, it is assumed that people have sufficient information to make these choices. Disagreement exists about the level of realism in this assumption, but it is reasonable to assume that civilians pay close enough attention to violence trends during conflict to make informed decisions about whether to leave their homes.

The clearest benefit of fleeing their homes is that it can allow civilians to escape dangerous areas during conflict. Besides potentially increasing the likelihood of surviving the conflict, displacement can have many other positive effects on civilians. It can reduce the amount of trauma civilians suffer, which improves many aspects of psychological health. In addition, displacement can put civilians in a position to receive social services that they would not have received by staying in their homes (Mels *et al.* 2010).

However, becoming displaced can be very costly. Many people have family ties to specific areas or even plots of land that have been in their family's possession for generations. Displacement can also separate people from their social support structures. For example, Somalis are renowned for their generosity and willingness to share resources with complete strangers. Yet, this generalization overlooks the fact that generosity often does not extend beyond clan boundaries. When people flee a haven of their clan and move into an area that their clan does not control, it can be extremely difficult to obtain social support (Kapteijns 2013). Ken Menkhaus has summarized this situation very concisely:

> One of the most troubling but least discussed aspects of Somalia's recurring humanitarian crises is the low sense of Somali social and ethical obligation to assist countrymen from weak lineages and social groups. This stands in sharp contrast to the very powerful and non-negotiable obligation Somalis have to assist members of their own lineage (Menkhaus 2012: 34).

In addition to the potential loss of social support that displaced Somalis may experience, there are many dangers that displaced Somalis must endure. Many displaced people eventually get forcibly evicted from their homes or robbed (Human Rights Watch 2013a). The government-affiliated militias that are supposed to provide camp security also allegedly divert and steal as much food aid as possible, seize control of tents that are supposed to be distributed freely in order to profit from 'providing shelter' and have been known to arrest or beat up those who raise concerns. This is not to mention the prevalence of sexual violence in the displaced persons camps (Human Rights Watch 2013a: 33). Such abuses have been documented throughout Somalia. They are also all too common in refugee camps in Kenya and in Somali

neighbourhoods in Kenya like Eastleigh in Nairobi (Human Rights Watch 2013b).

With such substantial costs and risks, civilians clearly have a serious decision about whether circumstances truly justify displacement. Civilians flee when their likelihood of persecution rises above some threshold. This threshold varies from context to context, likely even from person to person (Davenport *et al.* 2003; Moore and Shellman 2004; Adhikari 2013). Events that entail a greater increase in threat to civilians are going to cause more forced displacement. Once the threat to civilians has passed the threshold, displacement should occur without much delay. In many cases, this should mean that displacement should occur on the same day, or at least within a few days, of the event that pushed the threat level above the threshold. These responses could be mediated by several factors, including transportation costs, social networks, variation in how individuals assess risk, degree of attachment to home and economic opportunity (Czaika and Kis-Katos 2009; Edwards 2009; Harpvicken 2009; Adhikari 2013). Such factors demonstrate that the displacement process is more complex than a simple push–pull model would suggest.

Still, there is a strong consensus that violence is most closely related to displacement. Simply put, more violence causes more displacement (Adhikari 2013). Additional nuance has been introduced to this explanation to clarify the motivations for armed groups to displace civilians and show that battle deaths are not significantly related to displacement (Valentino *et al.* 2004; Melander and Oberg 2007; Lyall 2009; Steele 2009). In other words, the quantity of violent events matters more than their intensity. While there is certainly variation at the individual level, quantitative work has shown that groups as a whole respond more to the quantity of violent events than to the intensity of those events (Melander and Oberg 2007).

Since violence has been shown to have the strongest relationship with displacement, this article focuses on this relationship. However, it is unclear whether displacement varies in conjunction with variation in total violence, the amount of certain types of violence or with structural factors. Different logic for civilians applies with each of these possibilities, so it is important to explore each of these while laying out the hypotheses to be tested in this article.

The simplest hypothesis would draw a relationship between the number of total violent events and the amount of displacement. As the amount of violence, no matter the type or severity, increases, civilians may be expected to perceive the conflict as being more threatening. This produces the first hypothesis:

> H1: An increase in the number of total violent events increases the amount of displacement.

Specific types of violent events may provide better explanations for displacement. First, battles between armed groups may increase displacement levels

because civilians fear getting caught in the crossfire. This dynamic is most likely to exist in conflicts where one or both of the armed groups lack the capability or discipline to target the opposing armed group exclusively (Weinstein 2007; Williams 2013). Disciplined and capable armed groups should be able to minimize civilian casualties. Still, whenever there is a lack of capability or discipline, a second hypothesis should hold:

H2: An increase in the number of battles increases the amount of displacement.

Alternatively, one-sided violence, or violence against civilians, is what increases displacement. There are two potential explanations for this relationship. Violence against civilians sometimes happens due to an intentional military strategy of displacement. Here, one-sided violence is a clear form of communication from the perpetrator that it wants civilians to leave a particular area. This is a way for armed groups to remove their opponent's source of support and improve their relative tactical position. The perpetrator's actions intentionally raise the level of threat to civilians until it is satisfied with having displaced enough people (Valentino *et al*. 2004; Lyall 2009; Steele 2011). One-sided violence is caused in other situations by indiscipline among troops on one or both sides of a conflict (Weinstein 2005, 2007). This indiscipline is hard to predict for civilians. They do not know if or when they will be attacked by armed groups. This produces a generalized fear everywhere that the armed groups operate. People flee because of this generalized fear that raises their perceived level of threat. Regardless of which of these explanations applies, the same hypothesis should hold:

H3: An increase in the amount of one-sided violence increases the amount of displacement.

There is a chance that none of these hypotheses will hold. This is because any measures of total events are likely to include a lot of minor events that do not affect a person's calculation of the level of threat that they face. A more productive approach might be to recognize that civilians understand the reality that there is inherently going to be violence during a conflict. Fluctuations in aggregate amounts of violent events or fatalities might not be of great concern to civilians if they have this recognition.

Instead, displacement patterns might only be affected when structural factors change. Specifically, these structural factors include changes in the balance of power or geographical scope of the conflict. Geographical scope means the proportion of the country engulfed in conflict. Conflicts tend to not affect an entire country in exactly the same way. Many conflicts even leave parts of the countries in which they occur untouched by violence or destruction. Conflicts with a small geographical scope inherently have a different structure than conflicts that span an entire country (Blattman and Miguel 2010). An increase in the geographical scope of a conflict should

expose more people to conflict and violence (Melander and Oberg 2007). This should increase displacement levels.

Alternatively, a change in the balance of power could affect displacement levels. This can occur in three ways. Observed changes in territorial control mark the end of a period of fear, leading to decreased displacement. Foreign interventions, at both their entry and exit into a conflict, disrupt the security balance. These disruptions both increase displacement. Expected changes in territorial control create fear, which increases displacement. In sum, security disruptions and fear are the keys to explaining the potential ways balance of power shifts can affect displacement.

First, an important town or strategic location may change hands. Changes in territorial control increase the amount of resources available to the side obtaining new territory and decrease the resources available to the side losing territory. In a relationship that may be somewhat counterintuitive, displacement should decrease after the change in territory has occurred. This is because the displacement should primarily occur during the fighting for the territory. After the change in territorial control, remaining civilians are less likely to flee, since the civilians who wanted to flee would have already done so. Fear arises as civilians anticipate a possible shift in territorial control. The observed shift in territorial control should mark the end of that period of fear. Once the period of fear ends, displacement should decrease.

Second, foreign intervention can change the balance of power by assisting one side more than the other. The entrance of a foreign armed group into a conflict can increase the amount of forced displacement as the unsupported side in the conflict performs more violence against civilians (Wood *et al.* 2012). Then, the exit of a foreign armed group from a conflict can increase the amount of forced displacement by creating a security vacuum that the remaining parties must fight to fill.

Third, expected shifts in the balance of power could also cause variation in displacement. Here, the balance of power is expected to shift when an offensive is launched. Military offensives are defined simply as coordinated armed actions that aim to capture territory, or at least weaken the opposing side's control of its territory. Civilians should become displaced in greater numbers when offensives are launched as they attempt to avoid harm from the coming violence. They fear the effects of a potential shift in the balance of power. This leads to the final set of hypotheses:

H4: An increase in the geographical scope of a conflict increases displacement.

H5a: A change in the balance of power caused by a change in territorial control decreases displacement.

H5b: A change in the balance of power caused by the start or end of foreign intervention increases displacement.

H5c: An expected change in the balance of power increases displacement.

Case Description

The hypotheses will be tested with a quantitative case study in the context of conflict in Somalia. Somalia has been in a state of protracted instability ever since the fall of Siad Barre's regime in 1991. Clan cleansing took place from 1991 to 1993. This clan cleansing was primarily between the Darod and Hawiye clans, but other major clans such as the Dir, Rahanweyn and Isaq clans were all involved as well (Kapteijns 2013). There has also been a failed state since 1991. American and United Nations peacekeeping missions during the 1990s ended in disaster (Clarke and Herbst 1997; Lewis 2008).

Warlords, political entrepreneurs and Islamist groups have all attempted to create a fully functioning state apparatus since then, but they have all failed. In 2004, Colonel Abdullahi Yusuf—formerly president of the semi-autonomous north-eastern Somali region of Puntland—was chosen to become President of Somalia by the delegates at the Mbagathi Conference in Kenya. However, Yusuf's Transitional Federal Government (TFG) was unable to obtain any legitimacy and had to base itself in Jowhar and then Baidoa, never Mogadishu. In 2006, an alliance of Islamic courts known as the Islamic Courts Union (ICU) came to power in much of southern and central Somalia. At its peak, the ICU eclipsed the TFG in power and legitimacy.

The ICU was able to combine fundamentalist Islam with clan solidarity, which has historically proven to be a successful combination in Somalia. Its downfall came in late 2006 when Ethiopia, provoked by ICU rhetoric of building a pan-Somali nation, accusations of ICU involvement in bombings in Kenya and Ethiopia, and appeals for support to Eritreans and Ethiopian opposition groups, launched an invasion of Somalia. This invasion was supported by the United States as part of its War on Terror, though the United States limited its support to financial and logistical assistance and periodic missile strikes (Lewis 2008). Somalis generally resented the presence of Ethiopian troops in Somalia, but relations between Somali civilians and Ethiopian troops became especially bad in mid-2007, when the experienced and relatively well-disciplined Ethiopian troops that initially invaded Somalia were replaced by a new unit that was far less disciplined (Lewis 2008). Between the start of this intervention and the end of 2008, two-thirds of Mogadishu's 1.2 million residents fled (Harper 2012). This observation is important because, despite the commonly expressed view of Somalia's conflict as being ongoing since Siad Barre's fall from power, the violence that has occurred since 2007 has been distinct for civilians (Lindley 2010).

In January 2009, Ethiopian troops withdrew from Somalia, but violence continued. African Union peacekeeping troops have also been deployed to Somalia. In 2011, after a spate of kidnappings and Al-Shabaab activity in Kenya tried the patience of Kenya's military and civilian leaders for the last time, Kenya launched an invasion into Somalia in a coordinated offensive with African Union and Ethiopian troops. The gains made during this

offensive, which included a dramatic peak in its offensive on Al-Shabaab forces in Kismayo, left many observers thinking that Al-Shabaab had finally been defeated and would be forced into obscurity. This thinking has been challenged by the September attack on the Westgate shopping mall in Nairobi, so there is likely to be ongoing insurgency from Al-Shabaab for some time. Throughout all of this instability, millions of people have been in need of humanitarian assistance. Droughts, famines and floods have also all aggravated humanitarian concerns.

This discussion should make two points clear. Somalia's conflict has involved a range of actors and has varied in intensity. The variation in actors is useful for testing expectations about the effects of actor behaviour on displacement. The variation in intensity of the conflict allows the researcher to test expectations about the effects of variation in violence, balance of power and geographical scope on displacement. While Somalia has often been dismissed by conflict scholars as a weak, failed state where observed relationships are not generalizable to other contexts, it actually presents an ideal case in which to build and test theories on conflict and how civilians respond to it.

Data

Multiple data sources are combined for this analysis. Violence data are used from the ACLED. ACLED includes violent events from 1997 to May 2013 on the African continent. ACLED also has coded selected conflicts that occurred before 1997, such as the conflict in Bosnia from 1992 to 1995 (Raleigh *et al.* 2010). As the codebook states on page 4, ACLED covers events that occur within the context of civil war and violent activity outside of civil war. Prominent examples of this violent activity include violence against civilians, militia interactions, communal conflict and rioting. This project only uses the violent events data from Somalia for the 2008–August 2013 time period.

This dataset primarily relies upon news reports of violent events for its reporting of violent events and the characteristics of those events. Local, regional, national and continental media sources are reviewed daily. Consistent non-governmental organization (NGO) reports are also used to supplement news reports in hard-to-access cases, of which Somalia is certainly one. Third, Africa-focused news reports and analyses are used to supplement daily media reporting (Raleigh *et al.* 2010). With these complementary sources, ACLED is unlikely to perform differently from one African country to another.

Therefore, the most important tradeoffs to consider for ACLED's coding of events within Somalia are the same as the tradeoffs with the dataset as a whole. ACLED uses a very general definition of events that allows it to include non-fatal and even non-violent events. This means that ACLED can capture a large number of events and is unlikely to miss relevant

Table 1

Summary Violence Statistics from ACLED for Somalia

	ACLED total events	ACLED battles	ACLED one-sided violence
2008	911	589	187
2009	700	347	176
2010	1,337	813	288
2011	1,409	751	330
2012	2,195	1,227	590
Jan–May 2013	1,129	664	292

events to a conflict. Yet, in order to capture all of these events, ACLED inherently sacrifices conceptual validity. Additionally, ACLED codes an event that lasts multiple days as being multiple events. For example, an event that lasts three weeks is coded as 21 events in ACLED (Eck 2012: 127–128). Table 1 summarizes the violence recorded in Somalia since 2008. While the analysis is performed on total ACLED events, the most common types of these events are battles and one-sided violence, so all three are displayed. Readers interested in viewing the data set itself or its codebook can download them from the ACLED website (www.acleddata.com).

With all of these events, ACLED has plenty of shortcomings. For starters, ACLED has uneven quality control within countries, which can cause biased subnational analysis. Some regions receive more attention from media sources and it can be more difficult to obtain information about some regions than others. ACLED also tends to overestimate the precision of its geographic coordinates for events and mistake villages/towns with the same name (Eck 2012).

In addition, ACLED suffers from the same problems faced by all event data sets that rely upon news reports of overestimating the proportion of violence in urban areas, either including irrelevant events or not including relevant events, lacking precision in their geocoding of events and media fatigue during conflict (Davenport 2010; Dulic 2010; Eck 2012). Media fatigue is the idea that news outlets provide less comprehensive coverage of conflicts as they drag on because they know that their audiences eventually lose interest. While ACLED has taken steps to decrease the severity of these problems, such as drawing from NGO reports as well as daily news reports for its event coding, these problems have not disappeared.

The displacement data come from UNHCR's Population Movement Tracker in Somalia. These data include daily counts of displacement from 1 January 2008 through to August 2013. Currently, Somalia is the only country in the world for which UNHCR has daily counts of displacement, so these are unique data. Each internally displaced person (IDP) gets coded as being displaced due to insecurity, clan conflict, flood, drought, lack of

livelihood, IDP return, fire, forced return, eviction, relocation or cross-border movement. These counts are done by UNHCR partners in Somalia, of which there are 48 in total and at least two staff members per location. Since displaced persons tend to move in groups, interviews are done with the group to assess the number of people in the group, reason for their displacement and other relevant information. Based on the author's personal communications with UNHCR staff at the Somalia office, group discussions with IDP, religious, opinion and local leaders are also used to obtain information on displaced groups. There are often multiple factors influencing displacement, but UNHCR partners are trained to identify one single most important factor in each case.

As a caveat, this method of counting means that Somalis who do not cross paths with the UNHCR partners will not be counted. Some people may intentionally avoid NGOs. Their experience with conflict may create enough fear or mistrust to motivate them to avoid organizations and authority figures. Others do not use roads or travel along uncommon paths, making them difficult to detect. These issues should not bias results too severely, since most civilians should be travelling along the routes where UNHCR partners can count them and most people should be capable of distinguishing between armed groups and humanitarian organizations. Fear and mistrust of armed groups seem unlikely to systematically translate into fear and mistrust of humanitarian organizations. Any measurement error that exists should produce underestimates of displacement (UNHCR 2007).

Another potential source of measurement error can occur when there is a large amount of displacement within a short period of time. These chaotic periods, when floods of fleeing civilians are attempting to escape the dangers of conflict, can be very difficult to monitor. Patrick Ball, with the Human Rights Data Analysis Group, notes this issue in the collection of migration data from Albanian border guards as they monitored the flows of ethnic Albanians from Kosovo (Ball 2000). On days when thousands of Kosovar Albanians crossed the border, the guards' registry system would break down. Yet, even with this problem, the guards managed to register more than two-thirds of the Kosovar Albanians who entered Albania. So, floods of displacement are not a catastrophic problem. Problems with undercounting that remain can be overcome by talking to group leaders, rather than each individual. Since displaced individuals tend to travel in groups, group leaders can give accurate counts of the number of people in their particular group, regardless of the size of the group.

The dependent variable is the sum of displacement due to insecurity and clan conflict. These two forms of displacement can be referred to as conflict-induced migration. Conflict-induced migration directly results from the violent contest for political and military power between groups. This is a better measure than total displacement because the research question is not concerned with floods, droughts, famines or non-violence-related events. Forced eviction can be a violent process, but it is not part of the contest for power

within Somalia. Multiple causes can also be affecting civilians, such as clan conflict and drought, but instances where there is insecurity or clan conflict are distinct. In these cases, civilians face constraints on the available time to make displacement decisions, safe paths to use for travel and limitations on safe destination options that do not exist outside of the context of droughts, famines, floods or other non-violence-related events. A graph of this time series is displayed in Figure 1.

Motivating the Model

A Bayesian changepoint model tests the hypotheses (Raftery and Akman 1986; Chib 1995, 1998; Martin and Quinn 2007; Brandt and Sandler 2010). Details of the model can be found in the cited articles, but a brief explanation is included here. A changepoint is a time point where the mean or variance of a time-series changes. In addition, a changepoint occurs when the regression parameters of a model change. Bayesian changepoint models are estimated by first having the user specify a function and a certain number of changepoints. Then, the MCMCpack package in R estimates the location of those changepoints in the time series of interest so as to create stationary time periods between the changepoints, also known as regimes (Martin *et al*. 2011). This process is repeated several times with different numbers of changepoints. Once all of the models with different numbers of changepoints are estimated, Bayes Factors can be calculated that allow the researcher to select the model with the appropriate number of changepoints. The determination of the most appropriate model is made by selecting the model with the largest Bayes Factor. Once the appropriate model is selected, the researcher can obtain the mean and variance of the series within each regime. For multivariate functions, it is also possible to get slope coefficients that show the relationship between the independent variables and the dependent variable within each regime. This means that this model can assess when changepoints

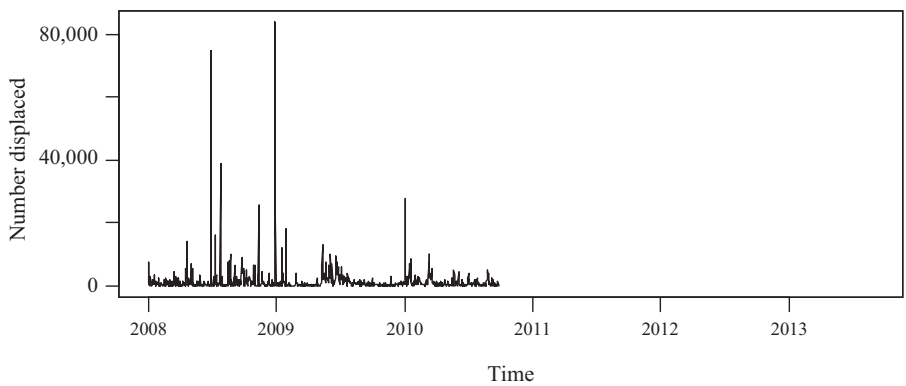

Figure 1
Somalia Conflict-Induced migration

occur, how relationships between variables of interest change over time and what the relationships between those variables of interest are.

Detection of changepoints can be useful in identifying when an event happens that changes dynamics in the time series. In the context of this analysis, detection of changepoints can identify when relevant structural factors change. Structural factors produce effects on displacement that last as long as those factors do not change. Structural factors can remain constant for long periods of time, or they can change after mere weeks. This will become clear in the discussion of results.

As dynamics change from regime to regime, there is the possibility that the relationship between variables changes. This is in fact what is found in the relationship between responses to terrorist attacks and terrorist targeting (Brandt and Sandler 2010). Since changepoints and relationships between the changepoints can explain variation in the dependent variable of interest, Bayesian changepoint models are incredibly valuable when it comes to specifying which fluctuations are due to short-term relationships and which fluctuations are due to structural dynamics.

In the context of this research project, the relationship between violence and displacement may be different at different time periods during a conflict, which might mask relationships between violence and displacement. For example, different phases of a conflict motivate different strategies for armed groups. Government forces may use violence during one time period to intentionally displace people from a village or town in order to remove social support and protective cover for rebel groups (Lyall 2009). In another time period, those same government forces may use violence to protect a village or town from an abusive rebel group. This time period may involve a negative relationship between violence and displacement, whereas the first time period would involve a positive relationship between violence and displacement. Without a changepoint model, these negative and positive relationships between violence and displacement may effectively cancel each other out and show no significant relationship. There are numerous other plausible scenarios where violence and displacement may exhibit negative and positive relationships within the same conflict (Valentino *et al.* 2004; Lubkemann 2008). This is what makes a Bayesian changepoint model so useful for testing the hypotheses.

Many different models are estimated for this analysis. A univariate model with just displacement is estimated first. Then, subsequent models analyse the relationship between different types of violence and displacement. Each model is estimated with ACLED data. Robustness checks are also conducted using the Uppsala Conflict Data Program Geo-referenced Event Data. Since the checks produce similar results, they are not discussed further. Separate models are run looking at just the relationship between total violence and displacement, battles and displacement, and one-sided violence and displacement. There are also models run with total violence, battles and one-sided violence. All models are also estimated with zero, one, two and three lags.

Estimating models with up to three lags is a fairly conservative measure because many existing accounts of displacement indicate that when people flee from violence, they flee immediately or as soon as the fighting calms down enough to make it safe to travel (Umutesi 2000; UNMISS 2014). So, people choose to flee and act on that choice with very little delay, if any. This is not just a trait of displacement in Somalia. For example, one study of Vietnamese refugees in the 1970s found that 85 per cent of the surveyed refugees decided to flee their homeland between two hours and two days before their departure (Liu *et al*. 1979).

Results

After estimating all of these models, it turns out that none of the coefficients is statistically significant within any of the regimes. This is regardless of the number of lags or controls. This provides evidence that none of the different types of violence is related on a day-to-day basis to aggregate levels of displacement in Somalia. A summary of these results is displayed in Table 2.

These results clearly indicate that hypotheses 1–3 cannot be accepted. This motivates a closer examination of the events occurring at the changepoints in the time series. This facilitates the evaluation of hypotheses 4, 5a, 5b and 5c. This evaluation begins by estimating changepoint models with different numbers of changepoints to determine the most appropriate number of changepoints for the time series. The determination is made by selecting the model with the highest Bayes Factors.

Table 2

Changepoint Models

	Total violence	Battles	One-sided violence	Total, battles and one-sided violence
0 lags	No significant relationship in any regime	No significant relationship in any regime	No significant relationship in any regime	No significant relationship in any regime
One lag	No significant relationship in any regime	No significant relationship in any regime	No significant relationship in any regime	No significant relationship in any regime
Two lags	No significant relationship in any regime	No significant relationship in any regime	No significant relationship in any regime	No significant relationship in any regime
Three lags	No significant relationship in any regime	No significant relationship in any regime	No significant relationship in any regime	No significant relationship in any regime

Since the model with 14 changepoints has the highest Bayes Factor, this is the most appropriate model to use for our analysis of displacement. The dates calculated for these changepoints are displayed in Table 3. Figure 2 displays the probabilities of being in a particular regime or time period between two changepoints. A changepoint occurs every time the graph shows a change in regime.

Importantly, there is some variance in the changepoints. Certainty levels in each changepoint date can be assessed by calculating 95% confidence intervals for the changepoints. This makes it possible to work with different levels of certainty for each changepoint, rather than having to select some decision rule of allowing events within some set number of days to count as causes of the changepoint. The changepoints with the highest certainty have a confidence interval that stretches plus or minus one day from the mean changepoint date. The changepoint with the least certainty occurs within a two-month interval. All 95% confidence intervals for the changepoints are displayed in Table 3.

To explain this variation from regime to regime, there must be an examination of events occurring in Somalia that could change the mean amount of displacement. Then, observed patterns in the types of events that cause changepoints can be evaluated, as well as whether the average number of displaced people per day increases or decreases at each changepoint. Therefore, a timeline of events that could be related to increased displacement

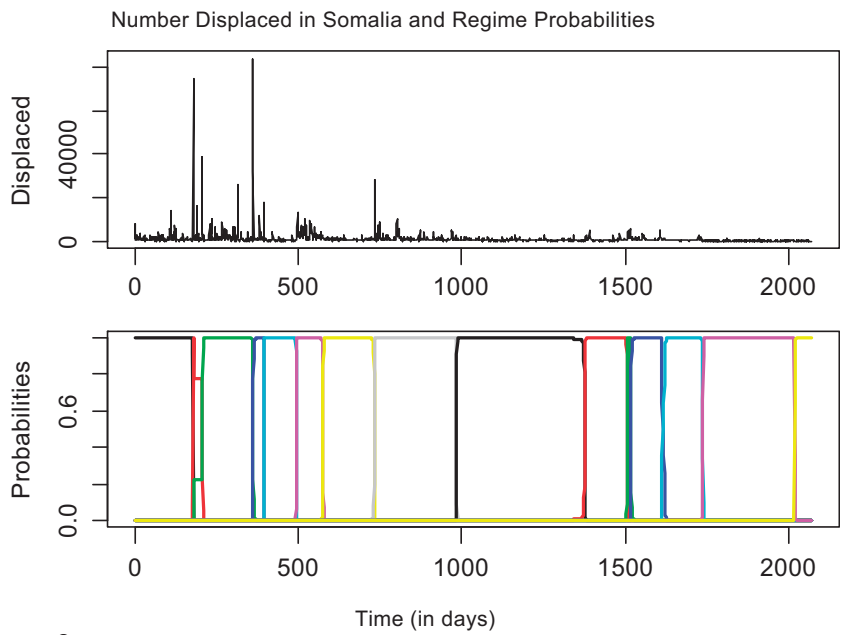

Figure 2
Number Displaced in Somalia and Regime Probabilities

Table 3

Changepoint Bayes Factors and Estimated Dates and Confidence Intervals

	Bayes Factor	Estimated change-point date	Changepoint confidence intervals	True changepoint date
1 Changepoint	0	27 June 2008	(17 June 2008)–(29 June 2008)	27 June 2008
2 Changepoint	190	26 July 2008	(29 June 2008)–(24 August 2008)	24 August 2008
3 Changepoint	638	25 December 2008	(23 December 2008)–(31 December 2008)	30 December 2008
4 Changepoint	683	29 January 2009	(29 January 2009)–(31 January 2009)	30 January 2009
5 Changepoint	851	8 May 2009	(7 May 2009)–(11 May 2009)	7 May 2009
6 Changepoint	890	27 July 2009	(24 July 2009)–(1 August 2009)	24 July 2009
7 Changepoint	924	2 January 2010	(31 December 2009)–(6 January 2010)	31 December 2009
8 Changepoint	973	9 September 2010	(8 September 2010)–(12 September 2010)	9 September 2010
9 Changepoint	1,019	8 October 2011	(3 October 2011)–(17 October 2011)	16 October 2011
10 Changepoint	1,066	13 February 2012	(12 February 2012)–(16 February 2012)	16 February 2012
11 Changepoint	1,176	23 February 2012	(20 February 2012)–(28 February 2012)	28 February 2012
12 Changepoint	1,095	31 May 2012	(22 May 2012)–(9 June 2012)	6 June 2012
13 Changepoint	1,170	30 September 2012	(26 September 2012)–(4 October 2012)	29 September 2012
14 Changepoint	1,344	8 July 2013	(7 July 2013)–(11 July 2013)	July 7, 2013
15 Changepoint	1,338			

Note: The Bayes Factor column is for diagnostic purposes. It motivates the selection of the 14 changepoint models. The estimated changepoint date, changepoint confidence intervals and the derived true changepoint dates were all found for the 14 changepoint models. This is why there is no entry in these three columns within the 15 Changepoint row.

levels was created. The timeline was primarily constructed from extensive searches on Lexis Nexis. These searches narrowed the geographical scope to Somalia and used the keywords of 'violence', 'attacks', 'Al-Shabaab', 'Hizbul Islam' and related terms. Information from these searches was supplemented by news stories from BBC, *The New York Times* and reports from various think tanks. It is displayed in the Appendix.

This is not even close to a complete list of all events in Somalia, nor is it meant to be. Instead, it is a list of theoretically relevant events that could be expected to cause increases or decreases in the level of displacement. Important events are also included regarding the opening and closing of borders, as well as the economic and humanitarian situation in Somalia, to confirm that economic and humanitarian events do not influence the amount of displacement. An event is classified as potentially associated with a changepoint if it occurred within the 95% confidence interval of the changepoint.

Discussion of Events at the Changepoints

Using the timeline in the Appendix, the analysis assesses which events caused changepoints. This discussion identifies the true dates for changepoints in displacement. Identifying the true dates facilitates the calculation of the mean amount of displacement within each regime, which enables the assessment of hypotheses 4, 5a, 5b and 5c.

As the fighting between TFG-allied forces and Islamist groups continued into 2008, it became increasingly clear that Ethiopia's superior firepower was not going to be enough to defeat the Islamist insurgency. Frustration contributed to the indiscipline of TFG-allied forces. Ethiopian troops especially developed a reputation for firing indiscriminately into populated areas whenever they were attacked. The brutality of this violence only seemed to grow more severe. Then, the Djibouti Agreement that was formed on 9 June 2008 appeared to provide an opportunity to wind down the violence. In exchange for a cessation of hostilities, Ethiopia agreed to withdraw its troops from Somalia. However, disgruntled actors played the role of spoilers to the finalization of the peace deal. Doubts over whether Ethiopia actually would withdraw its troops and what the power hierarchy would be after Ethiopia's departure created a lot of unease. By the end of June, fierce fighting had broken out in Mogadishu, central Somalia and along the Ethiopian border between the Ogaden National Liberation Front (ONLF) and Ethiopian troops. All of this violence heralded a transition to a period with substantially more displacement. Ethiopian troops knew that they would not be able to win the war and Somali groups were jostling for position in preparation for the coming withdrawal. The Islamist groups attacked TFG-allied forces and made many gains. Ethiopian troops retaliated brutally whenever they could. The destructive battles between Ethiopians and other TFG-allied forces and the Islamist groups yielded a lot of civilian casualties. It is unclear whether violence specifically in Mogadishu or combined violence throughout Somalia

caused the first changepoint. The timing of this changepoint is very clear though, since the 95% confidence interval for this changepoint places the changepoint between 27 June and 29 June. This violence collectively seems to have convinced civilians that there would be a shift in the balance of power between Al-Shabaab and TFG-allied forces. As expected in hypothesis 5c, this expectation led to an increase in the amount of forced displacement. The second regime, in fact, experienced the highest amount of displacement per day of any regime.

The timing of the second changepoint has the widest confidence interval of any of the changepoints, ranging from 29 June to 24 August. With an interval of almost two months during which the event causing the changepoint could have taken place, there are naturally a lot of possibilities. However, an examination of events occurring within Somalia provides some intuition on when the true changepoint is likely to have occurred. Violence at the end of June marked the beginning of a period of chaotic jostling for power and vicious battles between Ethiopian and TFG-allied troops and Somali Islamist groups. This dynamic appears to have continued at a high intensity until the Islamists captured Kismayo on 22 August. Therefore, the second changepoint most plausibly should be around 22, 23 or 24 August. The capture of Kismayo ended a period of significant growth in the power of Al-Shabaab relative to TFG-allied forces. This shift in the power balance resulted in a decrease in displacement from the second to the third regime, consistently with hypothesis 5a.

This situation changed when the Ethiopian troops began their withdrawal from Somalia. The withdrawal constituted the removal of what had been a central actor to the conflict. It is potentially not intuitive that displacement increased after Ethiopian troops began their withdrawal. Despite preparations that all parties had been making for months, Somalia was engulfed in competition to fill the power vacuum left by Ethiopia's departure. This culminated in Al-Shabaab's seizing control of the government in Baidoa when Ethiopia's withdrawal concluded on 26 January 2009. There was substantial displacement in the immediate aftermath of this takeover. This takeover is a turning point for putting Al-Shabaab in the position of definitively being the most powerful group in Somalia. The next changepoint occurred between 29 January and 31 January, not 26 January, because civilians needed a couple days to adjust to the implications of this power shift. With the immediate positioning for control of Somalia completed, displacement fell dramatically in the next regime. This is all consistent with hypothesis 5b.

Al-Shabaab proceeded to consolidate its position over the next several months. Then, on 7 May 2009, Al-Shabaab began advancing more in the south of Somalia and it launched an offensive to take Mogadishu. This offensive marked Al-Shabaab's reaching its peak of power. Al-Shabaab's advance throughout Somalia was very destabilizing, as Al-Shabaab was able to seize control of many areas of the country from TFG-allied forces. During this advance, the TFG-led government even had to announce on 20

June that it needed additional troops within the next 24 hours or else it was likely to fall. Civilians certainly would have expected this offensive to result in the balance of power shifting even further in Al-Shabaab's favour. The high displacement levels during this regime are consistent with the expectation from hypothesis 5c.

This instability continued until the TFG government decided to reorganize the military and launch an offensive of its own to pacify Mogadishu on 23 July. Civilians responded within the following week. The 95% confidence interval shows this as having taken place between 24 July and 1 August, but people respond quickly enough to changes in their environment that the true timing of the changepoint is on 24 July. Over the next few months, the TFG was finally able to turn back Al-Shabaab gains and assume a more powerful position in the conflict. The TFG's success was stabilizing for Somalia, and that increased stability significantly lowered displacement levels. Civilians were able to revise their expectations so that they no longer expected a shift in the power balance. The lower displacement levels were thereby consistent with hypothesis 5c.

This relative calm lasted until between 31 December 2009 and 6 January 2010. This is when Al-Shabaab renewed its efforts to seize control of more of Somalia. Intense fighting for control of Mogadishu was noted between 1 January and 19 January 2010. Al-Shabaab also expanded its attacks to Puntland in January 2010. It was trying to rise to its former peak of power, but the TFG was able to prevent it from doing so. Al-Shabaab's efforts climaxed with the Ramadan offensive in August and early September. Ramadan ended on 9 September 2010, and it was clear by that point that the offensive had failed. Al-Shabaab had become substantially weaker.

This regime featured two important dynamics. First, the offensives launched by Al-Shabaab made it clear to civilians that a shift in the balance of power would occur, one way or the other. Second, expanding attacks to Puntland increased the geographical scope of the conflict. Both of these dynamics, according to hypotheses 4 and 5c, are expected to produce increased displacement. It is unclear which factor is more important in this context. Still, it is important to note that this is the clearest example of the geographical scope of the conflict growing. Since displacement levels responded in the expected direction during this regime, there is at least limited evidence in support of hypothesis 4.

Al-Shabaab's weakened state allowed TFG forces to continue engaging it and to produce a more stable and secure environment. Displacement levels were therefore relatively low in the next regime. This lasted for about 13 months, until between 3 October and 17 October 2011. This is when the Kenyan intervention began. Kenyan troops entered Somalia on 16 October 2011. Therefore, the true changepoint occurred on 16 October. The Kenyan intervention did cause a slight increase in displacement, consistently with hypothesis 5b.

Then, in February 2012, displacement suddenly increased dramatically, as Kenyan forces engaged Al-Shabaab in Afgoye and Baidoa, seizing control of both towns. These towns are strategic towns in Somalia, and they showed that the Kenyan military was making progress towards Kismayo, which was the most important city for Kenyan forces to take in order to secure southern Somalia for their own security interests. The fighting over and change in control of these towns was enough of a destabilizer to increase displacement. Even in the next regime, when control of Afgoye and Baidoa had changed hands, displacement was higher than before the battles. This is because civilians all knew that an offensive on Kismayo was coming, and there were expectations of this becoming a very bloody offensive. Changes in the balance of power were expected by all, which means that the increased displacement levels are consistent with hypothesis 5c.

The next changepoint occurred between 22 May and 9 June 2012. Afmadow changed hands on 31 May. Al-Shabaab also held a public military parade in Kismayo on 31 May as a show of strength. Then Biibi, a town 75 kilometres from Kismayo, was taken on 5 June by Kenyan forces. The coming battle for Kismayo was now inevitable. This is also why 6 June is the most plausible date for the changepoint. Biibi's capture by Kenyan forces marked a change in the power balance between TFG-allied forces and Al-Shabaab. It showed that Al-Shabaab was likely to lose the battle for Kismayo. Since there were expectations for a change in the balance of power, it goes against hypothesis 5c for displacement levels to have declined. This is the only regime where hypothesis 4, 5a, 5b or 5c is contradicted.

Then, the battle for Kismayo happened in September 2012. On 29 September, Al-Shabaab surrendered Kismayo. This event marked the beginning of a series of major setbacks for Al-Shabaab. Its apparent defeat and weakening over the next several months made Somalia a relatively stable and secure place compared to what it had been. Finally, after Al-Shabaab attacks in June 2013 failed to have much success, the group seemed to have lost for good. From July through to August 2013, displacement was almost non-existent, with a mean of only 23 people getting displaced each day. This was the most stable period of the conflict, with Al-Shabaab clearly much weaker than the TFG, which explains why this regime would involve the least displacement. After key failures for Al-Shabaab, there was a pattern of displacement levels falling. Territory changes like Al-Shabaab's losing Kismayo seem to have decreased displacement, which is consistent with hypothesis 5a (see Table 4).

This analysis finds that specific events do not cause deviations in the baseline level of displacement that is inherently part of conflict. Instead, structural factors drive increases or decreases in displacement. Ethiopian forces leaving Somalia and Kenyan forces entering Somalia are two examples of actors' entering or leaving the conflict and causing long-term changes in displacement. Changes in the power balance between Al-Shabaab and TFG-allied forces also noticeably affected displacement. There is also some weak

Table 4

Average Daily Displacement within Each True Regime

	True regime dates	Average displaced per day
Regime 1	1 Jan–27 June 2008	919
Regime 2	28 June–24 August 2008	4,052
Regime 3	25 August–30 December 2008	2,431
Regime 4	31 December 2008–30 January 2009	1,678
Regime 5	31 January 2009–7 May 2009	301
Regime 6	8 May–24 July 2009	3,189
Regime 7	25 July–31 December 2009	604
Regime 8	1 January 2010–9 September 2010	1,227
Regime 9	10 September 2010–16 October 2011	348
Regime 10	17 October 2011–16 February 2012	504
Regime 11	17–28 February 2012	2,163
Regime 12	29 February–6 June 2012	828
Regime 13	7 June–29 September 2012	297
Regime 14	30 September 2012–7 July 2013	53
Regime 15	8 July–31 August 2013	23

evidence that increasing the geographical scope of the conflict, as Al-Shabaab did by expanding attacks to Puntland in January 2010, can increase forced displacement.

Rival Explanations

Sceptics of this explanation are likely to suggest several alternative ways to interpret available data on forced displacement and its causes. Social scientists are justifiably sceptical of parsimonious explanations, so some effort must be made to show why other explanations do not work. For this analysis, there are four main challenges that may be offered.

First, border closures and openings may influence displacement levels. Border considerations may enter into an individual's decision-making process about whether to flee their home instead of, or in addition to, the decision-making process about where to go once the person is displaced. For this challenge to hold up, openings or closures of Somalia's borders should correspond with changepoints or spikes in displacement. Kenya's border with Somalia has been closed officially since January 2007, but there was a temporary opening from 12 March until 6 May 2008. As shown in Table 5, displacement numbers one week before and one week after these dates do not show any spikes in displacement, and they are not even close to being associated with any changepoints.

Second, timing of the changepoints may be driven by individual events rather than structural factors. It is possible that the high displacement days

Table 5

Displacement Before and After Border Status Changes

Day	12 March: Border opens	6 May: Border recloses
7 days before	1,700	280
6 days before	100	340
5 days before	420	4,500
4 days before	0	1,700
3 days before	1,300	7,300
2 days before	840	1,100
1 day before	80	0
BORDER CHANGE	730	5,300
1 day after	520	290
2 days after	4,400	910
3 days after	1,800	480
4 days after	490	330
5 days after	750	70
6 days after	0	500
7 days after	710	190

could cause the timing of changepoints to be a mathematical artefact rather than a substantively important date. Yet, the discussion of Somalia should illustrate the distinct qualities of structural factors as compared to regular events. Furthermore, there can be high levels of displacement at the changepoints, making them appear to have similar short-term effects as regular events that cause high levels of displacement. However, while short-term spikes in displacement can occur at the changepoints, the structural factors that cause the changepoints have effects that last for the duration of the regime, or time period between changepoints. To illustrate this separation, Table 6 highlights the seven days with more than 20,000 people displaced. Four out of seven of these dates fall within confidence intervals for changepoints. All of these dates correspond with violence in major cities, whether it was in Mogadishu or a regional population centre. Yet, through all of the attacks and violence in major cities, only a few of them coincided with changepoints. This indicates that perhaps violence in major cities should be expected to cause more displacement than violence in rural or sparsely populated areas, but it does not necessarily have lasting effects.

Third, people may be more likely to become displaced when there is more humanitarian aid available for displaced persons. This relationship would exist because humanitarian aid could be a benefit of becoming displaced. The converse that less humanitarian aid would lead to less displacement should also hold by this logic. Again, the timing of events in Somalia does not support this explanation. Some of the major changes in humanitarian aid levels occurred in January 2010 when the World Food Program (WFP)

Table 6

Top Displacement Days 2008–13

Date	Number displaced
28 June 2008	75,000
25 July 2008	37,000
26 July 2008	39,000
11 November 2008	26,000
27 December 2008	84,000
28 December 2008	32,000
3 January 2009	28,000

withdrew from southern Somalia; August 2010 when World Vision International, the Adventist Development and Relief Agency and Diakonia withdrew from Somalia; 15 September 2010, when Al-Shabaab ordered Mercy Corps, Med-Air and Horn Relief to close; May 2013 when Barclays Bank chose to end its operations in Somalia; and on 14 August 2013, when Doctors Without Borders withdrew from Somalia. The only one of these events that corresponds with a changepoint is the WFP withdrawal in January 2010. However, if this had caused the changepoint, then there should be a decrease in displacement with the decline in humanitarian aid, rather than the increase in displacement that actually happened.

Fourth, explanations of variation in displacement may need to do more to account for the different types of behaviour in pro-rebel and pro-government actors. Rather than focusing on structural factors, it might be more important to determine whether the conflict actors are feared or supported by civilians. In this explanation, displacement would be expected to increase whenever an abusive group that is feared by civilians has success or the group that civilians support experiences failure. Relatedly, displacement would be expected to decrease whenever an abusive group experiences defeat or when the group with popular support has success. There is some support for this explanation because displacement has tended to decrease when Al-Shabaab has lost power, but there is not enough support for it to rule out the explanation of this article focusing on structural factors. Further research with additional cases is needed to assess the effect of the armed group behaviour on forced displacement.

Concluding Thoughts and Directions for Future Research

By showing the necessity of focusing on structural factors instead of fluctuations in day-to-day violence to explain variation in forced displacement within Somalia, this article has made an important contribution to explaining variation in forced displacement over time within conflict. Geographical

scope can affect displacement by determining the portion of the population affected by conflict. Changes in balance of power can create security disruptions and fear. Cross-national analyses should now be developed to assess the generalizability of these claims. While that is in progress, there are other ways future research could enrich the theory developed here.

Much of this work involves incorporating spatial factors. Displacement should be more likely closer to violent events, so modelling this spatial aspect could help detect a relationship within regimes between violence and displacement. In addition, there are many in-group, out-group dynamics that need to be explored. For example, when an armed group of the same ethnicity or clan as the civilians of a given area captures a town in that area, there should be low levels of displacement. On the other hand, if an armed group of a different ethnicity or clan captures the town, then there might be high levels of displacement. This difference would exist because civilians would perceive a higher likelihood of being harmed by an armed group of a different ethnicity or clan.

In addition, there is clear evidence that many displaced people actually get displaced multiple times. It may actually be a rarity for a person to only be displaced once. Further research should address the question of whether people are more likely to become displaced after already having been displaced.

As observers monitor the events occurring during conflict, it should now be evident that they should monitor when changes in structural factors occur. This focus may help improve responses to large floods of displaced persons when they happen, improving the livelihoods of thousands of innocent civilians.

Appendix: Timeline of Important Events in Somalia

Date	Event	Changepoint or displacement over 20,000?
January 2008	Burundi becomes second country to join African Union (AU) force in Somalia	No
6 February 2008	One of the worst Al-Shabaab attacks in Puntland to date	No
24 February 2008	Somaliland troops push into Sanaag region	No
3 March 2008	US missiles hit Somalia; at least the third American missile attack since the beginning of 2007	No

(continued)

Continued

Date	Event	Changepoint or displacement over 20,000?
12 March 2008	Kenya opens border with Somalia	No
1 May 2008	Al-Shabaab leader Aden Hashi Farah Ayrow was killed in a US air strike	No
6 May 2008	Kenya recloses border with Somalia	No
18 May 2008	Islamic Courts Union takes key town of Jilib in southern Somalia	No
9 June 2008	Djibouti Agreement includes agreement between TFG and a wing of Alliance for the Re-liberation of Somalia (ARS) on ceasefire and other measures. This includes withdrawal of Ethiopian troops	No
28 June 2008	Heavy fighting in Mogadishu. Fighting in many other regions as well	CHANGEPOINT 1 75,000 displaced on 28 June
9 July 2008	South-western town Daynunay taken by Al-Shabaab after heavy fighting	No
24 July 2008	Central Somali town of Beledweyne experiences heavy fighting when Islamists attacked Ethiopian troops there. The Ethiopian response killed many civilians	37,000 displaced on 25 July; 39,000 displaced on 26 July
22 August 2008	Islamists take control of Kismayo after three days of heavy fighting	CHANGEPOINT 2
8 October 2008	Aid groups kicked out or threatened, high fatality rates	No
8–9 November 2008	Al-Shabaab lobs rockets at Burundian AU troops in Mogadishu. This is part of multi-day offensive on AU troops in Mogadishu. Many civilian deaths caused by both sides lobbing rockets at each other	26,000 displaced on 11 November

(continued)

Continued

Date	Event	Changepoint or displacement over 20,000?
14 November 2008	President Yusuf admits Islamist insurgents control most of the country, raising the prospect his government could completely collapse	No
6 December 2008	Al-Shabaab seizes a town in central Somalia. Appears to be part of manoeuvring to control as much of Somalia as possible when Ethiopians leave	No
2 January 2009	Ethiopia says it has started pulling its troops out of Somalia	CHANGEPOINT 3 84,000 displaced on 27 December; 32,000 displaced on 28 December; 28,000 on 3 January
16 January 2009	Al-Shabaab attacks Ethiopian troops. Civilians worried about the violence	No
26 January 2009	Last Ethiopian soldiers leave. Fighters from Al-Shabaab move into Baidoa, capturing an old granary serving as Somalia's parliament	CHANGEPOINT 4
4 February 2009	Four insurgent groups, including the Eritrea-based faction of ARS but not Al-Shabaab, announced plans to merge into a new group called Hizbul Islam (Islamic party) to fight the newly elected president and the anticipated unity government	No
May 2009	Al-Shabaab highpoint. Islamist insurgents launch onslaught on Mogadishu and advance in the south	CHANGEPOINT 5
June 2009	President Ahmed declares a state of emergency as violence intensifies. Somali officials appeal to neighbouring countries to send troops to Somalia, as government forces continue to battle Islamist insurgents	No

(continued)

Continued

Date	Event	Changepoint or displacement over 20,000?
20 June 2009	Somalia announces it needs troops within the next 24 hours or its government is likely to fall	No
26 June 2009	Kenya reinforces border patrols and cuts off cross-border trade with Somalia	No
23 July 2009	TFG-led government announces reform of security services and new offensive to pacify Mogadishu	CHANGEPOINT 6
23 August 2009	Many fighters from Hizbul Islam defect to join Al-Shabaab. This comes as a surprise to observers	No
25 September 2009	Fighters defect Union of Islamic Courts to join Hizbul Islam	No
October 2009	Fighting broke out in Kismayo for the first time between the two rebel groups Al-Shabaab and Hizbul Islam. Al-Shabaab eventually took Kismayo	No
January 2010	Al-Shabaab expands attacks to Puntland	CHANGEPOINT 7
January 2010	UN's World Food Programme (WFP) withdraws from Al-Shabaab-controlled areas of southern Somalia after threats to lives of its staff	No
1–19 January 2010	CNN reports that previous 19 days have seen 63,000 people displaced due to heavy fighting in Mogadishu and other areas	CHANGEPOINT 7
29 January 2010	al-Shabaab confirmed officially for the first time that it had joined al-Qaida's 'international jihad'	No
February 2010	al-Shabaab begins to concentrate troops in preparation for a major assault to capture Mogadishu	No

(continued)

Continued

Date	Event	Changepoint or displacement over 20,000?
15 March 2010	The TFG and *Ahlu Suna Wal Jamma* (ASWJ), the pro-government Islamist group that controls parts of central Somalia, formally signed a cooperation framework agreement in Addis Ababa	No
7 April 2010	Hizbul Islam reportedly claim loyalty to al-Qaida for the first time and invite Osama bin Laden to Somalia	No
August 2010	Al-Shabaab launches Ramadan Offensive to try and take Mogadishu. This offensive failed. Ramadan in 2010 was 11 August until 9 September	CHANGEPOINT 8
August 2010	World Vision International (WVI), the Adventist Development and Relief Agency (ADRA) and Diakonia were accused by Al-Shabaab of propagating Christianity in Somalia and consequently forced to stop their operations	No
15 September 2010	On 15 September 2010, Mercy Corps, Med-Air and Horn Relief were ordered to close by Al-Shabaab Banadir administration, who accused them of having too close ties with the United States	No
30 December 2010	Hizbul Islam merges with Al-Shabaab	No
February 2011	Kenya closes border to Somalia after nearby fighting between Al-Shabaab rebels and government-backed forces	No
July and August 2011	Al-Shabaab pulls out of Mogadishu and other major cities in what it calls a 'tactical move'	No

(continued)

Continued

Date	Event	Changepoint or displacement over 20,000?
16 October 2011	Kenyan troops enter Somalia to attack rebels they accuse of being behind several kidnappings of foreigners on Kenyan soil	CHANGEPOINT 9
28 October 2011	Kenyan troops engage in their first direct confrontation with Al-Shabaab forces	No
20 November 2011	Ethiopian troops re-enter Somalia	No
22 December 2011	Djibouti joins AMISOM	No
31 December 2011	TFG-allied forces, supported by Ethiopian troops, take Beledweyne	No
22 February 2012	Al-Shabaab loses Baidoa. 7,500 displaced during the fighting	CHANGEPOINTS 10 and 11
February 2012	Fighting on outskirts of Mogadishu. Fighting in Afgoye corridor as well. Al-Shabaab loses Afgoye. The fighting displaces about 60,000–66,000 people to Mogadishu	CHANGEPOINTS 10 and 11
31 May 2012	Kenyan forces take strategic town of Afmadow on the way to Kismayo. Al-Shabaab conducts large military parade to showcase strength in Kismayo	CHANGEPOINT 12
5 June 2012	Biibi, 75 km from Kismayo, taken by Kenyan forces. Kismayo very tense	CHANGEPOINT 12
September 2012	Hizbul Islam splits with Al-Shabaab	No
17 September 2012	Al-Shabaab gives a call to arms to defend Kismayo in a radio address	No
29 September 2012	Al-Shabaab surrenders Kismayo	CHANGEPOINT 13
9 December 2012	AU troops take Jowhar without a gunshot	No

(continued)

Continued

Date	Event	Changepoint or displacement over 20,000?
May 2013	Barclays Bank announces decision to withdraw from Somalia. This move has major implications for money transfer services and remittances for Somalis	No
June 2013	Spike in violence with various attacks by Al-Shabaab, including on presidential palace and United Nations Development Program (UNDP) compound in Mogadishu	No
July 2013	Relative calm for Somalia after violence at the end of June. Still tense and some recurrent violence though	CHANGEPOINT 14
14 August 2013	MSF withdraws from Somalia	No

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