

**Ethnic and Political Violence in Kenya: Empirical Analyses  
of the Causes and Consequences of the 1992 Conflict**

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## **ABBREVIATIONS**

APP	African Peoples' Party
CAR	Central Africa Republic
DRC	Democratic Republic of Congo
GEMA	Gikuyu Embu Meru Akamba
GDP	Gross Domestic Product
GIS	Geographical Information Systems
IMF	International Monetary Fund
KADU	Kenya African Democratic Union
KANU	Kenya African National Union
KDHS	Kenya Demographic and Health Survey
MAR	Minorities At Risk
NCCK	National Council of Churches of Kenya
UN	United Nations
UCDP	Uppsala Conflict and Data Program
SSA	Sub-Saharan Africa

## ABSTRACT

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This thesis comprises two separate but related essays that investigate the causes and consequences of the 1992 ethnic and political violence in Kenya.

The first essay examines the causal effects of electoral rule on ethnic violence in Kenya. In the early 1990s and coinciding with the introduction of multi-party democracy, Kenya experienced sporadic attacks targeting specific ethnic groups supporting the democratization of the electoral process. President Moi had previously maintained peace through repression, fear, harassment and control of his political opponents but multi-party politics would end the status enjoyed by his political party.

The president who was from the Kalenjin minority ethnic group caved into pressure from international donors to allow multi-party elections. To maintain economic power and status quo that would be threatened by multi-party democracy, his party introduced a new electoral rule requiring the winner of the presidential elections to acquire at least 25% of all votes cast in 5 out of the 8 provinces of Kenya. In many African countries, it is commonly observed that voting is along ethnic lines therefore majority ethnic groups are likely to win. Only Moi who had the advantage of incumbency and candidates from the largest ethnic group Kikuyu could satisfy this condition. The 5<sup>th</sup> province for the ethnic majority would be the president's own. To ensure they did not win violence was instigated against the Kikuyu, Luhya and Luo majority ethnic groups who lived in the president's region and were in favour of multi-party democracy. Although the causes of the election violence in Kenya had been hypothesized by other studies, there is no study with empirical evidence

that the introduction of the election rule was the likely cause of the 1992 conflicts. This is the first contribution of this study.

The second contribution of this study is to construct a sub-location level dataset for number of death and displacements. This is because there were no official statistics and even when available, they were underreported to minimize the impact of the violence. We create a dataset on the number of deaths and displacements by month and year from several sources. The first source is the Uppsala Conflict Data Program (UCDP) which is the world's main provider of data on organized violence and the oldest ongoing data collection project for civil war, with a history of almost 40 years. The second source is the Human Rights Watch. Deaths and displacements were recorded in a report titled "Divide and Rule: State-Sponsored Ethnic Violence in Kenya" during a visit to seven of the most affected districts. The third source is the Minorities At Risk (MAR) Project. MAR tracks 284 politically active ethnic groups throughout the world since 1945. The fourth data source is the National Council of Churches of Kenya (NCCCK) report titled "The Cursed Arrow: The NCCCK Contemporary Report on the Politicised Land Clashes in Rift Valley, Nyanza and Western Provinces". NCCCK was the main relief agency providing shelter, food and medicine to the victims of the violence. The fifth data source is The Daily Nation newspaper with the highest circulation in Kenya and reported stories on the violence from October 1991 to December 1993. The sixth source was the report of the Parliamentary Select Committee appointed to investigate the root causes of ethnic clashes in Western and other parts of Kenya. The seventh source was the report of the Judicial Commission of Inquiry to inquire into the tribal clashes occurred intermittently in various parts of



Kenya since 1991. The 1989 Kenya Population and Housing Census Data provided district level data on the population distribution of the targeted ethnic groups.

Identification of the causal effects of electoral rule on violence requires that no other factors are correlated with the deaths and displacements. There were no other incidences of ethnic violence prior to the introduction of multi-party elections. If the introduction of the election rule triggered the pre-election violence in Rift-Valley province, it would be more effective for the attacks to be targeted to the sublocations with higher population of the opposition ethnic groups. We employ the Difference-in-differences strategy with satisfying common trend assumption. To elaborate, deaths and displacements among the Kikuyu, Luhya and Luo living in Rift Valley province would not have occurred in the absence of the election rule. We also assume that once the fixed effects are controlled for, the outcome variable is not correlated with the error term.

We find that majority ethnic groups in the affected region had 0.3 deaths per thousand population and 27 displacements per thousand members of the population. We also find that retaliatory attacks against the perpetrators (Kalenjin) were associated with 3 deaths per thousand members of population in neighboring provinces of Nyanza and Western. The results show that deaths and displacements in Rift Valley were against the ethnic groups in Rift Valley supporting the opposition while deaths and displacements in Western and Nyanza provinces were retaliation attacks against the Kalenjin living in those areas. The analysis reveals the purpose of the attacks which was to disrupt voter registration thus preventing those opposing the ruling elites from voting. The number of displacements is 30 times higher than the deaths which suggests that the violence could have

intimidated the Kikuyu and other ethnic groups supporting the opposition to move to other areas where they could not register to vote.

The second essay is an examination of the effects of intrauterine exposure to electoral violence on child birthweight; an outcome that has long-term effects on an individual's education, income, and health in later life. We consider the electoral violence that resulted from the introduction of multiparty democracy in Kenya as an exogenous source of shock, using a difference-in-differences method and a mother fixed-effects model. We find that prenatal exposure to the violence increased the probabilities of low birth weight and a child being of very small size at birth by 19 and 6 percentage points, respectively. Violence exposure in the first trimester of pregnancy decreased birth weight by 271 g and increased the probabilities of low birth weight and very small size at birth by 18 and 4 percentage points, respectively. The results reaffirm the significance of the nine months *in utero* as one of the most critical periods in life that shapes future health, economic, and educational trajectories.

Conflicts have very high economic and social costs that can persist for years even after their end. Survivors of violent attacks not only lose their property, but also suffer physical injuries and psychological distress from exposure to violence and forceful displacement from their homes. Given such high levels of exposure to violence across the world in recent years; whether this has had a persistent impact on population health, even after the violence ceases, has become a critical research question.

Existing studies find that children who were exposed to the civil wars in SSA *in utero* tend to be shorter in height and the negative effect on height is likely to remain even into their adulthood. Although there is an increasing body of literature showing that *in-utero* exposure to conflict or violent situations worsens birth outcomes in Latin America and developed countries, evidence from SSA is limited.

Existing studies on conflicts in SSA have focused on political violence characterized by civil wars, detentions, and mass killings; incidences of which have been on the decline. In contrast, other forms of political violence, such as electoral violence increased after the 1990s when many SSA countries introduced multi-party election, yet these forms of violence receive less attention in literature. This paper contributes to increasing the visibility of these forms of violence by addressing the Kenyan case where despite decades of ethnically and politically instigated unrests, their negative effects on child health have not been adequately investigated.

By exploiting exposure to ethnic violence resulting from Kenya's first multi-party elections in 1992 as an exogenous source of prenatal shock, we statistically examine the impact of such shock on birth outcomes. We hypothesize that the magnitude and sporadic nature of the violence and the fear of being attacked may have predisposed expectant mothers to psychological and physical stress, which may result in having small babies.

This study uses 3 datasets. The first data set is the Uppsala Conflict Data Program (UCDP) Events Dataset, which allows us to construct accurate measures of a conflict in terms of the location, timing, and severity. We use the information on the total number of fatalities due to the conflict in a district where an expectant mother resided as a measure of intensity. Our second data source is the 1993 Kenya Demographic and Health Survey (KDHS) with nationally representative data on maternal and child health. The third data source is rainfall and temperature data (1987-1993) from the Kenya Meteorological Department. Based on the information on rainfall and temperature, we construct the number of months that were identified with higher risk of malaria infection for each child in the DHS dataset. This is particularly important because malaria is one of the leading causes of infant mortality worldwide and in Kenya accounts for 20% of all deaths in children under 5 years.

By adopting difference-in-differences method and mother-fixed effect model, we found that prenatal exposure to the violence increased the probabilities of low birth weight and a child being of very small size at birth by 19 and 6 percentage points, respectively. We found that exposure to violence in the first trimester of pregnancy decreased birth weight by 271 grams and increased the probabilities of low birthweight and very small size at birth by 18 and 4 percentage points, respectively. The results reaffirm the significance of the nine months *in utero* as one of the most critical periods in life that shapes future health, economic, and educational trajectories.

## CHAPTER 1: BACKGROUND

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### 1.1. INTRODUCTION

This thesis contributes to literature on the incentives for conflict. Conflicts have very high economic and social costs that can persist for years even after their end therefore an investigation of the motivation to engage in violent activities provides a reference for conflict prevention and resolution. Civil wars or conflicts with more than 1,000 fatalities per year have affected a third of all countries however this subject has not received much attention in the study of economic development (Blattman & Miguel, 2010).

There is a growing body of research highlighting the correlation between economic conditions and conflict (Besley & Persson, 2011; Collier, 2006; Collier & Hoeffler, 1998; Elbadawi & Sambanis, 2000). These studies do not however adequately address the endogeneity of economic factors to civil conflicts thus fail to establish a causal relationship (Miguel, Satyanath, & Sergenti, 2004). For example, many studies cite poverty as the cause of civil wars however this causal effect is difficult to infer since wars devastate countries thus impoverishing the population and significant loss of human life affects the economy. In addition, related forms of conflict such as political violence have not received much attention. To address these gaps, we analyze the exogenous incentives for the sporadic ethnic and political conflicts that rocked Kenya in the early 1990s and their implications for economic development.

This thesis investigates the causes and consequences of ethnic and political violence in Kenya. In the process, we seek to find an insight into the following questions: 1) Did new electoral rules trigger ethnic violence? 2) What were the consequences of the ethnic violence?

Kenya is often cited as an example of peace and stability in a tumultuous region. Post-independence Kenya was characterized by political stability and relative peace except for a few incidences of cattle theft along the Kenya-Ethiopia and Kenya-Uganda borders (Kimenyi & Ndung'u, 2005). Although Kenya is like other Sub-Saharan countries that have experienced civil wars in terms of dependence on primary commodity exports and natural resources, poverty and ethnic diversity, there have not been conflicts that can be described as civil war.

However, in the early 1990s, Kenya experienced ethnic clashes that were in response to the introduction of multi-party democracy. These conflicts were short lived, in specific geographical areas and did not involve rebels fighting against the government. The ethnic conflicts led to hostility between different ethnic groups, compromised the credibility of the electoral process and slowed economic development. These conflicts although small scale in coverage have since shaped the country's political scene and their impacts mirror those of civil wars.

## **1.2. CIVIL WARS IN AFRICA**

Elbadawi and Sambanis (2004) define civil war as armed conflict that has resulted into more than 1000 deaths; interfered with the independence of a recognized country; taken place within the boundaries of that country; the state is one of the participants; involved rebels with the ability to organize an opposing group and the conflicting parties are concerned with the possibility of co-existing after the end of the war.

Civil wars are the most prevalent form of armed conflicts and have increasingly gained interest from economists and policy makers in the recent past. The focus of most of these studies has been in Sub-Saharan Africa where 29 out of 43 countries experienced civil wars in the 1980s and 1990s (Elbadawi & Sambanis, 2000; Miguel et al., 2004). These conflicts have been a source of suffering for millions of people and resulted in three times as many deaths between countries since World War II thus plunging the continent into perpetual poverty.

### **1.2.1. Causes of civil wars**

The prevalence of civil wars in Africa have led many to believe that ethnic and religious diversities are the driving factors. Elbadawi and Sambanis (2004) compare the determinants of civil wars in Africa with the rest of the world by estimating the probability of observing an incident of civil war between 1960-1999 in 161 countries. They conclude that political and economic failures predispose Africa to high risk of civil war. They argue that low levels of per capita income and youth unemployment make young men easier targets for recruitment by rebel groups. They also add that

the weak democratic systems are a source of discontentment for the citizens. On the other hand, ethnic diversity is a deterrent and not cause of civil war. This is because it is difficult to organize a rebellion in homogenous or highly diverse societies<sup>1</sup>.

Similar analyses of the pattern of civil wars between 1965-1999 point to economic causes of conflicts (Collier, 2006; Collier & Hoeffler, 1998). They argue that an economy that is dependent on primary commodity exports is more likely to experience civil war because it presents opportunities for looting the commodities due to the quick revenue from heavy taxation. People with low incomes are easily recruited into rebel groups because they have nothing to lose. This is compounded by the fact that governments in these countries raise very low national incomes from taxation thus they do not have a sufficient defense budget to deter rebels. In addition, slow economic

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<sup>1</sup> There are however some exceptions. Somali is one of the most ethnically homogenous countries that has experienced many years of conflict. The single ethnic group was divided into several clans which shared power equally post-independence. However, there arose public discontent with the dictatorial rule of Mohammed Siad Barre, corruption of government officials and poor economic performance. To divert the public from the failures of his regime, President Said Barre incited clan rivalries. By the end of his regime in 1991, Somali was experiencing inter and intra-clan conflicts. On the other hand, the Democratic Republic of Congo (DRC) is highly ethnically diverse. When President Kabila lost support from his Tutsi military, he needed to have an army that would oppose them. However due to the ethnic diversity of the country, it was difficult to build one. He resulted to recruiting people from all other ethnic groups to fight against the Tutsi.(Collier, 2006)



growth and rapid population growth characterized by few employment and schooling opportunities make it easier for rebels to recruit members.

Using the Armed Conflict Dataset from 1950, Besley & Persson (2011) show that civil war is prevalent where there are shocks to the value of public goods, wages and aid all of which are present when political institutions are too weak to offer checks and balances or shield the citizens from the shocks. Other factors that correlate with war are sparsely populated regions which are difficult to access and mountainous terrains that act as hideouts for rebels (Blattman & Miguel, 2010). Most studies identify the correlation between civil conflict and economic conditions. The challenge is however to identify causality.

Several studies address this by isolating exogenous variation in income. Miguel et al. (2004) use exogenous variation of rainfall in Sub-Saharan Africa as an instrumental variable for economic growth to estimate the impact of economic growth on conflicts. They however note that this strategy does not uniquely identify the causal relationship between rainfall and conflict because drought can lower the opportunity cost of fighting among rural communities and may reduce the government revenues which would have funded defense projects. Drott-Yanagizawa (2014) uses variation in radio coverage due to Rwanda's landscape as an instrumental variable for the impact of mass media in influencing participation in the genocide. They find that radio broadcasts that incited violence against the Tutsi minority group increased killings by both the militia and citizens.

The first paper in this thesis contributes to this literature by establishing a causal relationship between concentration of the majority ethnic groups and pre-election violence after the introduction of multi-party elections in Kenya. Identification of the causal effect of elections on violence assumes that deaths and displacements from the violence were uncorrelated to factors other than the new electoral system.

### **1.3. ROAD TO MULTI-PARTY ELECTIONS**

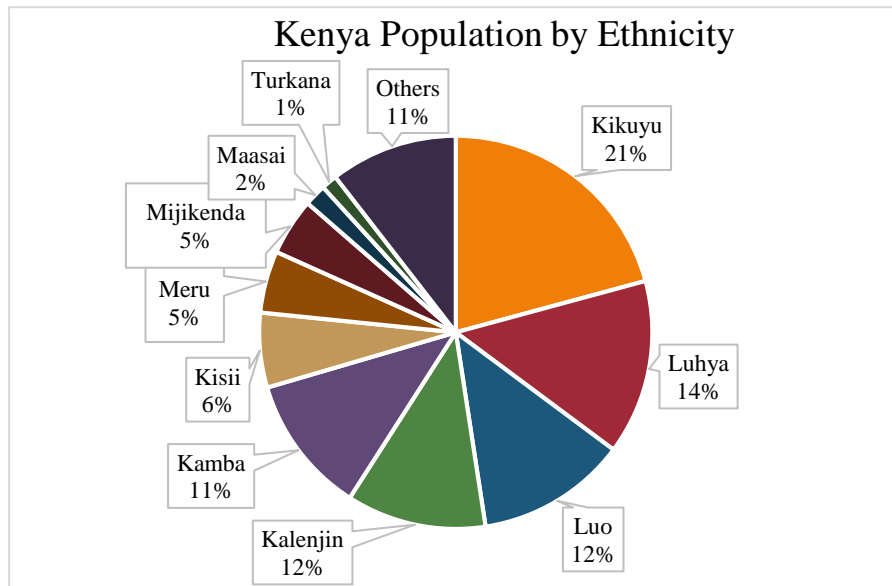
The independence elections of 1963 allowed a multi-party system with three political parties; Kenya African National Union (KANU), Kenya African Democratic Union (KADU) and African People's Party (APP). KANU received support from Kikuyu, Luo, Meru, Kamba and Kisii. APP was supported by the Kamba while KADU's membership constituted the pastoral tribes of Kalenjin, Maasai, Turkana, Samburu, Giriama and other smaller groups (Human Rights Watch, 1993; Oyugi, 1997). Feeling marginalized from the independence negotiations and alienated from their land by the colonialists, KADU advocated for the colonial federal system of governance which would give semi-autonomous ethnic regions the powers to make decisions. KANU won the elections thus abandoning the Majimbo discussion. Following the voluntary disbandment of KADU and APP in 1964, Kenya became a *de facto* one-party state and the Majimbo constitution was replaced by one that converted Kenya into a republic with a strong central government. The *de facto* state was later changed into *de jure* one party state through a constitutional amendment in 1982.

By 1991, Kenya had been independent for twenty-eight years. It was also the most economically developed country in East Africa due to its large populations of European settler farmers and Asian business people. However, the one-party state since independence favoured the Kikuyu and Kalenjin; the ethnic groups of the first and second presidents respectively and marginalized the rest of the groups (Akiwumi Commission of Inquiry, 1999).

Domestic pressure for political freedom through the adoption of a democratic form of government grew in response to increasing repression and corruption. President Moi however resisted the introduction of multiparty democracy arguing that it would result into tribal violence. Increasing dissatisfaction with the government's lack of accountability and the presence of a strong opposition group, eventually convinced the international donors to join the calls for multiparty politics. In November 1991, a joint meeting of donor countries and the World Bank announced a suspension of foreign aid pending political and economic reforms. A month later in December 1991, the KANU government repealed section 2(a) of the constitution which had legitimized the one-party state thus legitimizing other political parties. By the time the elections were held on December 29, 1992, 11 new political parties had been registered, all of which had the support of different ethnic groups.

#### 1.4. ORIGINS OF ETHNICITY

Kenya has over forty different ethnic groups which range from a few hundreds to several millions that have co-existed for many years. The largest are Kikuyu followed by the Luhya, Luo and Kalenjin respectively. Kenya's ethnic composition is shown in the pie chart below.



**Figure 1. 1: Kenya Population by Ethnicity**

Source: Kenya Population Census, 1989

The genesis of the problem of tribalism or ethnicity in Kenya and Africa in general is colonialism. The British divided the Kenyan territory along ethnic lines into eight provinces which were further subdivided into districts. Historically, members of the different ethnic groups co-existed, traded and intermarried with one another mutually benefitting the pastoralist and agricultural communities.

The indirect rule imposed by the British colonialists was a divide and rule strategy which led to competition over access to goods and services thus turning different ethnic groups against one another. The idea of people's own arising from the formal political division of colonized people into ethnic administrative territories heightened ethnic self-identity and a sense of belonging. Overtime, this created a sense of exclusiveness which revealed itself in the rejection of 'ethnic outsiders'.

Response to colonial attitudes and strategies by various ethnic groups later provided an avenue for competition and conflict. The colonial authorities viewed the attitudes of the pastoralist communities as unprogressive therefore they marginalized them. Consequently, the development strategies adopted benefitted some communities to the disadvantage of others. 'open' area (agricultural communities) with missionary stations received early and better education while the 'closed' areas (nomadic or pastoralist communities) did not (Oucho, 2002; Oyugi, 1997). Therefore, the Kikuyu, Luo, Luhya and a few other agricultural communities were early beneficiaries of modern education which was crucial for employment and economic opportunities. The Kikuyu however modified their social structure and culture to the capitalist mode of production thus were more mobile and able to adapt to different situations outside their ancestral land in search of economic opportunities notably land and business ventures. Many years later, their economic aggressiveness became a reason for resentment from other ethnic groups (Kimenyi & Ndung'u, 2005).

The Luo and Luhya were also mobile but unlike the Kikuyu, they migrated in search of wage employment in urban areas and European farms. Until independence time, ethnic struggle at the national level was competition by the three ethnic groups for employment and basic goods and services. After independence, more ethnic groups joined in the competition for power and control of national resources. Since the colonial period, political power has been associated with the most dominant ethnic group.

#### **1.4.1. Ethnic influence on Electoral Politics**

Many Kenyans believe that tribalism is deeply rooted in the political scene but are however reluctant to discuss across ethnic boundaries due to the tension it brings. The relationship between politics and ethnicity is especially relevant to the multiparty elections of 1992 since ethnicity was a significant determinant of people`s voting behavior. Ethnicity or tribalism evokes a feeling of oneness in relation to other groups. This togetherness gives confidence that members will be loyal to their own even when it demands engaging in violence. Consequently, ethnicity exhibits itself as animosity, suspicion, envy, mistrust, competition and conflict against other groups (Kimenyi & Ndung`u, 2005).

In multi-ethnic societies like Kenya, elections are an opportunity to compete for control of the state because the state is discriminatively used for the benefit of the group in power. Elections are therefore not only a tool for protecting the process of accumulating wealth but also promoting the

accumulation of wealth by one ethnic community in competition with others. They therefore are an avenue for expressing ethnic conflict and manipulating mass feelings to win electoral success. Consequently, the competition for economic goods and control of the state that determines access to them hastens the ethnicization of society (Collier, 2009).

During the 1992 elections, the minority Kalenjin who are the ethnic group of President Moi believed that a win by the opposition would end the economic privileges they had enjoyed for more than a decade. Together with other pastoralists groups in Rift Valley, they saw a win as the defense of their privileged position and defeat as a loss of their power. On the other hand, other major ethnic actors believed that a win by their parties would end their alienation. For the Kikuyu who were former rulers through the first president, it was an opportunity for political and economic restoration. For the Luo and Luhya, the elections were their turn to also “eat”. Luhya leaders capitalized on their numerical strength as the 2<sup>nd</sup> largest ethnic group after the Kikuyu and insisted it was their right to vie for the highest position. The Luo claimed leadership arguing that the Kikuyu whom they regarded as their equal in the struggle for independence had their chance at leadership hence the opposition should have supported their bid without any hesitation (Oyugi, 1997).

The 1992 multiparty elections in Kenya brought these fears to life. It was the first time that ethnicity directly influenced politics as the post of the president was openly contested and the electorate given a chance to determine who and which ethnic group would control the country thus enjoy the accompanying benefits. The creation of a one-party state in 1964 meant that the president of the

ruling party KANU had always received an automatic nomination for state president and was formally declared elected at the nomination stage in all the subsequent elections.

### **1.5. ETHNIC VIOLENCE IN KENYA**

As stated earlier, conflicts are a recent occurrence in Kenya which is considered one of the few peaceful countries in Africa and coincided with the introduction of competitive elections. President Daniel Toroitich Arap Moi was confident in his prediction that that the reintroduction of multiparty system would result into tribal violence that would destroy the country. Indeed, the return of multiparty politics coincided with the onset of ethnic violence in the Rift Valley, Western and Nyanza provinces. These regions which were known as `white highlands` during the British colonial rule are Kenya's most fertile farmland (Human Rights Watch, 1993; Kimenyi & Ndung'u, 2005; Nyukuri, 1997). Although initially the violence was portrayed as a long-standing conflict over land or a response by ethnically diverse communities to the election campaigns, the clashes turned Moi's ethnic group, the Kalenjin against the Kikuyu, Luhya, and Luo communities. It was evident that the violence was being coordinated.

Divisive ethnic comments portraying the Kikuyu as having grabbed Kalenjin ancestral land guaranteed support for KANU by the Kalenjin. The Moi government and his Kalenjin community benefitted economically and politically from the violence even after the elections. The violence was used to reward and empower the Kalenjin by allowing them to occupy fertile land previously owned by other ethnic groups. On the other hand, it destabilized areas where the opposition would have



gotten support and punished communities in the opposition. The transformation of the Rift Valley province into Kalenjin land owning area as other ethnic groups abandoned or sold their farms had substantial political consequences. Since the Rift Valley has the largest number of seats in parliament the KANU government was making long term political gains for future elections by ensuring Kalenjin political supremacy<sup>2</sup>.

In September 1992, a parliamentary committee set up to investigate the ethnic clashes confirmed that senior government officials were involved in training and arming the “Kalenjin warriors” to attack and drive away members of other ethnic communities (Kiliku Commission, 1992). It was hoped that the violence would end after the re-election of Moi however it continued throughout 1993. The attacks were characterized by hundreds of young Kalenjin men with traditional bows and arrows attacking farms owned by the Kikuyu, Luhya and Luo; communities belonging to the opposition parties. They warriors would steal, kill and burn property. There were retaliatory attacks against the Kalenjin though these were less organized and a way for the affected communities to defend themselves. This escalated the cycle of violence leading to hatred and suspicion among communities that had previously coexisted peacefully for many years.

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<sup>2</sup> The Rift Valley region had 44 out of 188 parliamentary seats. The president had the power to nominate 12 members. Evicting the ethnic groups supporting the opposition would guarantee KANU 30% of the parliament seats before the voting began (Kimenyi & Ndung’u, 2005).

The affected areas were inhabitable. The attacks prevented the owners from returning to their land forcing them to live in overpopulated, unhygienic camps without proper shelter or food. Many of those who kept their land reported that it was being inhabited by the attackers or they were offered sums below the market value for the sale of their land (Human Rights Watch, 1993). The government's response to the attacks was no action towards the attackers but hostility against those who sought to help the victims. The victims reported that members of the police force and army stood by while the attacks took place. Local government officials dispersed refugee camps while harassing church officials and other relief organizations. The government claimed to have distributed \$125,000 or Ksh. 10 million however none of it reached the beneficiaries.

In addition, the violence coincided with calls by senior government officials from the Kalenjin community for the creation of a federal (majimbo)<sup>3</sup> system along ethnic lines. The supporters of the federal system called for the expulsion of all other ethnic groups from land owned by the Kalenjin, Maasai, Turkana and Samburu before the colonial period. These divisive comments were ignored by the government while similar statements by the opposition leaders were followed by their arrest and detention (Akiwumi Commission of Inquiry, 1999; Human Rights Watch, 1993).

## **1.6. CONSEQUENCES OF CONFLICTS**

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<sup>3</sup> Majimbo is a Swahili word for regions and is commonly used to refer to devolution of power to the country's regions. It was introduced by the British colonialists who preferred to retain an autonomous ethnically -based system of governance over the country's eight regions (Oyugi, 1997).

Conflicts have very high economic and social costs that can persist for years even after their end. Survivors of violent attacks not only suffer injuries and lose their property but may also be displaced from their homes, lose their source of livelihood or be unable to attend school, all of which may negatively affect their future earnings and productivity. The displacements, injuries, destruction of property and loss of income during conflict that disrupts schooling can contribute to permanent decline in productivity and income.

Abadie & Gardeazabal 2003 find that terrorist attacks in the Basque country in the late 1960s reduced GDP growth by 10 percentage points. Hoeffler & Reynal-Querol 2003 examine the economic and human costs of civil war between 1960-1999 and find that the consequences of war are borne by the civilians. They show that a five-year civil war reduces GDP growth by more than 2%. In addition, long after the war end, human costs are higher due to destruction of health facilities and displacements. Collier 1999 finds similar results; a 2.2% decline in GDP growth during civil wars which is attributed to a reduction to and loss of capital

In Kenya, ethnic violence experienced in 1992 led to the loss of more than 1,500 lives and a displacement of more than 300,000. The consequences had lasting effects that changed political and economic climate of the country for the subsequent years (Human Rights Watch, 1993). The violence disrupted voter registration and voting among the ethnic groups that supported the opposition. It contributed to the disruption of children's education following the displacement of families, financial constraints as parents lost their source of livelihood, burning and looting of

schools and fear of abuse especially for the girls. In addition, students who lost their parents were forced to drop out of school and become bread winners (Nyukuri, 1997). With over 50% of Kenya's population below 15 years, Africa Watch reported that children were the most affected with their numbers in camps for displaced persons' double that of adults. Due to the poor living conditions, many had signs of infectious diseases and malnutrition.

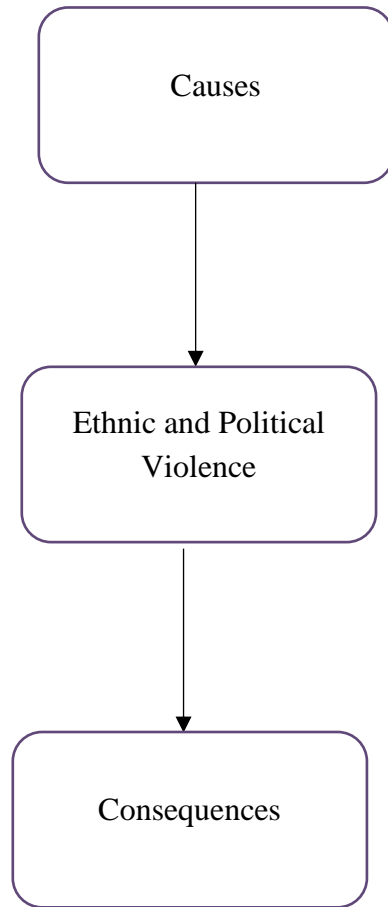
The UN Disaster Management Team visited the Rift Valley region and reported that the displaced persons had lived in poor conditions for more than a year with limited supply of food, poor shelter, lack of schooling opportunities for the children and insufficient supply of basic health services (Human Rights Watch, 1993). The Commission of Inquiry into Post-election violence commonly referred to as the Waki Commission reported that between 1992 and 1996 the number of street children increased by 300% many of whom were due to displacement from ethnic violence. Consequently, the displaced youth from Rift valley who dropped out of school joined the most violent criminal gang (Mungiki) which has for many years terrorized businesses and the public transport sector (Dialogue Africa Foundation, 2009).

Macro level studies show that countries recover rapidly after wars and return to their steady states within 20-30years (Roland, 2014). Hiroshima and Nagasaki took 20-30 years after the nuclear bombing to recover their populations to the projected levels they would have reached in the absence of the war. Similar results were reported in Vietnam after the U.S bombing. However, an increasing body of microeconomics literature points to the long term negative effects of conflicts on human

capital accumulation particularly in Africa (Akresh, Caruso, & Thirumurthy, 2014; Akresh & de Walque, 2008; Akresh & Osili, 2011; Alderman, Hoddinott, & Kinsey, 2006; Bundervoet, Verwimp, & Akresh, 2009). These studies identify the disruption of health and schooling for the affected children and illustrate the long term impact of conflict on human capital accumulation. Blattman & Miguel (2010) note that current literature is only a small fraction of the evidence on the impact of conflicts on the economy and society. They add that there is need for additional studies on the impact of wars and conflicts on the education, health and employment outcomes of perpetrators, civilians and the displaced persons.

The second essay contributes to these microeconomics literatures by investigating the impact of *in utero* exposure to violence on birth weight of children. The findings of our analysis suggest that prenatal exposure to the violence increased the probabilities of very small size children and premature birth. In addition, we find that violence-related fatalities in the first trimester of pregnancy are associated with increased the probabilities of very small size children at birth and premature birth. The final chapter concludes with policy recommendations and highlights areas for further research.

The relationship between causes and consequences of ethnic violence are illustrated in Figure 1.2 below.



**Figure 1. 2: Conceptual framework for the causes and consequences of conflict**

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## **CHAPTER 2: DID NEW ELECTORAL RULE TRIGGER THE 1992 VIOLENCE IN KENYA?**

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### **2.1. INTRODUCTION**

Political violence which comprises of genocides, political mass murders and government repression through purges; that is removal by jailing, displacement or assassination of opponents is very destructive and a hindrance to an accountable and legitimate government. This is because power achieved through violence yields the assumption that the government`s role is to rule and not to serve the interests of the citizens (Collier, 2009). Since WWII, there have been close to 50 genocides and political murders that resulted into the deaths of 22 million civilians (Harff, 2003). These attacks are usually sponsored or instigated by the political elite who target groups deemed as a threat to their political dominance. The economic and human capital costs are enormous and persist long after the conflicts end. Consequently, there is need to investigate the mechanisms that enable the elites to carry them out for prevention of recurrence.

Political scientists, sociologists and economists have identified causes of political violence. Elbadawi and Sambanis (2004) argue that failed political leadership, low incomes and unemployment can explain political violence in Africa. Muller & Weede (1990) performed a cross-national analysis on determinants of political violence in the mid-1970s. They found that violence was higher where regimes were oppressive and had negative sanctions. Burt (2007) notes that Peru`s political violence in the 1980s and 1990s was perpetrated by both the state and rebel groups and fueled by weak institutions and insecurity. On the other hand, political violence in Argentina, Chile, Uruguay and other Latin American countries was due to oppressive military regimes that violated

the rights of the citizens and opponents to force them into silence and submission. Muller (1985) estimated a cross-national analysis across two decades, 1958-67 and 1968-77 and found that inequality and repression were responsible for political violence. Climatic and geographical conditions such as absence of rainfall in less developed agricultural societies free up resources and labour thus creating an environment for conflict while sparsely populated regions which are inaccessible and mountainous terrains act as hideouts for rebels (Blattman & Miguel, 2010; Salehyan & Hendrix, 2014).

Unequal distribution of national resources such as land and electoral malpractices which result into rigging of elections have triggered political violence as citizens seek for justice. There are however not been studies focusing on electoral laws introduced as part of the democratization process. This study therefore contributes to this literature by analyzing the impact of introduction of election rule on pre-election violence that rocked Kenya in the early 1990s. Subsequent electoral related conflicts have been after elections and are protests for disputed presidential election results.

In the early 1990s, Western democratic system of governance was promoted as a solution to authoritarianism and inspired pressure for political change. Consequently, African military or single party regimes became targets of Europe, America, World Bank and IMF (Oyugi, 1997). The political reforms begun in French speaking West Africa. In February 1990, reformers legalized political parties and called for open elections. These reforms spread to neighbouring countries, then to the rest of Sub Saharan countries (Bates, 2010). Elections were therefore introduced as the most important indicator of democracy. A proper democracy can however function if there are rules of

conduct and has checks and balances to limit the powers of the government (Collier, 2009). These controls were lacking in most developing countries and what followed were elections whose conduct was marred by efforts by the political elite to sabotage them.

The previously authoritarian governments had a good reason to fear political competition and possible loss of power. They had used political power to acquire private wealth, extort bribes from the citizens, appoint their families and friends to powerful government positions and disproportionately distribute public goods to their ethnic groups. These actions rendered them unpopular and they were likely to lose if free and fair elections were to materialize. Consequently, as calls for democracy intensified so did efforts to repress the supporters. In Togo, Democratic Republic of Congo, Zimbabwe and Rwanda military power was used to intimidate and suppresses supporters of democracy (Bates, 2010). In Kenya, opposition leaders were jailed and tortured, police broke up rallies. The adoption of a multi-party system finally materialized when the aid donors realized that President Moi could be pressurized. In November 1991, foreign aid was suspended by the World Bank and international donors pending economic and human rights reforms<sup>4</sup>. In

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<sup>4</sup> The government was dependent on donor funding and the donor community threatened to cancel the aid package and budgetary support to the government unless reforms were carried out.

December 1991, President Moi's KANU government responded by unwillingly repealing section 2A of the constitution thus legalizing the formation and registration of other political parties<sup>5</sup>.

The advent of multi parties challenged power retention by the elites as they would have to compete for political positions. The elite therefore responded by introducing new election rules to purge supporters of democracy thus guarantee their victory. Democracy is therefore unlikely to produce the desired effects of transparency, credibility and accountability when the authority to make and implement democratic rules is vested on those already in power; they will use their influence to make rules to justify and cement their power. Democracy in this case works only to legalize the pre-existing power structures that were obtained through undemocratic processes.

Democracy reduces the risk of political violence because it promotes accountability and legitimacy (Collier, 2009). Democratic governments are accountable to their citizens and have an obligation to meet their demands if they wish to be re-elected. In such a system where the governments performance is good, the people are less likely to demonstrate against the leadership. Elections are the means for legitimizing a government. A legitimate government therefore acquires rights which entitles it to implement rules and face opposition. In a democracy, the citizens agree to the rules hence unlikely to protest. Democracy in poor countries does not however promote legitimacy and

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<sup>5</sup> Constitutional amendments were carried out by a Parliament dominated by members of one political party to their advantage. There were no attempts to include the opinions of other Kenyans in making changes to the constitution.

accountability. Limited media scrutiny implies that the voters have limited information on the performance of the politicians therefore the leaders are not held accountable for their actions. Most poor countries are also multi ethnic and hence voting is along ethnic lines. Votes are often not determined by performance but by ethnicity.

The onset of violence in Kenya is consistent with research which shows that semi-democracies are prone to violence than autocracies or established democracies (Collier, 2009; Sambanis, 2001). Collier (2009) found that while democracy reduced the risk of political violence in middle-income and developed countries, it had an opposite impact in poorer countries; it is accompanied by violence. This is because in single party states, the political elite have control over power and resources. However, introduction of democracy which supports fairness and transparency reduces their opportunities to control resources. The political elite are therefore willing to resort to violence to maintain their powerful positions. Moi had previously maintained peace through repression, fear, harassment and control of his political opponents but multi-party politics would end the status enjoyed by his political party (Human Rights Watch, 1993; Oyugi, 1997, Kimenyi & Ndung'u, 2005). The violence was meant to punish the Kikuyu, Luo and Luhya for supporting the opposition. The elites capitalized on unresolved land issues and mistrusts to incite the displacement of certain ethnic group from their homes for political and economic gains.

To maintain power in a competitive democracy, the President who was from the Kalenjin minority ethnic group and his party amended the constitution to state that the winning presidential candidate should also get at least 25% of the votes cast in 5 out of the 8 provinces of Kenya. The rule was used

to make sure that the Kikuyu in Rift Valley if supported by the Luhya and Luo who were also in the opposition could not meet this requirement. This inspired violence to displace the Kikuyu, Luhya and Luo that lived in the Rift Valley province so that they could not vote for the opposition parties supporting multi-party democracy that would end Moi's rule. Although the causes of the election violence in Kenya had been hypothesized by other studies, there is no study providing the empirical evidence that the introduction of the election rule was the likely cause of the 1992 pre-election violence in Kenya. This is the first contribution of this study.

The second contribution of this study is to construct the dataset at the sub-location<sup>6</sup> level of the number of death and displacements of people. This is because there is no official data on the death and displaced population due to the 1992 pre-election violence. Even when there were official data, it is critically important to obtain them from the other sources since the official data tend not to be accurate when the political violence was instigated by the government.

To test this hypothesis, we conduct analyses at the sub-location level. If the introduction of the election rule triggered the pre-election violence in Rift-Valley province, it would be more effective for the attacks to be targeted to the sublocations with higher population of the opposition ethnic groups. In other words, the more populated with the opposition ethnic groups a location is, the more likely it is to be attacked. The numbers of deaths and displaced population are used as the indicator of attacks experienced in communities. As the indicator of targeted communities, we use the 1989

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<sup>6</sup> Sublocation is the lowest administrative unit in Kenya which constitutes about 2 to 5 constituencies.

Kenya Population and Housing Census data to construct the populations at sub-location level separately for the opposition and supporter ethnic groups.

The results show that deaths and displacements in Rift Valley were against the ethnic groups in Rift Valley supporting the opposition while deaths and displacements in some parts Western and Nyanza provinces were retaliation attacks against the Kalenjin living in those areas. We use GIS data to show that the most displacements were in sublocations with high populations of the targeted ethnic groups. These were former white highlands bought by the government to resettle landless Kenyans.

The analysis reveals the purpose of the attacks which was to disrupt voter registration thus preventing those opposing the ruling elites from voting. The number of displacements is 30 times higher than the deaths which suggests that the violence could have intimidated the Kikuyu and other ethnic groups supporting the opposition to move to other areas where they could not register to vote.

The empirical studies on violence mostly analyze determinants of two sided conflicts such as civil wars (Blattman & Miguel, 2010; Collier, 2009) and less attention has been paid on one-sided conflicts such as the Kenya's electoral violence. There are many studies focusing on conflicts and their impact on economic development (Abadie & Gardeazabal, 2003; Akresh & de Walque, 2008; Bundervoet et al., 2009; Chamarbagwala & Morán, 2011; Leon, 2012). Other studies identify factors that correlate to conflict, only a few have been able to identify the causal link. We contribute to this literature by clarifying the incentive for political violence. We provide evidence to show that the political elite started the violence to remain in power.



The rest of the paper is organized as follows: Section 2 provides background information on the 1992 ethnic and historical relations between ethnic groups, section 3 presents the data, section 4 explains the empirical strategy and the model. Section 5 discusses the results while section 6 concludes and provides policy recommendations.

## **2.2. BACKGROUND**

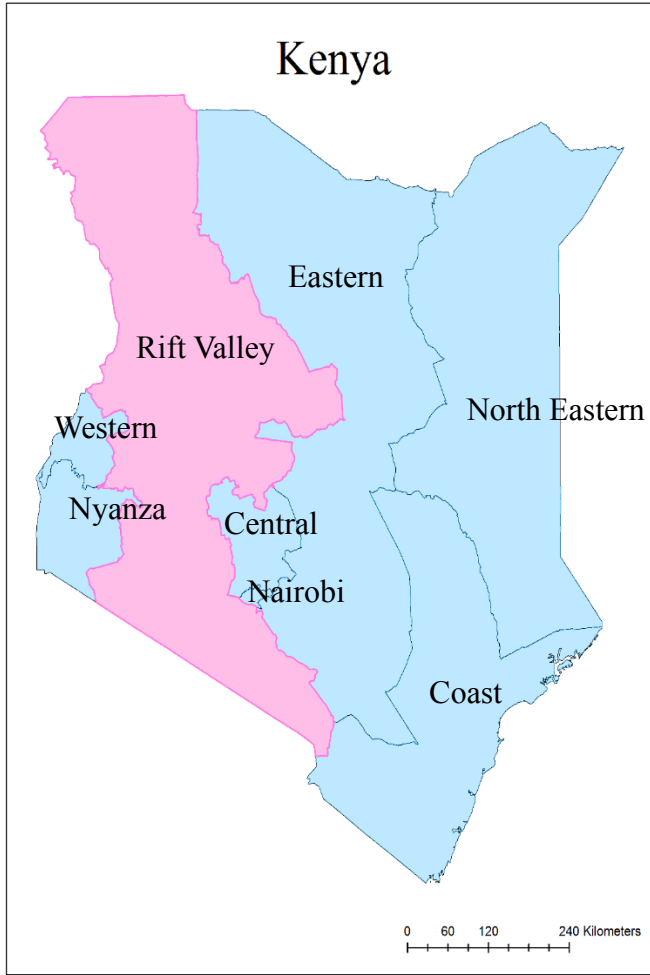
This section is a brief historical background of the source of ethnic tensions in Kenya, political leadership during the introduction of multi-party democracy, description of the violence and the government's involvement in the violence. Kenya is ethnically diverse with more than forty different ethnic groups with ancestral land in different regions of the country.<sup>7</sup> The map below shows the eight provincial regions created during the colonial period.

The most ethnically mixed districts are in Rift valley province which was the epicenter of the violence. The Kikuyu, who are farmers, were forcefully moved from Central region to provide

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<sup>7</sup> The Luo are mainly based in Nyanza though they share with the Kisii who have their own district, Kikuyu in central, the Kamba, Meru and Embu share Eastern region although each ethnic group has its own districts. The Luhya inhabit the Western region, the Somali North Eastern, Mijikenda in the Coast region while the Rift Valley is dominated by the Kalenjin but is also home to the Turkana, Maasai, Samburu and some Kikuyu who migrated to the region in the 1920s.

sharecropper labour for settler farmers in agricultural rich Rift Valley region. The Luo and Luhya also moved to Rift Valley in search of employment. The Kikuyu embraced capitalism and took advantage of opportunities created after independence. They remained in Rift Valley, bought land and settled permanently (Kimenyi & Ndung'u, 2005). These farms were however a source of conflicts between the landless indigenous persons and new owners. The Maasai and Kalenjin whose traditional land had been alienated did not like that members of other tribes had settled on their ancestral land. They lived in poverty while the new owners occupied the most fertile land thus became wealthy. There were also conflicting interests of the tribes. The Kalenjin and Maasai are pastoralists hence value land for grazing while the Kikuyu treasure it for farming.



**Figure 2. 1: Map of Kenya**

### **2.2.1. Political leadership at introduction of multi-party democracy**

Daniel Moi who was from the minority Kalenjin group was appointed the Vice-President in 1967 and took over the presidency after Kenyatta's death in 1978<sup>8</sup>. He soon began preparing for election by creating an ethnic support base thus consolidate support for subsequent elections. Consequently, Kalenjin as an ethnic category was first introduced in the 1979 census<sup>9</sup>. He followed the leadership style of Kenyatta and promoted the interests of his Kalenjin tribe over others<sup>10</sup>. His leadership was characterized by political killings, detention of opponents and lack of freedom of speech and association. Most senior positions were held by Kalenjin elite and development projects prioritized Kalenjin areas.

The World Bank and other bilateral donors suspended foreign aid in November 1991 to pressurize Moi to adopt political and economic reforms. This is because the levels of human rights violations, economic corruption and political nepotism were high. These events reinforced by the massive

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<sup>8</sup> To reduce the chances of tribal opposition, Jomo Kenyatta (first president of Kenya) occasionally appointed members of other tribes to his government although he heavily depended on his fellow Kikuyu. It was on this premise that he appointed Moi, a Kalenjin as his Vice -President.

<sup>9</sup> The Kalenjin consists of 10 subtribes that share similar cultural and linguistic characteristics.

<sup>10</sup> Kenyatta encouraged foreign investment which grew the economy however most wealth benefitted his family and friends. Development projects prioritized the Central province thus causing disparities in economic development across the regions. Consequently, the Kikuyu which is the largest ethnic group dominated politically and economically.

rigging of the 1988 elections had increased domestic pressure for political change. (Human Rights Watch, 1993; Kimenyi & Ndung'u, 2005; Oyugi, 1997). Moi and his government gave into the demands and reluctantly changed the constitution in December 1991 to allow for multiparty democracy and registration of candidates from other political parties.

The regime also accepted a five-year two term presidency. Moi like most dictators agreed to these changes because he was confident that he would make constitutional changes to extend his term. The power to conduct elections was vested on the Election Commission. All members of the commission were appointed by the president without any consultation with the opposition thus undermining its credibility. Voter registration was held between June-July 1992, which was a very short time and marred by irregularities especially in opposition strongholds. In addition, nomination of candidates was between November 3 -November 9, 1992. This was shorter than the 21 days allowed by law. (Human Rights Watch, 1993; Common Wealth Observer Group, 1993).

### **2.2.2. 1992 Violence**

As previously indicated, conflicts in Kenya are a recent occurrence. The Uppsala Conflict Data Program (UCDP) which is the world's largest source of conflict data for more than forty years reports only a few incidences of conflict (University of Uppsala, 2017). These were on the Kenya-Uganda and Kenya-Ethiopia borders due to disputes over grazing land and livestock theft <sup>11</sup>. Harff

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<sup>11</sup> These borders are sparsely populated. The reported cases were in 1989-1991

(2003) compiled a list of genocides and politicides from 1955 to 2001 and although many of Kenya's neighbouring countries had prolonged episodes of civil war, there were no spillovers to Kenya. A similar analysis of civil wars from 1944-1999 by Sambanis (2002) reveals that Kenya was peaceful prior to 1991. Kenya was however not an isolated case. As shown in Figure 2.2, countries that did not have previous incidences of civil war (CAR, Republic of Congo, Djibouti, Mali, Rwanda, and Sierra Leone) all experienced violence in the early 1990s when multiparty democracy was introduced. Like in Kenya, the violence was efforts by authoritarian regimes to retain power by undermining supporters of democracy.



The ethnic violence changed the political environment of Kenya. The incidences were sporadic and targeted specific ethnic groups. Starting from September 1991, organized groups of people referring to themselves as “Kalenjin warriors” attacked Kikuyu, Luo and Luhya in the Rift valley region. They targeted farms occupied by these groups destroyed their homes, drove away occupants, looted property and killed indiscriminately (Human Rights Watch, 1993; Kimenyi & Ndung’u, 2005).<sup>12</sup> Human Rights Watch and the Akiwumi Commission reports state that the attackers were armed traditional arrow arrows and machetes and often carried out the attacks at night and if during the day the they would use clay masks to hide their identity. In addition, the attackers were paid USD 12.50-25 for killing a person and USD 125 for burning a permanent house.

Human Rights Watch estimates the deaths to be around 1500 and displacements over 300,000<sup>13</sup>. Government figures were however much lower as they tried to downplay the magnitude of the violence. There were retaliatory attacks against the Kalenjin in Western and Nyanza provinces. They were however not organized but opportunistic and a move by the targeted communities to defend

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<sup>12</sup> The targeted farms were settlement schemes established by the government at independence landless Kenyans.

<sup>13</sup> The number of deaths is much lower than the displacements because the purpose of the pre-election violence was to change the political demography thus predetermine the outcome of the election. A comparison with civil wars which do not have similar motives show the number of displacements and deaths to be both high. (See Harff, 2003 for a list of Genocides and Politicides from 1955 to 2001).



themselves. In addition to deaths and displacements, they burnt forests which were hiding places for the Kalenjin warriors.

### **2.2.3. Government Involvement in the violence**

The government through the provincial administration and political leaders instigated and supported the violence. The provincial administration was a system of governance inherited from the colonial government. Officers were at the provincial, district, division, location and sublocations with great power, authority and influence. They were responsible for recruitment, registration and organization of KANU elections, controlling and implementation of government policies, issue of permits for public meetings, conduct general elections, were the government's main public relations officers and they were the heads of security committees. This gave them the authority to issue orders to police officers (Akiwumi Commission of Inquiry, 1999).

The provincial administration took several actions to sustain the dominance of the Moi government. There were reports of government helicopters and vehicles being used to supply weapons to the attackers, police had prior knowledge of the attacks but they did not prevent them, failure to investigate allegations against politicians inciting the violence, soldiers were fighting alongside the warriors, senior government officials trained Kalenjin warriors, inaction towards the attackers and hostility to those who helped the victims. Politicians held several political rallies where they urged the Kalenjin to protect the government at all costs and get rid of "foreigners" who had occupied their

land. They also financed the attacks and banned ethnic groups not native to Rift Valley from going into the region although the constitution of Kenya accords the citizens freedom of movement.

The clashes were a well thought out political move that helped KANU to gain 18 unopposed parliamentary seats in Rift Valley before the elections were held. The driving out of other ethnic groups from Rift Valley meant that the Kalenjin politicians did not have any competition. A few leaders in Rift Valley who warned the perpetrators of the violence on the short- and long-term consequences of their actions were publicly humiliated or attacked in public fora. This was meant to silence detractors of Kalenjin from finally reclaiming their ancestral land. Finally, ethnic clashes continued after the 1992 general elections. The perpetrators ensured that the displaced persons did not return to areas from where they were evicted by occupying abandoned farms, making statements to scare them and bragged about being free despite the evidence for their criminal activities (Oucho, 2002).

### **2.3. CONCEPTUAL FRAMEWORK AND HYPOTHESIS**

We hypothesize that the introduction of new electoral law prior to the first democratic elections triggered the pre-election violence. Moi and the members of his government implemented an electoral rule requiring a successful presidential candidate to get twenty-five per cent of the votes cast in at least five out of Kenya's eight provinces. In multi ethnic societies like Kenya, voting is along ethnic lines and majority ethnic groups are likely to win. Only Moi who had the advantage of incumbency and a candidate from the largest ethnic group; Kikuyu could satisfy this condition. The

5<sup>th</sup> province for the ethnic majority would be the president's own and since Moi could only control the outcome in Rift Valley, violence was instigated against the Kikuyu, Luhya and Luo majority ethnic groups living in the region and were in favour of multi-party democracy. The objective was to displace them so that their population could be reduced below the twenty-five per cent requirement and if registered they would not be able to vote.

The explanations given for the violence as disputes over unresolved land ownership issues and ethnic competition for political leadership could not be substantiated. The attackers targeted only small farms with large populations and did not attempt to forcefully take large tracts of land owned by individuals and corporations. Land grievances due to displacements by colonialists were in other parts of the country however violence was reported in Rift Valley only<sup>14</sup>. In addition, ethnic groups had peacefully coexisted despite having their differences. We suggest that the violence may have been used as a strategy to displace communities not supporting the government.

The introduction of multiparty democracy had huge opportunity costs for the political elites. In Kenya and many Sub-Saharan African countries, political power is the means for controlling the economy. The ethnic group in leadership benefits the most and will take the necessary measures to maintain the status quo. A democratic system would introduce checks and balances which could

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<sup>14</sup> The Kikuyu lost highly productive land to the colonial farmers and were not compensated for it. At independence, the land was unfairly distributed to chiefs and the wealthy and not to the original owners. (Kanogo, 1987). This did not result into conflicts.

limit their chances for personal enrichment, rewarding followers and diminish the means for maintaining loyalty (Collier, 2009; Kimenyi & Ndung'u, 2005). In addition, media reports indicated that the opposition activists and lawyers were planning to prosecute officials of the Moi government for corruption and crimes against humanity (Kimenyi & Ndung'u, 2005). Faced with these challenges, the elites were determined use all possible strategies to remain in power and use elected offices to protect themselves from prosecution.

### **2.3.1. Ethnic Composition**

Table 2.1 on ethnic composition of Kenya shows that the Kalenjin are a minority and were at risk of losing power since the largest tribes were in the opposition. It is also important to note that the 1989 census results were released in March 1994. This is a very long time and critics argue that the government may have kept the population of the ethnic groups a secret for their own manipulation. Table 2.2 presents the results of the presidential elections and the predicted votes by regional ethnic composition. We combine the potential outcome for the 2 Kikuyu candidates who would not only have met the 25% requirement in 6 provinces but also won with the majority votes. The political elites, who were Kalenjin could control the outcome only in Rift Valley hence why they resulted to eviction of all ethnic groups from the opposition but residing in the region.

**Table 2. 1: Population of the largest tribes in Kenya**

No	Tribe	Total	Percentage of total
1.	Kikuyu	4,445,865	20.8
2.	Luhya	3,083,273	14.4
3.	Luo	2,653,932	12.4
4.	Kalenjin	2,458,123	11.5
5.	Kamba	2,448,302	11.4
6.	Kisii	1,318,409	6.2
7.	Meru	1,087,778	5.1
8.	Mijikenda	1,007,371	4.7
9.	Maasai	377,089	1.8
10.	Turkana	283,750	1.3
11.	Embu	256,623	1.2
12.	Taita	203,389	1.0

Source: Kenya Population Census, 1989

**Table 2. 2: Voting results by Ethnic Composition**

	Central	Coast	Eastern	N. Eastern	Nairobi	Nyanza	Rift Valley	Western	Total
Total Registered Voters	1,209,931	660,211	1,230,081	141,069	674,562	1,197,682	1,895,718	847,575	7,856,829
1992 Presidential Election Results(%)									
Moi (Kalenjin)	2.12	59.76	36.22	77.69	14.45	15.5	67.18	40.2	35.99
Matiba and Kibaki (Kikuyu)	95.33	21.1	59.82	14.64	62.02	8.1	26.3	41.08	44.89
Odinga (Luo)	1.04	14.86	1.72	7.09	19.87	75.07	5.75	17.32	17.23
Others	1.51	4.28	2.24	0.58	3.66	1.33	0.97	1.58	1.89
Predicted votes based on ethnic identities (%)									
Moi (Kalenjin)	0.054	54.37	34.74	97.3	14.63	6.83	64.27	46.44	34.9
Matiba and Kibaki (Kikuyu)	96.9	26.24	55.64	1.73	65.57	19.06	29.36	43.97	45.32
Odinga (Luo)	0.088	4.54	0.03	0.06	18.49	74.09	3.89	6.98	15.4
Others	2.958	14.85	9.59	0.91	1.31	0.02	2.48	2.61	4.37

Note 1: Actual and predicted votes for the 2 Kikuyu presidential candidates are combined

Note 2: Election results. source: Kenya Election Database, 2017

Note 3: Predicted votes based on ethnic identities. Source: Kenya Population Census, 1989<sup>15</sup>

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<sup>15</sup> The 1989 Census was on the midnight of 24<sup>th</sup>/25<sup>th</sup> August by the Central Bureau of Statistics (Central Bureau of Statistics, 1994)

The results confirm our assumption that voting would proceed along ethnic lines. For the 4 major presidential candidates (Moi, Matiba, Kibaki and Odinga), there is a strong correlation between the candidates' ethnic origin and the number of votes garnered in their ethnic region versus other regions<sup>16</sup>. The structure of regional support was as follows. For the Kikuyu candidates, the 2 regions they received more than 40% were predominantly Kikuyu. 41% in Western was attributed to one of the candidate's having a running mate who was from the Luhya tribe while 60% of the votes in Eastern province were from the Meru, Embu and Kamba communities who belong to the Gikuyu, Embu, Meru, Kamba (GEMA Association) and that one of candidates (Matiba) was the association's chosen flag bearer.

One would wonder why violence did not take place in Eastern province since it would also have served as the 5<sup>th</sup> region. There would not have been any motive, justification or support for violence. The Meru, Kamba, Kikuyu and Embu have always supported each other economically and politically due to their common historical roots and cultural values. In addition, violence in Rift Valley would have ensured that even if the Kikuyu won in Eastern, they would not have received majority of the votes. The Luo candidate received 25% of the votes only in his home region of Nyanza although his party was the only one that received at least a parliamentary seat from all the regions. He was 81 years old and considered too old for the demanding job.

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<sup>16</sup> The Kikuyu are native to Central, Kalenjin to Rift Valley and Luo to Nyanza.

For the Victor, the incumbent Kalenjin president, several factors worked in his favour: Division in the original opposition party FORD increased his chances at the polls<sup>17</sup>. He took advantage of his position as the president and made offers for Vice Presidential appointments if he won to the Luhya (Western), Kisii (Nyanza), Meru (Eastern), Kamba (Eastern) and possibly others<sup>18</sup>. This assured him of votes from these communities. He used the Provincial Administration to ensure that his opponents were denied licenses to hold rallies in some areas for alleged security reasons especially in Coast and North -Eastern regions. There was disruption of voter registration and intimidation directed towards the supporters of democracy. Finally, allegations of voter rigging were reported however they could not be verified.

## **2.4. DATA**

To identify the impact of election rule on violence, we create a dataset on the number of deaths and displacements by month and year from several sources because official government figures do not exist.

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<sup>17</sup> Kenneth Matiba was determined to lead the party although he was not central to its formation and did not know much about it (Oucho, 2002) . His late entry into the presidential race divided the Kikuyu votes.

<sup>18</sup> Vice Presidential positions were promised to Mudavadi (Luhya), Nyachae (Kisii), M'Mukindia(Eastern), Kalonzo(Eastern)

The first source is the Uppsala Conflict Data Program (UCDP) which is the world's main provider of data on organized violence and the oldest ongoing data collection project for civil war, with a history of almost 40 years. The dataset contains information on the date, type of conflict, conflict name, source of data, geospatial data of the location where the event took place and number of deaths. UCDP does not however contain data on displacements. This was stored in an excel sheet.

The second source is the Human Rights Watch. Deaths and displacements were recorded in a report titled "Divide and Rule: State-Sponsored Ethnic Violence in Kenya" which was based on a visit to seven of the districts which were most affected. They interviewed both Kalenjin and non-Kalenjin victims who had fled to camps. They also interviewed lawyers, human rights activists, doctors, clergy, local government authorities and Members of Parliament from all political parties. I read the report several times and wrote the number of deaths and displacements by date, and location where it occurred. I stored this information on an excel sheet.

The third source is the Minorities At Risk (MAR) Project. MAR tracks 284 politically-active ethnic groups throughout the world since 1945. It is based at University of Maryland's Center for International Development and Conflict Management. The report on Kenya has a chronological list of political events since 1895. I identified deaths and displaced by location and date and saved on an excel document.

The fourth data source is the National Council of Churches of Kenya (NCCCK) report titled "The Cursed Arrow: The NCCCK Contemporary Report on the Politicised Land Clashes in Rift Valley,



Nyanza and Western Provinces” available from The Kenya National Archives in Nairobi. NCKK was the main relief agency providing shelter, food and medicine to the victims of the violence. It also from time to time released press statements that condemned the violent attacks and named the influential government officials directly involved in fanning tribal sentiments that lead to attacks. The report contains a chronology of events for deaths and displacements by date and location. This was also input into an excel sheet.

The fifth data source was newspaper articles from The Daily Nation which has the highest circulation in Kenya. I visited the newspaper’s library and printed out pages from October 1991 to December 1993 with stories on the violence. These incidences were recorded on an excel document.

The sixth source is the Report of the Parliamentary Select Committee appointed to investigate the root causes of ethnic clashes in Western and other parts of Kenya. It commenced work on 14<sup>th</sup> May 1992 and published the report on 4<sup>th</sup> September 1992. They received oral and written evidence from the public in the affected areas. The seventh source was the report of the Judicial Commission of Inquiry to inquire into the tribal clashes occurred intermittently in various parts of Kenya since 1991. The commission was appointed on 1<sup>st</sup> July 1998 and published the report on 13<sup>th</sup> July 1990. Altogether, 331 witnesses testified on oath before the commission and were cross-examined by the counsel assisting the Judicial Commission. Both reports were available from the library of the Kenya National Assembly in Nairobi.

The advantage of many data sources is that they can be counter checked for accuracy and provide a richer dataset since none of them was all inclusive. We identified 977 deaths from 79 events. 8 of those events did not however details on the number of victims. Human Rights Watch reports that some victims were attacked in the forest and therefore not accounted. Total displacements were 218, 714 people from 49 events however in 21 of the events the actual number of displaced persons was not reported. This was possibly because only displaced adults were counted, children were left out (Human Rights Watch, 1993; National Council of Churches of Kenya, 1992). In addition, victims living with relatives and friends were not registered.

Since displacement was the motivation for the violence, we use the 1989 Kenya Population and Housing Census Data with district level data on the population distribution of the targeted ethnic groups. We then use this data to calculate sub-location level ethnic distribution. The data on deaths and displacements was merged with the 3625 sublocations and exported to STATA for statistical analysis.

#### **2.4.1. DESCRIPTIVE STATISTICS**

##### **Population Distribution**

Table 2.3 shows that Kikuyu are the largest group. The last column with total population is generated from the district population density. This is because the census report provided the distribution of ethnic groups at the district level. Combined, the targeted ethnic groups (Kikuyu, Luo and Luhya) were three times more than the Kalenjin. Table 2.3 reveals that each of the four

largest groups are a majority in a region. This dominance gives them an advantage in the bargain for political power.

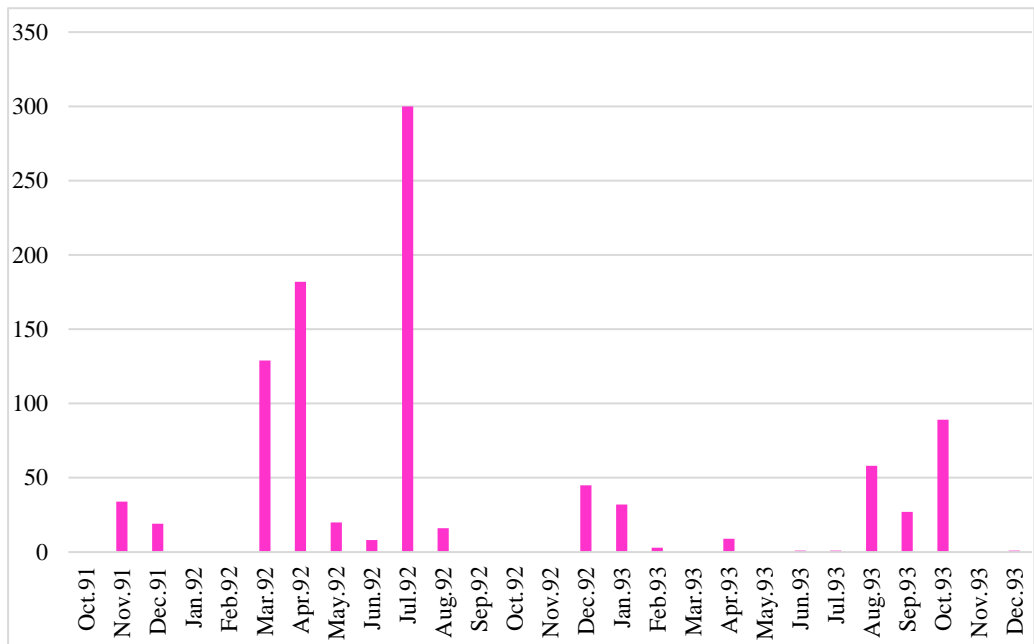
**Table 2. 3: Country wide estimated Population at the sublocation level (thou.)**

	Obs	Mean	Std.Dev.	Min	Max	Total
Population that was affected by the violence	3625	2.75	4.12	0	82.6	9,970
(Kikuyu)	3625	1.19	2.63	0	39.7	4,310
(Luo)	3625	0.72	1.88	0	33.8	2,617
(Luhya)	3625	0.84	2.24	0	24.5	3,043
Kalenjin	3625	0.67	1.78	0	20.0	2,439

Note: number of observations refers to the sub-locations in each region

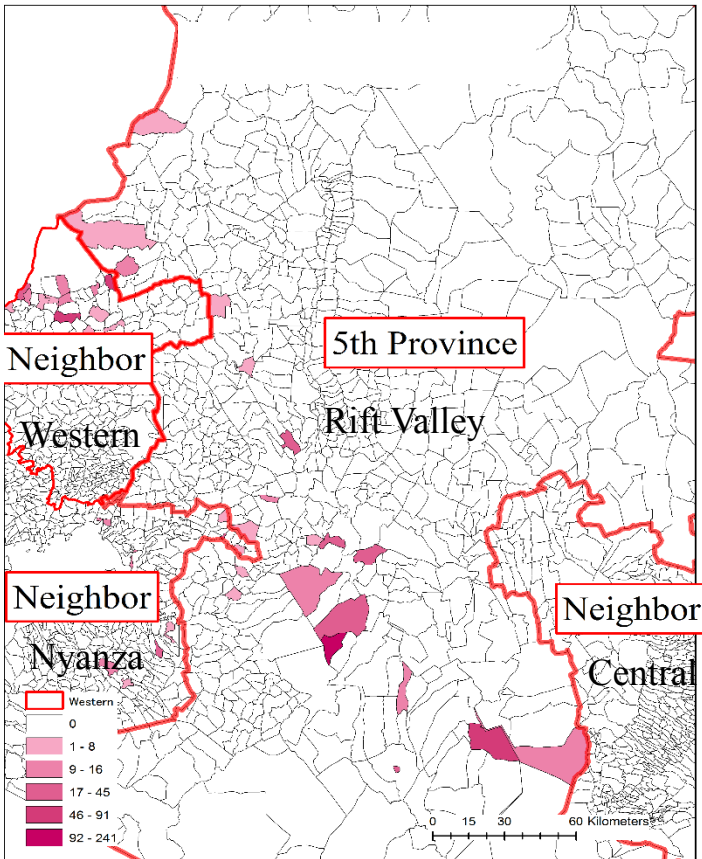
### **Deaths.**

Figure 2.3 shows that there were higher number of deaths reported between March-July 1992. This was possibly to displace the ethnic groups in the opposition before the voter registration in June-July 1992. The post -election violence attacks which were mainly in Rift Valley were to drive out the Kikuyu still living in Rift Valley and to ensure that those who were displaced did not return to the Rift Valley (Human Rights Watch, 1993; Kiliku Commission, 1992).

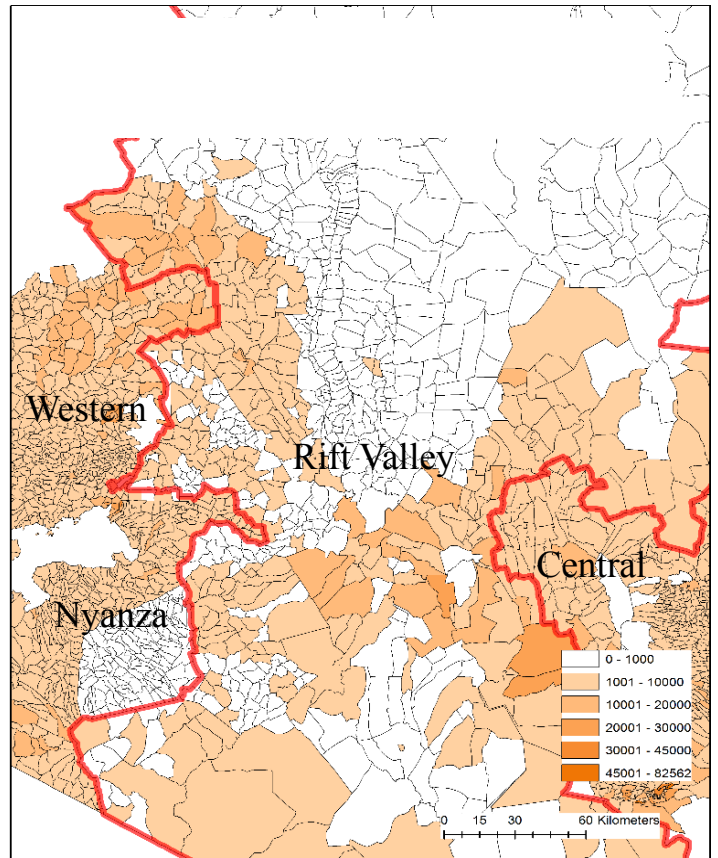


**Figure 2. 3:Graph of number of deaths**

Figures 2.4 and 2.5 are GIS maps of the sub- locations in Rift Valley, Western and Nyanza regions respectively. The number of deaths are presented clearly in Table 2.4. Areas of Bungoma district in Western province with violence were sub-districts occupied by the Sabaot, a sub-tribe of the Kalenjin and the Bukusu, a sub-tribe of the Luhya. Members of both ethnic groups presented evidence to the Parliamentary Committee. The Sabaot cited the clashes as the explosion of their long endurance and manipulation by the Bukusu politically and economically. They produced maps as evidence of gradual alteration of administrative boundaries to increase areas dominated by the Bukusu and allocation of development projects in their favour. The Bukusu cited the motive of the Sabaot to drive them out of sub-district to facilitate the creation of a Sabaot district.



**Figure 2. 5: Distribution of number of deaths**



**Figure 2. 4: Population of Kikuyu, Luo and Luhya**

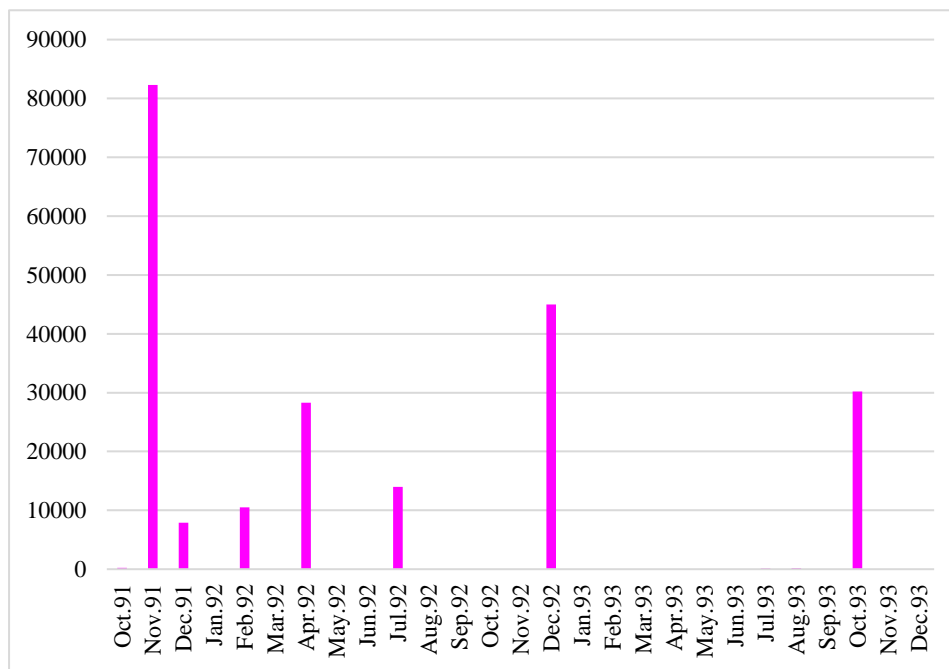
**Table 2. 4: Number of deaths**

Province	1991		1992												1993													
	Nov	Dec	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
<b>Rift Valley</b>																												
Nandi (Meteitei)	10																											
Uasin Gishu ( Kapsoya)														8														
Uasin Gishu ( Kipsombe)																3												
Uasin Gishu ( Bumt Forest)		4												5	4								5	27				
Nakuru (Molo)					10	20																1	6					
Nakuru (Olenguruone)						1	20		220																			
Nakuru (Kuresoi)																											10	
Nakuru (Keringeti)																											25	
Nakuru (Maai Mahiu)							13																					
Nakuru (Rongai)										3																		
Trans-Nzoia (Saboti)					1											14												
Trans-Nzoia (Endebess)		5																										
Kericho (Kapsuser)					1																							
Kericho (Kunyak)					6																							
Kericho (Londiani)					18																							
Kericho (Amamoi)					3																							
Narok (Enoosupukia)								3						30													58	
Narok (Township)														1					6								17	
Narok (Enengetia)																											12	
West Pokot ( Kachelba)																											2	
<b>Nyanza</b>																												
Nyamira (Bonyamatuta)	24																											
Nyamira (Kirwa)								5																				
Nyamira (Bokurati)																	3											
Kisumu (Kadianga East)					25																							
Kisumu (Upper Bwanda)					10																							
Kisumu (Songhor East)					1																							
Kisumu (Muhoroni East)					30																						1	
Kisumu (Kibuye)					12																							
Kisumu (Nyando)					6																							
Kisii (Kiango)					1																							
Kisii (Kisii Township)						11																						
<b>Western</b>																												
Bungoma (Kaptama)	1																											
Bungoma (Chebyuk)	1			5	10																							
Bungoma (Chelebei)	2																											
Bungoma (Kaptama)					60																							
Bungoma (Chwele)					2				60						14													
Bungoma (Cheskaki)					3																							
Bungoma (Chepkube)					14			10	10	8																		
Bungoma (Kaptateny)					11																							
Bungoma (Cheptais)					14																							
Bungoma (Kapsokwony)					15																							
Bungoma (Miendo)					4																							
Bungoma (Kimilli)					4																							
Bungoma (Ndivisi)														1														
Busia (Angorom)									10																			
Kakamega (Malava)	5																											

## Displacements

Figure 2.6 shows that displacements were high from November 1991-July 1992. They started in Meteitei farm in Nandi Division. The burning of houses belonging to non-Kalenjin begun on October 29 1991. This was after a failed attempt by the provincial administration to resolve conflicts between Kalenjin and non-Kalenjin members of the Meteitei Farmers Company. The 310 Kalenjin members claimed to be the rightful members and demanded that the 279 members comprising of

Kisii, Kikuyu, Luo and Luhya vacate the farm. These allegations were backed the area MP and Council chairman. Table 2.5 shows that by the end of November, more than 80,000 people had been displaced from Nandi alone, the highest throughout the violence period. Fearing further attacks, non-Kalenjin groups fled their homes and sought refuge at camps as violence spread to other parts of Rift Valley. The Kalenjin attackers spread to Owiro farm in Songhor location on the boarder of Kisumu and Rift valley. The farm had been home to about 4,000 Luo since 1970. The damage was so severe that when the Parliamentary committee visited on July 6 1992, they did not find any occupants. This is consistent with our hypothesis that the displacements were meant to disrupt voter registration and stop the opposition ethnic groups from voting on December 29, 1992. Displacements in October 1993 were to displace Kikuyu thus reward the Kalenjin with their land.



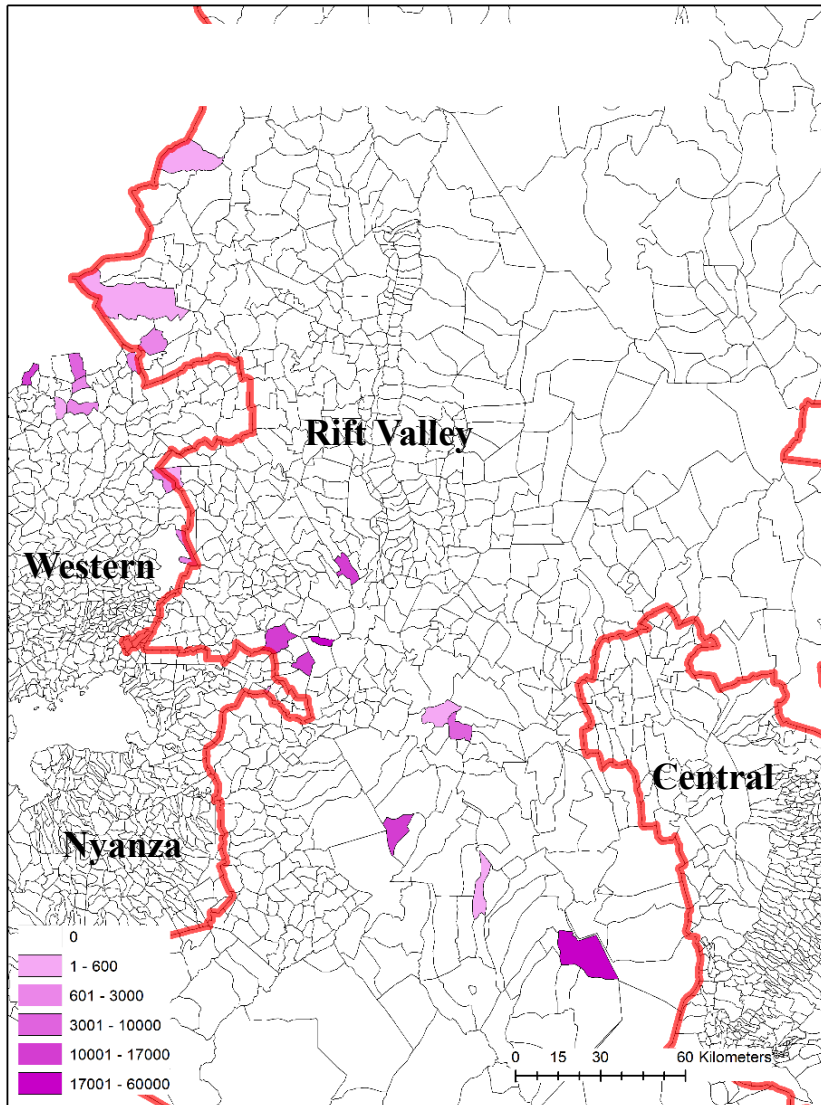
**Figure 2. 6: Graph of displacements**

**Table 2. 5: Number of displacements**

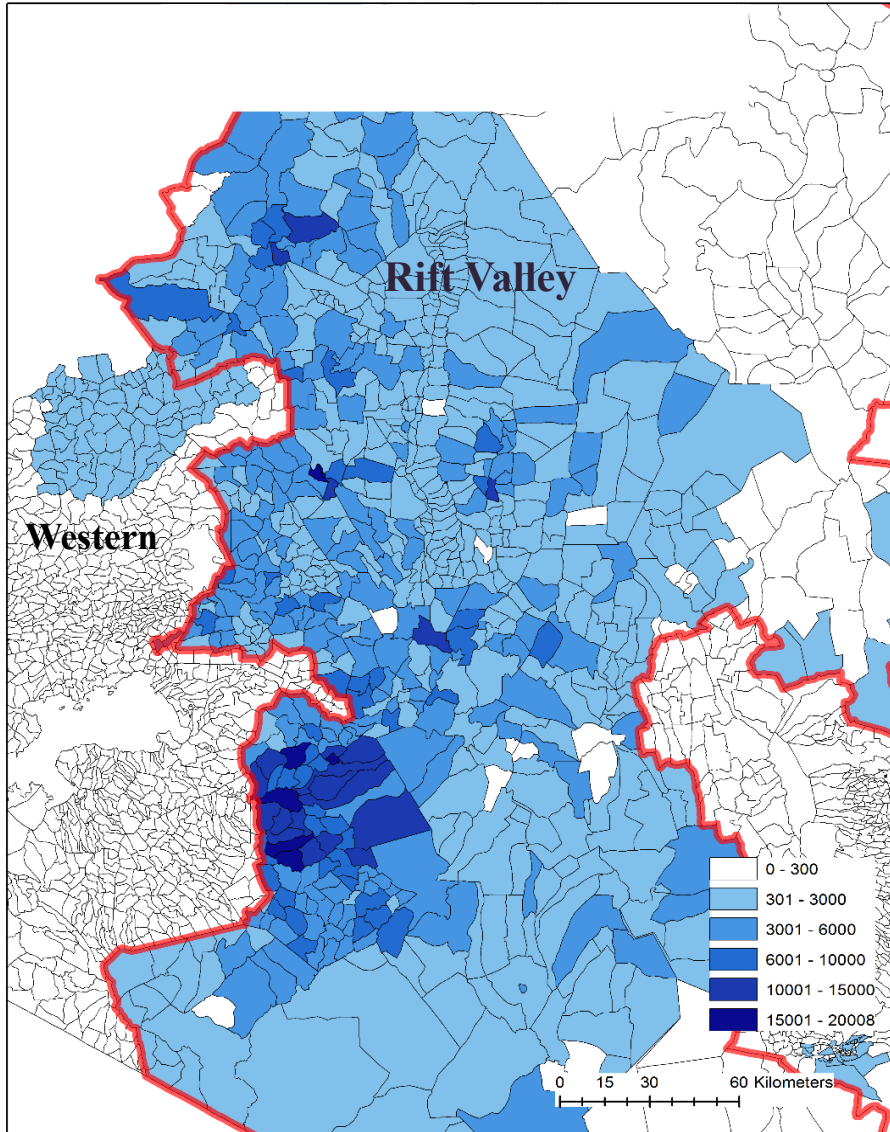
Province	1991			1992												1993											
	Oct	Nov	Dec	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Rift Valley</b>																											
Nandi (Metetei)	250	50000																									
Nandi (Soimining)		24																									
Nandi (Songhok)		15000																									
Nandi (Tindiret)		17000																									
Uasin Gishu ( Burnt Forest)			300												15000												
Nakuru (Molo)																						200					
Nakuru (Olenguruone)							16000																				
Nakuru (Elburgon)				500		6000																					
Trans-Nzoia (Saboti)			2000																								
Trans-Nzoia (Endebess)			600																								
Narok (Enoosupukia)															30000										30000		
Narok (Enengeta)																									10		
West Pokot ( Kacheliba)																									200		
<b>Nyanza</b>																											
Nyamira (Bonyamatuta)																											
Kisumu (Kadianga East)																											
Kisumu (Muhoroni East)		250					140																				
<b>Western</b>																											
Bungoma (Kaptama)																											
Bungoma (Chebyuk)				10000																							
Bungoma (Chelebei)																											
Bungoma (Kaptama)							2000																				
Bungoma (Chepkube)										14000																	
Bungoma (Kaptateny)							2000															100					
Bungoma (Chwele)							2000																				
Kakamega (Malava)			3000																								

Figure 2.7 shows that displacements were high in places with large populations of Kikuyu, Luo and Luhya. In Narok, the Maasai attacked the Kisii who due to their large population had over the years occupied part of Maasai land. It was presumed that all Kisii and Luo were supporters of multiparty elections hence a reason for their evacuation. Other attacks in Western province were possible retaliatory attacks against the Kalenjin(Oucho, 2002). Figure 2.8 shows that outside of Rift Valley, populations of the Kalenjin are in Western, specifically in Bungoma.





**Figure 2. 7: Displacements for Kikuyu, Luo and Luhya**



**Figure 2. 8: Population of Kalenjin**

## **2.5. EMPIRICAL STRATEGY**

Identification of the causal effects of electoral rule on violence requires that no other factors are correlated with the deaths and displacements. There were no other incidences of ethnic violence prior to the introduction of multi-party elections. Democracy is unlikely to work when the authority to establish and run democratic institutions is in the hands of individuals already in power as they would use their power make rules that legitimize their authority and ensure victory in subsequent elections. Subsequently, the introduction of the election rule triggered violence in the 5<sup>th</sup> province (Rift Valley) to stop the opposition groups from obtaining 25% of the votes.

We use cross section data and employ the Difference-in-differences strategy with satisfying common trend assumption. To elaborate, the deaths and displacements among the Kikuyu, Luhya and Luo living in Rift Valley province would not have occurred in the absence election rule. We also assume that once the fixed effects are controlled for, the outcome variable is not correlated with the error term. This assumption would be violated if there were other factors that caused the deaths and displacements of specific ethnic groups were reported only during the pre-election period when multi-party democracy was introduced and post-election up to 1993. Post-election attacks were meant to punish the Kikuyu, Luhya and Luo for voting against the government and reward the Kalenjin by allowing them to settle on land previously owned by the displaced groups.

### 2.5.1. Empirical Model

We estimate the impact of the forced democracy on triggering violence with the following regression.

$$y_i = \alpha + X_{ijt} + \beta X_{ijt} \times P_{jt} + \pi X_{ijt} \times N_{jt} + Z_{ijt} + \delta Z_{ijt} \times P_{jt} + \lambda Z_{ijt} \times N_{jt} + P_{jt} + N_{jt} + \varepsilon_{ijt}$$

Where  $y_i$  are the outcome variables deaths and displacements in sublocation  $i$ .  $X_{ijt}$  is the population of the ethnic groups (Kikuyu, Luo and Luhya) in the opposition parties and were attacked while  $Z_{ijt}$  is the population of Kalenjin who were the perpetrators of the violence in sublocation  $i$ .  $P_{jt}$  is the 5<sup>th</sup> province dummy (Rift Valley ) while  $N_{jt}$  is the neighboring provinces dummy (Western and Nyanza). Our explanatory variables of interest are  $\beta$  which is the coefficient of interaction between the affected populations (Kikuyu, Luhya and Luo) and the sub-location populations,  $\pi$  which is the coefficient of interaction of the affected population and neighboring provinces dummy,  $\delta$  which is the coefficient of the interaction between Kalenjin and the sub-location population and  $\lambda$  which is the coefficient of the interaction between Kalenjin and neighboring provinces dummy

## 2.6. RESULTS

Table 2.6 shows that the incidences of violence were in Rift Valley, Nyanza and Western. Specifically, affected populations in Rift Valley were associated with 0.3 deaths per 1000 members of population. The number of displacements were 27 people per 1000 population. This is approximately 90 times higher than the number of deaths. We can therefore confirm that in Rift Valley, violence with high displacement rates was intense in areas with high population of Kikuyu, Luo, and Luhya since the incentive was to ensure that Kikuyu did not get over 25% of votes. Displacements in neighbouring provinces of Western and Nyanza were in districts with high populations of both Kalenjin and Luhya. The Kalenjin casualties were 3 deaths per 1000 members of the populations. These were higher than those of targeted ethnic groups in Rift Valley because they were not planned but opportunistic in nature and were retaliatory attacks from the Luo and Luhya respectively.

**Table 2. 6: Causal effects of election rule on violence**

Outcome	# of Deaths		Deaths from violence (binary)		# of Displacement		Displacement from violence (binary)	
	Coef.	Robust Std. Err.	Coef.	Robust Std. Err.	Coef.	Robust Std. Err.	Coef.	Robust Std. Err.
5th province dummy × Population of opposition ethnic groups	0.336	0.189 *	0.009	0.003 ***	27.629	18.047 +	0.006	0.003 *
5th province dummy × Populatiuon of Moi's ethnic group	-2.956	1.590 *	-0.139	0.044 ***	-333.8	223.8 +	-0.074	0.033 **
Neighboring province dummy × Population of opposition ethnic groups	-0.028	0.024	-0.001	0.001 +	-4.376	3.185 +	-0.001	0.001
Neighboring province dummy × Populatiuon of Moi's ethnic group	2.951	1.588 *	0.143	0.044 ***	371.4	221.9 *	0.082	0.033 **
# of obs (sub-locations)	3621		3625		3611		3625	

Notes: Estimated by OLS. Model includes controls for Population of opposition ethnic groups, Population of Moi's ethnic group, 5th province dummy and neighbouring province dummy. \*\*\* significant at 1%; \*\*significant at 5%; \* significant at 10%; "+" significant at 20%

### 2.6.1. Discussion

One would conclude that the 1992 pre-election violence set the tone for subsequent elections in 1997, 2002 and 2007<sup>19</sup>. The 25% rule was not binding. In 1997 there was no coalition among the opposition ethnic groups hence the votes were divided. They were not a threat to Moi therefore there was no violence. In 2002 the top candidates were both Kikuyu. The majority ethnic groups voted for Kibaki and minority for Kenyatta since he was Moi's chosen candidate. Some minority groups (Western and Coast) voted for Kibaki because their political leaders were in the opposition coalition.

<sup>19</sup> The 2013 elections were guided by the new Constitution adopted in 2010

In addition, the 25% rule did not matter in 2002 since both Kibaki and Kenyatta got 25% in 5 provinces, the difference was in the total votes. But for getting more votes, Moi's side could have harassed people in Coast, Western, and North Eastern who previously voted for Moi but changed to Kibaki. However, there was political change and Kenyans were determined to end Moi rule so he would not have succeeded. As long as the number of candidates is limited to 3 (with one minor group), 25% rule is not so crucial. The strategy of winning presidential election was shifted to making strong coalition among the large ethnic groups to get more votes in total. Table 2.7 presents presidential election results for 1997, 2002 and 2007.

**Table 2. 7: 1997, 2002 and 2007 Election Results**

Candidate	Nairobi	Coast	N.Eastern	Eastern	Central	Rift Valley	Western	Nyanza	% Total vote
1997									
Daniel Moi(Kalenjin)	20.56	63.09	72.96	35.39	5.59	69.37	44.67	23.52	40.45
Mwai Kibaki(Kikuyu)	43.74	12.73	21.11	28.27	88.72	20.9	1.38	15.05	30.83
Odinga Odinga(Luo)	16.23	6.09	0.31	0.74	0.68	2.19	1.91	56.55	10.8
Michael Wamalwa(Luhya)	6.82	2.77	4.58	0.66	0.3	6.21	47.99	1.59	8.18
Charity Ngilu(Kamba)	10.84	9.34	0.45	33.37	2.95	0.69	0.48	1.66	7.89
2002									
Mwai Kibaki(Kikuyu)	76.49	62.78	28.09	72.54	68.96	43.24	76.31	61.39	62.21
Uhuru Kenyatta(Kikuyu)	20.78	33.36	67.06	26.15	30.26	53.26	21.54	7.6	31.31
Simeon Nyachae(Kisii)	2.4	3.21	4.56	0.77	0.44	3.13	1.37	29.75	5.89
2007									
Mwai Kibaki(Kikuyu)	47.7	33.12	50.26	50.36	97.05	33.47	32.21	16.89	46.38
Raila Odinga(Luo)	43.96	59.37	47.25	5.04	1.9	64.64	65.92	82.37	44.1
Kalonzo Musyoka(Kamba)	8.06	6.52	2.32	43.81	0.65	1.38	0.69	0.29	8.91

Source: Kenya Election Database, 2017

In 1997, each of the 5 largest ethnic groups had a presidential candidate therefore the opposition could not vote together against Moi. The Kikuyu needed Luhya and Luo votes to get 25% votes in Western and Nyanza regions respectively. Moi had the support of other ethnic groups who felt marginalized by the large ethnic groups.

In 2002, there were 2 strong candidates; both Kikuyu. Uhuru Kenyatta was supported by Moi therefore people felt that his win would be Moi's win. The opposition united and formed one party to run against Moi's party. The Kikuyu vote was split however most votes went to Kibaki who won with 62.21% of the total votes. This ended the 40-year-old KANU rule.

In 2007, there was ethnic block voting. The Luhya, Kalenjin and Luo formed one party (Orange Democratic Movement, ODM) and voted as a coalition. The Kikuyu had the support of Meru while the Kamba had their own candidate<sup>20</sup>. There were claims of vote rigging and announcement of Kibaki as the president resulted into post-election violence which lasted from February-April 2008. He won with 47% of votes against Raila's 44%.

Another possible explanation for the absence of pre-election violence in subsequent elections was that the political elites had succeeded in displacing the Kikuyu, Luo and Luhya. A report by the Kenya Human Rights Commission cited in Kimenyi and Ndung'u, 2005 estimated that in Uasin Gishu, Nandi, Trans Nzoia, Kericho and Nakuru districts 20% of the displaced population would

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<sup>20</sup> The Kamba were originally part of ODM but broke off over disputes on the flag bearer.



not be able to return to their land in absence of political arbitration. Since the end of Moi's rule, all presidents have been Kikuyu thus illustrating the significant role majority ethnic groups plays in influencing the outcome of an election in a multi-ethnic society.

## **2.7. CONCLUSION**

This study investigated the causal effects of electoral rule following the introduction of multi-party elections on pre-election violence in Kenya. We have seen that the introduction new electoral rule may have increased the risk of political violence. The the authority charged with the responsibility of spearheading the democratic elections was already in power hence took advantage of this power to make rules that would justify the pre-existing undemocratic power structures and secure victory in subsequent elections.

The aftermath was violence targeting ethnic communities supporting the reforms. The resulting deaths and displacements of ethnic groups living in Rift Valley is consistent with studies that show that democracy in developing countries does not produce the desired outcomes of accountability and legitimacy witnessed in middle income and developed countries. It instead makes the societies more vulnerable to political violence. Democracy is the desired and most effective system of governance however the benefits can be enjoyed if these countries have electoral structures that are not easily manipulated to the advantage of the political elite.

Voting along ethnic lines is predictable and benefits the majority. Majority ethnic groups can therefore take advantage of their numbers to oppress other groups which leads to resentment. The continued political dominance of the Kikuyu is a source of contention and tribal tensions in Kenya to date. Electoral competition can work if there are checks and balances. There ought to be cooperation between the citizens, media and the court system to ensure that elections are conducted according to the stipulated laws and where grievances arise, they are resolved according to law.

Diversification of economic activities to end overreliance on land and designing better income generating activities for the youth will increase avenues for income. This means unemployed people will not be an easy target for recruitment to take part in criminal activities such as incitement to participate in violence targeting groups deemed as a threat to their economic progress. Equal access to quality education opportunities will equip people with skills and knowledge to create their own employment opportunities and be able to hold the government accountable if it does not perform.

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## **CHAPTER 3: ETHNIC VIOLENCE AND BIRTH OUTCOMES: EVIDENCE FROM EXPOSURE TO THE 1992 CONFLICT IN KENYA**

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### **3.1. INTRODUCTION**

Many countries in the developing world—especially in sub-Saharan Africa (SSA)—have experienced episodes of conflict, mostly driven by the fight for political supremacy and control of resources. Although the occurrence of large conflicts has declined over the last 30 years, small-scale conflicts have had devastating effects on communities, especially women and children. Violence differed between the twentieth and twenty-first centuries not only in scale but also in nature, with violence now taking multiple forms: political violence supported by criminal gangs, international ideological movements combined with local grievances, and political movements financed by criminal organizations. Consequently, the risk of having violent conflicts is reported to be on the rise (World Bank 2011).

Conflicts have very high economic and social costs that can persist for years even after the conflict has ended (Abadie and Gardeazabal 2003; Collier 1999; Hoeffler and Reynal-Querol 2003). Survivors of violent attacks not only lose their property but also suffer physical injuries and psychological distress from exposure to violence and forceful displacement from their homes (Blattman and Miguel 2010). Given such high levels of exposure to violence that people across the world have experienced in recent years, a critical research question is whether this has had a persistent impact on population health even after the violence ceases.

Studies have found that children who were exposed to the civil wars in SSA *in utero* tend to be shorter (Akresh et al. 2011, 2012a; Bundervoet et al. 2009; Minoiu and Shemyakina 2014), and the negative effect on height is likely to persist even into their adulthood (Akresh et al. 2012a, 2017). Although an increasing body of literature has shown that *in utero* exposure to conflict or violent situations worsens birth outcomes in Latin America and developed countries, evidence from SSA is limited.<sup>21</sup> Furthermore, studies on conflicts in SSA have focused on political violence characterized by civil wars, detentions, and mass killings—incidences of which, however, have been on the decline in the recent past. In contrast, other forms of political violence, such as electoral violence, increased after the 1990s when many SSA countries introduced multiparty election, yet these forms of violence have received less attention in literature (Straus 2012).<sup>22</sup>

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<sup>21</sup> Prenatal shocks analyzed in relation to birth outcomes are the September 11, 2001, terrorist attack in New York City (Eskenazi et al. 2007); terrorist attacks in Colombia (Camacho 2008) and in Spain (Quintana-Domeque and Ródenas-Serrano 2017); homicides in rural Brazil (Foureaux Koppensteiner and Manacorda 2016); the Guatemalan civil war (Chamarbagwala and Morán 2011); the Mexican drug war (Brown 2018); 1999–2007 massacres in Columbia (Duque 2017); the al-Aqsa intifada in Jerusalem (Mansour and Rees 2012); and Germans exposed to WWII *in utero* and during early childhood (Akbulut-Yuksel 2017; Akbulut-Yuksel and Yuksel 2017).

<sup>22</sup> According to the African Electoral Violence Database, 60% of elections in SSA from 1990 to 2008 had violent intimidations. These include the 1992 election–related violence in Angola, which metamorphosed into a 10-year civil war with thousands of deaths; about 1,500 deaths in the 1992 Kenya elections; the 2005 election in Ethiopia leading to about 200 deaths; the 2007/2008 Kenyan



This study contributes to increasing the visibility of these forms of violence by addressing the Kenyan case, where despite decades of ethnically and politically instigated unrest, the negative effects of this unrest on child health has not been adequately investigated.<sup>23</sup> By exploiting exposure to ethnic violence resulting from Kenya's first multiparty elections in 1992 as an exogenous source of prenatal shock, we statistically examine the impact of such shock on birth outcomes using a difference-in-differences method and a mother fixed-effects model. We hypothesize that the magnitude and sporadic nature of the violence and the fear of being attacked may have predisposed expectant mothers to psychological and physical stress, which may result in having small babies (Aizer et al. 2016; Camacho 2008). In areas affected by the violence, the economic consequences of the conflict were devastating. Many families were displaced and lost their homes and property. They lived in overcrowded camps that lacked health care and water services. There was also lack of food because grain stores and maize fields were razed. These factors contributed to the loss of family resources, which could affect fetal development through reduced expenditures on nutritious food and medical services (Human Rights Watch 1993; National Council of Churches of Kenya 1992).

By utilizing the exogenous variations of the timing of the pregnancy and location of each child, we find that prenatal exposure to the violence increased the probabilities of low birth weight. In addition,

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elections leading to about 1,500 deaths; the 2010 elections in Ivory Coast leading to about 3,000 deaths; and 800 deaths in the 2011 elections in Nigeria (Isola 2018).

<sup>23</sup> The exception is Bell et al. (2012), who investigated the impact of the 2007 post-election violence in Kenya on birth weight. Their study, however, has methodological limitations.

exposure in the first trimester of the pregnancy had significant impact on the birth outcomes, although the impact was insignificant for exposure in the other stages of pregnancy. The results suggest that maternal stress, not lack of nutrition during the violence, is the key channel through which mothers exposed to the violence had children with lower birth weight.

This study contributes to growing empirical literature that tests the fetal origins hypothesis proposed by Barker (1995), who showed that circumstances *in utero* have significant impact on the developmental health from infancy to adulthood. In particular, *in utero* exposure to armed conflict and political violence reduces school enrollment among school-aged children (Akresh and de Walque 2008; Shemyakina 2011), educational attainments in adulthood (Lee 2014), and reduced lung capacity in old age (Islam et al. 2017), but it increases female labor force participation (Shemyakina 2015).

### **3.2. BACKGROUND OF KENYA'S VIOLENCE DURING THE 1992 ELECTIONS**

Kenya is often cited as an example of peace and stability in a tumultuous region. Post-independence Kenya was characterized by political stability and relative peace (Kimenyi and Ndung'u 2005); however, in the early 1990s, Kenya experienced ethnic clashes in response to the introduction of

multiparty democracy.<sup>24</sup> The violence took place before the elections<sup>25</sup> mainly in the Kenyan Rift Valley region. Here, the opposition had a strong presence. According to reports, the objectives of the perpetrators (Kalenjin community) were to ensure that (1) the president, who was from their ethnic group, remained in power, and (2) communities supporting the opposition parties did not register as voters or, if they registered, would not be able to vote (Kimenyi and Ndung'u 2005). These efforts were accompanied by the distribution of leaflets warning protestors to leave the Rift Valley or face the consequences (Human Rights Watch 1993). The conflicts led to hostility between ethnic groups, compromised the credibility of the electoral process, and slowed economic development. Although small in scale geographically, these conflicts shaped the country's political scene, and their impacts mirror those of civil wars.

The aftermath of the violence was displacement, injuries, death, and loss of property. Heightened insecurity arose as civilians took the law into their own hands by targeting their perceived enemies, resulting in the indiscriminate loss of lives across all the ethnic groups, physical injuries, and psychological trauma (Human Rights Watch 1993; Kimenyi and Ndung'u 2005; Nyukuri

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<sup>24</sup> The 1992 violence lasted from October 1991 through the December 1992 elections and beyond throughout 1993. The districts with intense violent incidences were Nakuru, Kericho, Nandi, and Uasin Gishu in the Rift Valley region (Kimenyi and Ndung'u 2005).

<sup>25</sup> The 2007 elections resulted in ethnic violence in Kenya. The differences from the 1993 election violence were in the timing and cause of violence. The 2007 violence occurred after the election results were announced and hence was a protestation against the alleged rigging of the results.

1997). An estimated 1,500 people lost their lives, 300,000 others were displaced, and many had signs of infectious diseases and malnutrition due to the poor living conditions that resulted from the unrest (Human Rights Watch 1993; Ndegwa 1997; Nyukuri 1997; Oyugi 1997).

The economic consequences of the violence were also devastating. From a fact-finding mission to the most affected parts of the Rift Valley region, Human Rights Watch (1993) reported that a majority of the agricultural farms were abandoned, and attempts by the owners (immigrants to Rift Valley) to resume cultivation were thwarted by the Kalenjin (native ethnic group), who stole their crops and grazed their cattle in the farms. This led to food shortages not only in Rift Valley but also in the rest of the country.

In this study, therefore, the effects of *in utero* exposure to the violence on birth outcomes include both the violence itself (or stress caused by the violence) and—similar to existing studies—socioeconomic factors (e.g. food shortage and poor sanitation) during the temporary displacement. In severely affected areas, both violence and economic fallout are typically more serious, which makes it difficult to separate their effects. To control for economic conditions, we include district fixed effects and region-specific time trends. In addition, we examine heterogeneous effects between mothers with lower and higher education given that mothers with higher education are less likely to be credit-constrained, which increases access to nutritious food during pregnancy (Bozzoli and Quitana-Domeque 2014). Regarding the stress channel, we attempt to identify the effect by testing whether the timing of the exposure affects the birth weight differently. Torche (2011) found that infants of mothers who are exposed to stressful events in the first trimester of pregnancy experience

serious more extreme effects on birth weight than infants of mothers who are not exposed or are exposed later in the pregnancy.

### **3.3. DATA AND DESCRIPTIVE STATISTICS**

#### **3.3.1. Data**

This study uses three data sets. First, we use the Uppsala Conflict Data Program (UCDP) Events Dataset, which records violent events occurring at a given time and place, to construct accurate measures of a conflict in terms of the location, timing, and severity. We use the information on the total number of fatalities due to the conflict in a district where an expectant mother resided as a measure of intensity to estimate the impact of the violence.

Second, we use the 1993 Kenya Demographic and Health Survey (KDHS) conducted by the National Council for Population and Development (NCPD) and the Central Bureau of Statistics, Kenya. The KDHS forms part of the worldwide Demographic and Health Surveys (DHS) program designed to collect data on maternal and child health, fertility, and family planning.<sup>26</sup> The nationally

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<sup>26</sup> Although KDHS 1993 data contain the information on survey enumeration (primary sampling unit, PSU) and province where each household resides, GPS coordinates were not collected in the survey. We obtained names of districts for each stratum code from local DHS offices, which allows

representative survey contains information on 7,540 women aged 15–49 years. Because our study examines the effect of the violence on birth weight and the data on birth outcomes are available only for children aged 0–5 years, we focus on women who have children aged 0–5 years. This accounts for 81% of the whole women sample. For our analysis, we define children whose mothers were pregnant in districts with pre- and post-election violence in 1992–1993 recorded in UCDP data as exposed to the violence (“violence-affected districts” hereafter) because although not everyone was a target of the violence, one does not have to be directly subjected to conflict to suffer the consequences (Islam et al. 2017). Living in a violent environment or fear of victimization and retaliation from an aggrieved party can be traumatizing, especially if there is loss of loved ones or neighbors, as was the case in the retaliation by the Kikuyu against the Kalenjin (Human Rights Watch 1993). We do not consider children whose mothers immigrated into violence-affected districts after the violence period as being exposed to the violence. The affected children in this study include those whose mothers had lived in violence-affected districts for more than two years—long enough to be exposed to the violence *in utero*.<sup>27</sup>

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us to identify affected districts and to merge with the data with UCDP data. We failed to obtain names of the sublocation for each PSU code.

<sup>27</sup> We use the variable *years lived in the current residence* for identifying the location at the time of the violence. Because the ethnic violence started in October 1991 and the survey was conducted in July 1993, we consider women who had lived for more than two years in the affected district as having been exposed to the violence, and we consider their children who were born during the violent period to have been affected by the violence. From the data set, 94% of the respondents

The child sample contains children born between March 1988 and July 1993 (aged 0–5 years during data collection). Because KDHS data do not contain pregnancies resulting in miscarriage and still births, this study focuses only on the subsample of pregnancies that resulted in live births. Given that the violence would presumably increase the risk of a nonlive birth (miscarriage and stillbirth), this would lead to more conservative estimates of the impact that violence has on negative reproductive outcomes. For *in utero* exposure, children who were born before October 1991 were considered not exposed to the violence *in utero*.<sup>28</sup>

Three sets of exposure variables are used in the analyses. The first exposure variable (*exposed in utero*) is a dummy variable equal to 1 if fatalities were reported in the child’s district of birth when the mother was pregnant, and 0 otherwise. This captures the impact of the shock for children who were exposed to the violence *in utero* during the high-intensity period regardless of the length exposed. The second exposure variable (*months in utero*) identifies the number of months *in utero* in which fatalities were reported in the district in a given time. This variable estimates the possible different effect of the length of exposure (0–9 months) among the affected children. The third set contains three dummy variables: whether a child was exposed to the violence in the first trimester (0–3 months of pregnancy), second trimester (4–6 months of pregnancy), or third trimester (7–9

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answered that they had lived in the same residence for more than two years, with 61% having always lived in the same district.

<sup>28</sup> DHS data do not contain information on the gestational stage of birth. We therefore assume a nine-month gestation period for identifying the timing of the *in utero* exposure.

months of pregnancy). The third measure allows for estimating the possible different effects of the violence depending on the timing of the pregnancy. This is an important measure for capturing the effects of the violence during the early pregnancy period as well.<sup>29</sup>

Third, we use rainfall and temperature data (1987–1993) from the Kenya Meteorological Department (2015). Four of the districts where DHS sample households reside do not have weather stations. For those districts, rainfall stations located in neighboring districts are assigned after considering similarity of climatic conditions. Based on the information on rainfall and temperature, we construct the number of months that were identified as posing a higher risk of malaria infection for each child in the DHS data set, following Kudamatsu et al. (2012). Malaria is one of the leading causes of infant mortality worldwide and accounts for 20% of all deaths in children under 5 years in Kenya (Pathania 2014). In pregnancy, malaria increases the probability of infant mortality through low birth weight, and children in malaria epidemic areas who experience worse conditions *in utero* are at higher risk.

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<sup>29</sup> We acknowledge that it is difficult to determine the exact time of conception using DHS data. One caveat to creating three-month window of gestational age is that gestational age at birth could be shorter than nine months for premature labor. Therefore, we also conduct analyses by using a more general indicator “early” versus “mid-/late” pregnancy. The results are similar to those based on trimesters.



### **3.3.2. Descriptive Statistics**

Panel A of Table 3.1 shows a comparison of child characteristics in the full sample with those in the violence-affected districts and the nonaffected districts. Children in the violence-affected districts are slightly younger than those in the nonaffected districts. There are, however, no gender or birth order differences between the violence-affected districts and the nonaffected districts.

**Table 3. 1: Descriptive Statistics**

	Full Sample		Affected Districts		Nonaffected Districts		<i>t</i> Value
	Mean	SD	Mean	SD	Mean	SD	
Number of Observations	6,112		1,660		4,452		
<b>A. Child Characteristics</b>							
Male	0.499	0.500	0.509	0.528	0.496	0.491	0.76
Single birth	0.972	0.164	0.977	0.181	0.973	0.159	-0.45
Firstborn child	0.202	0.402	0.220	0.437	0.200	0.390	1.47
Age in years	2.000	1.400	1.896	1.495	2.000	1.364	-3.33**
Mother's age at child's birth	26.12	6.734	25.983	7.125	26.165	6.603	-0.62
<b>B. Parental Characteristics</b>							
Mother's educational level: No education	0.192	0.394	0.241	0.452	0.176	0.374	1.80 <sup>†</sup>
Primary level	0.594	0.491	0.570	0.570	0.601	0.481	-0.91
Secondary level	0.211	0.408	0.180	0.406	0.221	0.407	-1.86 <sup>†</sup>
Higher education	0.004	0.059	0.009	0.102	0.002	0.040	1.68 <sup>†</sup>
Father's educational level: No education	0.188	0.391	0.262	0.464	0.165	0.364	4.09**
Primary level	0.490	0.500	0.491	0.440	0.32	0.507	-2.72**
Secondary level	0.309	0.462	0.280	0.474	0.319	0.457	-1.66 <sup>†</sup>
Higher education	0.011	0.108	0.018	0.141	0.01	0.096	1.70 <sup>†</sup>
Mother's marital status: Currently married	0.850	0.357	0.842	0.385	0.853	0.375	-0.68
Never married	0.074	0.262	0.096	0.311	0.067	0.245	2.59**
Formerly married	0.076	0.265	0.061	0.254	0.08	0.267	-1.66 <sup>†</sup>
Mother's months of malaria exposure in pregnancy	4.390	3.980	1.309	3.074	5.380	3.695	-23.95**
Mother's height in centimeters	159.15	9.15	159.945	8.364	158.89	9.324	2.44**
<b>C. Household Characteristics</b>							
Age of household head	39.97	13.97	39.078	14.69	40.257	13.716	1.63
Female household head	0.282	0.450	0.235	0.448	0.297	0.448	-2.89**
Land ownership	0.862	0.345	0.867	0.359	0.860	0.340	0.34
Distance to hospital	20.27	17.51	10.492	7.043	8.094	5.158	2.59**
Rural residence	0.873	0.333	0.889	0.332	0.868	0.333	1.08
Lived in the same region for many years	0.933	0.25	0.838	0.389	0.964	0.183	-6.32**

Notes: Sampling weights are used in calculating all the means. The *t* value tests whether means for affected districts and nonaffected districts are statistically significant. <sup>†</sup>*p* < .10; \**p* < .05; \*\**p* < .01

Panel B of Table 3.1 shows the parental characteristics. Regarding education status, 24.1% of the mothers in the violence-affected districts have no educational attainment compared with 17.6% in nonaffected districts. Similar results are reported for the husband or partner's education: 26.2% of the men in the violence-affected districts have never been to school in comparison with 16.5% in the nonaffected districts. Mothers in the affected districts are taller than those in nonaffected districts. It is necessary to control for intergenerational transmission of birth outcomes because height varies by ethnicity; hence, the negative birth outcomes could be due to genetic factors rather than to exposure to the violence (Currie and Moretti 2007). In addition, fetal growth restriction, which could result in very small babies at birth, is determined by genetic, placental, and maternal characteristics (Peleg et al. 1998). Another notable difference is in the number of months of malaria exposure in pregnancy. The epidemiological climate of the violence-affected districts is less conducive to the spread of malaria, as evidenced by 1.3 months of exposure in pregnancy compared with 5.4 months in the nonaffected districts.

Panel C, displaying household characteristics, shows that the violence-affected districts have younger household heads and a lower proportion of female heads. However, the distance to the nearest health center is farther, by approximately 2 km, which could have hampered access to prenatal health care services in the violence-affected districts. In summary, Table 3.1 shows that violence-affected districts are slightly poorer than nonaffected districts, with a higher share of women without education and a longer average distance to the nearest hospital. However, as shown in Table 3.2, birth outcomes of the children in affected districts when they were not exposed to the violence are not significantly different from those in nonaffected districts.

Table 3.2 presents the descriptive statistics of the main outcome variables: birth weights, low birth weights (whether a child was born with birth weight less than or equal to 2,500 g), and very small size at birth (mother's self-reported measure of a child's size at birth). Panel A shows the birth weight separately for the violence-affected and nonaffected districts. The differences in birth weight between the locations of the birth (affected vs. nonaffected district) are not statistically significant among the given birth cohort. Similarly, mean birth weight for the birth cohort exposed *in utero* and for those not exposed *in utero* are not statistically significant in a given location. However, the birth weight of those who were exposed in the first trimester of the pregnancy is lighter in affected districts than in nonaffected districts.

**Table 3. 2: Health Outcomes by Affected Districts and Period**

	Full Sample		Affected Districts		Nonaffected Districts		<i>t</i> Value
	Mean	SD	Mean	SD	Mean	SD	
<b>A. Birth Weight (kg)</b>							
Number of observations	2,651		614		2,037		
All	3.282	0.747	3.280	0.771	3.283	0.74	-0.09
Born before violence (not exposed <i>in utero</i> )	3.29	0.754	3.303	0.777	3.286	0.747	0.41
Exposed <i>in utero</i>	3.241	0.710	3.167	0.737	3.268	0.700	-0.91
Difference between exposed and not exposed	-		-				
	0.049	-1.10	0.136	-1.40	-0.018	-0.36	-1.28
Exposed in first trimester	3.158	0.727	3.01	0.663	3.203	0.740	-1.67 <sup>†</sup>
Exposed in second trimester	3.276	0.672	3.171	0.697	3.318	0.660	-1.40
Exposed in third trimester	3.273	0.700	3.270	0.665	3.274	0.711	-0.04
<b>B. Low Birth Weight</b>							
Number of observations	2,607		604		2,003		
All	0.158	0.365	0.165	0.382	0.156	0.360	0.46
Born before violence	0.157	0.364	0.146	0.365	0.161	0.364	-0.76
Exposed <i>in utero</i>	0.161	0.368	0.255	0.440	0.130	0.336	2.19*
Difference between exposed and not exposed	0.004	0.16	0.11	2.09*	-0.03	-1.25	2.30*
Exposed in first trimester	0.186	0.390	0.346	0.483	0.141	0.348	2.69**
Exposed in second trimester	0.137	0.344	0.244	0.433	0.097	0.296	2.70**
Exposed in third trimester	0.137	0.344	0.139	0.351	0.136	0.342	0.06
<b>C. Very Small Size at Birth</b>							
Number of observations	6,043		1,641		4,402		
All	0.053	0.224	0.054	0.240	0.053	0.219	0.21
Born before violence (not exposed <i>in utero</i> )	0.050	0.219	0.045	0.219	0.052	0.218	-0.84
Exposed <i>in utero</i>	0.065	0.246	0.092	0.301	0.055	0.224	1.68 <sup>†</sup>
Difference between not exposed and not exposed	0.015	-1.58	0.047	2.44**	0.003	0.23	1.92 <sup>†</sup>
Exposed in first trimester	0.068	0.251	0.107	0.319	0.053	0.222	1.85 <sup>†</sup>
Exposed in second trimester	0.053	0.224	0.091	0.302	0.039	0.190	2.26**
Exposed in third trimesters	0.056	0.230	0.056	0.242	0.056	0.226	0.02

Note: Sampling weights are used in calculating all the means.

<sup>a</sup> The *t* value is for testing whether means of affected districts and nonaffected districts are statistically different.

<sup>†</sup>*p* < .10; \**p* < .05; \*\**p* < .01

As shown in panel B, the low birth weight incidence in the violence-affected districts is higher among those who were exposed *in utero* (26%) than among those who were in the same exposed birth cohort but in nonaffected districts (13%). Because there is no difference in the incidence of low birth weight between affected and nonaffected districts among children who are not exposed *in utero*, the difference-in-differences estimator is significant. These effects are more prevalent in children exposed in the first and second trimesters of pregnancy, but there is no difference in the incidence when the timing of the exposure was in the third trimester. This suggests that the exposure to violence especially in the early period of pregnancy contributed to the incidence of low birth weight.

Panel C of Table 3.2 reports the share of children who were of very small size at birth.<sup>30</sup> Although this is a mother's self-reported measure of the size of the child at birth, it is considered as a good proxy of birth weight and is used in other studies (Molina and Saldarriaga 2017). The potential limitation of this measure is that it is subjective and dependent on a mother's interpretation and recall. Birth weight information is not available for 57% of the children, which does have the potential for selection bias; however, those rare events in which children were born very small tend to be easy to recall for mothers. Approximately 9% of the children who were exposed to the violence *in utero* in the affected districts were born very small compared with 6% in nonaffected districts. Similar to findings in panel B, the difference is found only in early pregnancy periods (first and

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<sup>30</sup> A question of the size of a child at birth is chosen from these sizes: very large, large, average, small, very small, or does not know.

second trimesters). This difference is statistically significant and points to worsened outcomes for violent districts.

### 3.4. IDENTIFICATION STRATEGY

Our empirical approach takes into account the possible disruption of life *in utero* and birth outcomes through unexpected exposure to shock among pregnant women, restriction of resources, and reduced access to health and social services due to the ethnic violence. Because this was the first time that multiparty elections were held in Kenya, no one could predict the pre-election violence that occurred; hence, it was not likely that women would deliberately avoid pregnancy or migrate to other districts in anticipation of violence. Thus, we consider the pre-election violence in 1992 to be an exogenous shock to mothers in affected districts.<sup>31</sup>

Because the violence is assumed to be an exogenous shock, the effect on birth outcomes is estimated by a difference-in-differences method. Our empirical model is as follows:

$$y_{itd} = \beta_0 + \beta_1(R_d \times E_t) + \beta_x \mathbf{X}_{itd} + \alpha_t + \delta_m + \omega_d + \alpha_t \times \omega_r + \varepsilon_{itd}, \quad (1)$$

where  $y$  is the outcome variable (i.e., birth weight, low birth weight, or very small size at birth) of child  $i$  born in month-year  $t$  in district  $d$ . The interaction term  $(R_d \times E_t)$  identifies children exposed

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<sup>31</sup> We do not conduct our analysis using recent data because subsequent incidences of violence were predictable given that Kenyans vote along ethnic lines, making identification of the effect of violence on children's birth outcomes difficult.

to violence *in utero* ( $E_t$ ) in the violence-affected districts ( $R_d$ )<sup>32</sup> and exposed to violence *in utero* ( $E_t$ );  $\mathbf{X}_{idt}$  are parental, child, and household characteristics;  $\alpha_t$  are year of birth fixed effects;  $\delta_m$  are month of birth fixed effects;  $\omega_d$  are district fixed effects to control for geographical and development differences across districts;  $\alpha_t \times \omega_r$  is a set of region-specific birth-year dummy variables to control for differences in regions in time;  $\beta$ s are coefficients to be estimated; and  $\varepsilon$  is the error term.

In the first specification, the variable indicating exposure to the violence ( $E_t$ ) is a dummy variable indicating whether a child was exposed to the violence *in utero*, but we use other exposure variables that measure the timing and severity of the violence in other specifications. As explained earlier, different timing of exposure to violence during pregnancy allows us to test whether stress caused by the violence negatively affects birth weight. If children who were exposed in the first trimester of pregnancy tend to be smaller than those exposed later in the pregnancy or those not exposed, the effect of exposure to violence on birth outcomes is partly due to maternal stress heightened by the violence (Torche 2011).

Kenya's electoral violence hit the maize production area and lasted a few months, and birth outcomes can be affected by nutritional deficits, which can affect fetal growth. Because households

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<sup>32</sup> We acknowledge that district-level exposure may not be a precise measure of the physical violence that households face. We cannot create more precise exposure measure with the data available. However, our exposure measures are more precise than those of other studies (e.g., Akresh et al. 2011, 2012b), which used region- and province-level measures.



with credit constraints are less likely to have unimpaired access to nutritious food and are more likely to suffer from food insecurity, the effect of the electoral violence on birth outcome is expected to be greater for the credit-constrained households. In addition, evidence suggests that birth weight is strongly associated with nutritional deficiencies in the third trimester of pregnancy (Almond et al. 2011; Stein and Lumey 2000). This difference in sensitivity of nutritional effect on birth outcome allows us to test whether the negative effect of electoral violence in Kenya is partly explained by the nutritional channel. In addition to the main specification of Eq. (1), we add the interaction term ( $R_d \times E_t \times S_t$ ) to identify the main channel of the negative effect of the violence stratified by the education level of the mother, as proposed by Bozzoli and Quintana-Domeque (2014). More-educated mothers tend not only to have better knowledge about health care and nutrition but also to have better health, which genetically leads to better health for their children (Strauss and Thomas 1998). Education level is also associated with income. During the violence, uneducated mothers might have failed to take adequate nutrition during the pregnancy and to prevent the adverse effects of the violence on their children. Thus, the effect of the violence on health can be different according to the mother's education. Foureaux Koppensteiner and Manacorda (2016) found an effect of homicides during the first trimester of pregnancy on the probability of children having low birth weight only among mothers with less than seven years of education.

We also estimate the impact of the violence by gender. The literature's findings on the gendered effects of violence on child health are mixed. In terms of the effect on birth outcomes, Foureaux Koppensteiner and Manacorda (2016) found that exposure to homicides in Brazil increased the

probability of low birth weight only among girls. For nonbirth outcomes, Akresh et al. (2014) found that the impact of exposure to conflict on child height was slightly larger for girls in Ethiopia but smaller for girls in Eritrea, although the gender difference in these magnitudes was not statistically significant. Minoiu and Shemyakina (2012) found no evidence that the effect of war exposure on child's height was different between boys and girls in Côte d'Ivoire. Thus, whether exposure to the violence has a different impact on the health outcomes of boys and girls is inconclusive. In Kenya, the under-5 mortality rate for girls has been lower than that for boys. There is no evidence of serious sex imbalances in the population, unlike in India and China. Even so, in many parts of Africa, son preference is prevalent in areas with patriarchy; however, selective abortion is rarely conducted (Packer 2002). Because our focus is on birth weight, the gendered difference is likely to be explained by the strength of fetus, not parents' differential treatment based on the sex of the child.

To correctly identify the impact of exposure to the violence, Eq. (1) relies on two assumptions. The first is a common trend assumption: the change over time in the children exposed to the violence in its absence is assumed to be the same as the change in the control group. The second assumption is that once  $X$  and other fixed effects are controlled for, the exposure variable will not correlate with the error term in Eq. (1). However, this second assumption may be violated if some households selectively emigrated from affected areas to mitigate the negative effects from the violence (selective migration), some mothers purposively delayed pregnancy during the violence to avoid its effects (selective fertility), there were some unobserved characteristics of those mothers likely to give birth during the violence (e.g., strong genes and more fertile), or their children were healthier (unobserved

characteristics). We acknowledge that our model relies on these assumptions. We later run robustness checks of the results.

### **3.5. ESTIMATION RESULTS**

#### **3.5.1. Violence on Birth Outcomes**

In Table 3.3, we present the estimated impact of exposure to ethnic violence on birth weight (in kilograms; columns 1–5), low birth weight (columns 6–10), and very small size at birth (columns 11–15). All specifications control for child, parental, and household characteristics shown in Table 1; month of birth; year of birth; ethnicity; district of birth fixed effects; and region-specific time trends. Robust standard errors are clustered at the enumeration level (PSU).

**Table 3. 3: Impact of ethnic violence on birth weight, low birth weight, size of the child at birth**

	Birth weight					Low birth weight					Very small size at birth				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Affected districts	-0.171					0.189**					0.059†				
× Exposed <i>in utero</i>	(-1.61)					(2.88)					(1.93)				
Affected districts×Months of exposure <i>in Utero</i>		-0.011					0.021*					0.005†			
		(-0.67)					(2.46)					(1.79)			
Affected districts× Exposed in 1st trimester			-0.271†					0.184**					0.037†		
			(-1.83)					(3.08)					(1.82)		
Affected districts × Exposed in 2nd trimester			-0.039					0.065					0.039		
			(-0.26)					(0.96)					(1.62)		
Affected districts × Exposed in 3rd trimester			-0.010					-0.042					-0.028		
			(-0.10)					(-0.77)					(-1.44)		
Affected districts× Exposed in early pregnancy				-0.250*					0.208**					0.046*	
				(-2.03)					(3.80)					(2.38)	
Affected districts× Exposed in mid/late pregnancy				-0.091					0.013					0.012	
				(-0.76)					(0.21)					(0.57)	
Fatalities × Affected districts					-0.785†					0.330†					0.084
× Exposed <i>in utero</i> /100					(-1.75)					(1.83)					(0.89)
Observations	2521	2521	2521	2521	2521	2472	2472	2472	2472	2472	5762	5762	5762	5762	5762

Notes: Other controls are all variables shown in Table 1. Year of birth, month of birth, ethnicity, and district fixed effects as well as region specific time trend are controlled. Estimated by Linear Probability Model. t-statistics in parentheses. Robust standard errors are clustered at the enumeration level (PSU). †significant at 10%, \* significant at 5%, \*\* significant at 1%.

The estimated coefficients in columns 1 and 2 show no evidence that *in utero* exposure to the violence reduced birth weight. Columns 3 and 4, however, show that exposure in the first trimester is associated with a 250–271 g reduction in birth weight. There is no evidence that exposure in the second and third trimesters affect birth weight. These findings are consistent with medical studies and other literature showing that the disruption of life in the first trimester has worse outcomes. In terms of magnitude, the negative effect of electoral violence in Kenya is far greater than that found in other studies.<sup>33</sup> This difference is probably attributable to the focus in other studies on more-developed countries, where more economic resources and advanced health care systems are available than Kenya, which cushions against some of the negative impacts of conflicts.

The estimation results for low birth weight are presented in columns 6–10 of Table 3.3. We find a positive and significant impact of *in utero* exposure to the violence: *in utero* exposure increased the probability of low birth weight. The results from column 6 show that children exposed to violence *in utero* had a 19 percentage point higher probability of low birth weight, and an extra month of

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<sup>33</sup> Exposure to a landmine explosion in the residential municipality during the second trimester of the pregnancy in Colombia decreased birth weight by 8 g (Camacho 2008), whereas additional fatality from al-Aqsa Intifada during the first trimester of the pregnancy in the district decreased birth weight by 33 g (Mansour and Rees 2012). Additionally, a study from Mexico showed that homicide in municipalities during the first trimester of the pregnancy decreased birth weight by 42 g (Brown 2018).

exposure increased the probability of low birth weight by 2 percentage points over that for unexposed children. From columns 8 and 9, we can see that exposure in the first trimester increased the probability of low birth weight by 18–21 percentage points. Our estimates exceed those reported in previous studies. Mansour and Rees (2012) found that prenatal exposure to the 2001–2004 Israeli-Palestinian conflict in the first, second, and third trimesters increased the probabilities of low birth weight by 0.9%, 0.3%, and 0.14%, respectively. Both Lauderdale (2006) and Eskenazi et al. (2007) reported that *in utero* exposure to the September 11, 2001, New York City terrorist attacks was associated with 1.50 and 1.44 increased odds of low birth weight, respectively. Comparing these findings with ours indicates that exposure to the ethnic violence in Kenya had worse outcomes.

The estimated coefficient in column 11 of Table 3.3 shows that *in utero* exposure to the violence increased the probability of a child being very small at birth by 5.9 percentage points. From column 12, we see that an extra month of *in utero* exposure to violence increased the likelihood of a child being very small at birth by 0.5 percentage points. Columns 13 and 14 show that the exposure in the first trimester increased the probability of a child being very small in size at birth by 3.7–4.6 percentage points. These findings suggest that nutritional deficiencies, due to resource constraints and restricted uterine growth, being the reason for the very small size of the exposed children.

### **3.5.2. Heterogeneous Effects of the Violence Stratified by Mother's Education**

In this section, we examine whether violence has heterogeneous effects on child health outcomes. We examine the impact of the violence when the data on violence exposure is interacted with mother's education level; that is, we interact the exposure variables with an indicator variable of whether the mother's education level is no greater than primary school. As shown in columns 1–3 of Table 3.4, children whose mothers had not completed secondary school had an increased probability of low birth weight. However, none of the coefficients of interaction terms were statistically significant. This finding differs from that of Bozzoli and Quintana-Domeque (2014), who analyzed the impact of the Argentine economic crisis on prenatal health and found that the low birth weight of children of less-educated mothers was associated with the nutritional deficiencies experienced by the mothers.

**Table 3. 4: Impact of ethnic violence on birth weight and the size of the child at birth by Mother's Education and Gender of Child**

	Less- vs. More-Educated Mothers (Z = low-educated)			Boys vs. Girls (Z = boys)		
	Birth Weight	1 if Low Birth Weight	1 if Very Small Size at Birth	Birth Weight	1 if Low Birth Weight	1 if Very Small Size at Birth
	(1)	(2)	(3)	(4)	(5)	(6)
Affected Districts × Exposed in First Trimester	-0.333 (-1.22)	0.186* (2.02)	0.089** (2.85)	-0.322 (-1.56)	0.187* (2.06)	0.042 (1.53)
Affected Districts × Exposed in Second Trimester	0.048 (0.17)	0.083 (0.83)	0.049 (1.43)	-0.120 (-0.66)	0.058 (0.65)	0.023 (0.86)
Affected Districts × Exposed in Third Trimester	0.125 (0.72)	-0.07 (-0.62)	-0.107 (-1.06)	0.107 (0.81)	-0.069 (-0.99)	-0.018 (-0.68)
Affected Districts × Exposed in First Trimester × Z	0.083 (0.28)	-0.009 (-0.09)	-0.065 (-1.55)	0.078 (0.31)	0.000 (0.00)	-0.021 (-0.56)
Affected Districts × Exposed in Second Trimester × Z	-0.122 (-0.40)	-0.014 (-0.12)	-0.014 (-0.37)	0.116 (0.53)	0.012 (0.11)	0.030 (0.78)
Affected Districts × Exposed in Third Trimester × Z	-0.226 (-1.27)	0.045 (0.37)	0.093 (1.58)	-0.186 (-1.21)	0.024 (0.23)	-0.044 (-1.12)
Low-Educated = 1	-0.025 (-0.70)	0.045* (2.50)	-0.01 (-1.22)	-0.037 (-1.07)	0.046* (2.52)	-0.011 (-1.36)
Boy = 1	0.075* (2.25)	-0.030* (-1.98)	-0.015* (-2.36)	0.075* (2.15)	-0.030 <sup>†</sup> (-1.89)	-0.013 <sup>†</sup> (-1.95)
Number of Observations	2,521	2,472	5,762	2,521	2,478	5,776

Notes: Other controls are all variables shown in Table 1. Year of birth, month birth, ethnicity dummy variables, district of birth, region-specific time trends are controlled. Values in parentheses are *t* statistics. <sup>†</sup>*p* < .10; \**p* < .05; \*\**p* < .01



### **3.5.3. Heterogeneous Effects of the Violence by Gender of the Child**

In columns 4–6 of Table 4, we present the results of the interaction of the violence variable with gender. There is no evidence that boys are less affected than girls, perhaps because sonography used to identify sex of the fetus was not common in our sample area in 1992, and preferential treatment toward sons over daughters during pregnancy is unlikely.

## **3.6. ROBUSTNESS CHECKS**

### **3.6.1. Selective Migration**

Thus far, to make sure that those who were categorized as “affected” were in affected districts, we define children who immigrated into violence-affected districts after the violence period as nonaffected. Some of those children may have lived in the affected districts during the conflict but left those areas during or after the conflict by the time of the survey. If those who left the affected districts tend to be healthier, our estimates may be biased. Unfortunately, no information is available on the respondents’ district of residence before they moved into the current residence in KDHS. Thus, we test the sensitivity of the estimates by dropping households that migrated during/after the conflict from the sample. The estimation results from the subsample of those who did not migrate at least for two years are shown in Table 3.5. We obtain qualitatively similar results as those in the main results shown in Table 3.1.

**Table 3. 5: Impact of the violence on birth outcomes using only those who did not migrate**

	Birth Weight (kg)		Low Birth Weight		Very Small Size at Birth	
	(1)	(2)	(3)	(4)	(5)	(6)
Affected Districts × Exposed <i>in Utero</i>	-0.030 (-0.20)		0.144 <sup>†</sup> (1.94)		0.030 (1.15)	
Affected Districts × Exposed in First Trimester		- 0.363 <sup>†</sup> (- 1.71)		0.201* (2.56)		0.008 (0.30)
Affected Districts × Exposed in Second Trimester		- 0.149 (- 0.66)		0.101 (1.24)		0.061* (2.16)
Affected Districts × Exposed in Third Trimester		0.402 (1.58)		-0.162 (-1.17)		-0.048 (-1.21)
Number of Observations	2,343	2,343	2,288	2,288	5,287	5,287

*Notes:* Other controls are all variables shown in Table 1, year of birth, month birth, ethnicity dummy variables, and district of birth. Values in parentheses are *t* statistics. <sup>†</sup> $p < .10$ ; \* $p < .05$

### 3.6.2. Selective Fertility due to the Violence

Our estimation results could be accounted for by the fact that women who had children during the violent period were systematically different from others. For example, if those who were less healthy in the violence-affected districts could not avoid being pregnant during the violent period, the estimated effect of the exposure to violence on birth outcome would be negative even if there were no actual impact. To rule out this possibility, we test whether being pregnant during the violence is associated with observable characteristics of women. We run a linear regression model using ordinary least squares (OLS) examining mothers' characteristics, such as mother's age at childbirth, years of education, height (long-term health measure), and marital status (never married), by exposure to violence (separately by trimesters). Regarding fertility behavior, we test whether the

birth interval preceding a given child's birth differed between children who were exposed to violence *in utero* and those who were not. The results in Table 3.6 show that there were no significant differences between women whose children were exposed to the violence and other women.

**Table 3. 6: Characteristics of women and household head with children born during the violence and fertility behavior**

	Mother's age at birth	No education	No education or primary education	Higher than primary education	Mother's height (cm)	Single (never married)	Preceding birth interval (months) before a given child
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Affected districts×	-0.321	-0.016	0.017	-0.017	1.528	0.008	
Exposed in 1st trimester	(-0.41)	(-0.39)	(0.49)	(-0.49)	(1.59)	(0.20)	
Affected districts	-0.413	0.026	0.026	-0.026	-1.486	0.006	
×Exposed in 2nd trimester	(-0.52)	(0.60)	(0.77)	(-0.77)	(-1.58)	(0.16)	
Affected districts	-0.194	0.035	-0.015	0.015	0.343	0.020	
×Exposed in 3rd trimester	(-0.28)	(1.16)	(-0.49)	(0.49)	(0.70)	(0.67)	
Affected districts × Exposed <i>in utero</i>							-6.959
							(-0.85)
Affected districts × Exposed <i>in utero</i> ×							0.249
Mother's age at child's birth/100							(0.83)
Mother's age at child's birth							0.881**
							(12.56)
Observations	6112	6112	6112	6112	5830	6112	4654

Notes: Other controls are year of birth, month birth, ethnicity dummies, and district of birth. Estimated by Linear Probability Model. t-statistics in parentheses. Robust standard errors are clustered at the enumeration level (PSU). †significant at 10%, \* significant at 5%, \*\* significant at 1%.

Using the 1999 population census data, we look at the population composition of the affected children who were born after the 1992 violence, exposed to the violence *in utero*, and born before the violence (4, 6, and 8 years old in 1999, respectively) to determine whether there was any substantial population decline in groups from the affected districts. The proportions of children in the affected districts were 9.5% for those born in 1995, 9.4% for those born in 1993, and 9.2% for those born in 1991. If the violence had affected the fertility behavior, the proportion of children in the violence-affected districts who were born in 1993 would be significantly lower than the others, but that was not the case. Thus, the violence may not have affected the fertility choices in the districts.

### **3.6.3. Unobserved heterogeneity**

The estimation model thus far does not control for potentially important unobserved characteristics, such as a mother's genetic factors, that might affect the health outcomes of their children. With such unobserved heterogeneity not controlled for, the estimated impact of exposure to the conflict could be biased. To eliminate a mother's time-invariant unobserved heterogeneity, we run a mother fixed-effects model. Here, we restrict the sample to mothers who had more than one child in the past five years, with one of the children having been exposed to the violence *in utero*.

Table 3.7 shows the estimation results with the mother fixed-effects model. As shown in columns 5 and 6, *in utero* exposure increases the probability of a child being of low birth weight by 18 percentage points, which is almost same as the results shown in Table 3.1. The main results for low birth weight seem robust. After the mother's unobserved heterogeneity is controlled for, the impact of exposure to the violence in the first trimester of the pregnancy on birth weight (column 3) and low birth weight (column 7) become insignificant, whereas the effect on the probability of being very small at birth remains significant (column 11). Exposure to the violence during the

second trimester increased the probability of low birth weight by 28 percentage points. Thus, we can conclude that the negative effects of exposure to violence on birth outcomes are not spurious.

**Table 3. 7: Impact of the violence by mother fixed effects model**

	Birth weight				Low birth weight				Very small size at birth			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Affected districts	-0.192				0.180*				0.027			
×Exposed <i>in utero</i>	(-1.41)				(2.19)				(1.08)			
Affected districts× Months of Exposure <i>in Utero</i>		-0.023				0.015†				0.005		
		(-0.97)				(1.69)				(1.53)		
Affected districts× Exposed in 1st trimester			-0.088				0.127				0.066*	
			(-0.43)				(0.90)				(2.51)	
Affected districts ×Exposed in 2nd trimester			-0.194				0.281**				-0.037	
			(-1.11)				(2.62)				(-0.97)	
Affected districts ×Exposed in 3rd trimester			-0.028				-0.112				0.032	
			(-0.15)				(-1.00)				(0.93)	
Fatalities×Affected districts ×Exposed <i>in</i> <i>utero</i> /100				-1.14†				0.726†				0.178
				(-1.96)				(1.66)				(1.28)
Observations	595	595	595	595	586	586	586	586	1643	1643	1643	1640

Notes: Other controls are child characteristics shown in Table 1. Estimated by Linear Probability Model. t-statistics in parentheses. Robust standard errors are clustered at the enumeration level (PSU). † significant at 10%, \* significant at 5%, \*\* significant at 1%.

### **3.6.4. Mechanism**

The estimation results indicate that the 1992 Kenya's electoral violence resulted in negative birth outcomes. The question arises as to the mechanism behind this finding. One possibility is the disruption of access to health services during the violence, which made it impossible for pregnant mothers to access prenatal care. Prenatal care in general includes nutritional and health checks, which help fetal health, growth, and development. One such important prenatal recommendation to pregnant women is to obtain a tetanus vaccination during pregnancy to reduce the risk of a child's death after birth (Mwabu 2008).

Table 3.8 shows the percentage of children whose mothers received antenatal care and tetanus injections during pregnancy and delivered at a health facility, separated by location (violence-affected and nonaffected districts), and timing of birth (exposed or non-exposed to the violence). Because the comparison of the means is inconclusive, we examine whether the mothers' use of health services changed as a result of the violence by applying the same estimation model (difference-in-differences) as in the previous sections.

**Table 3. 8: Antenatal care, Tetanus injection, and Delivery at health facility (Means and Estimation results by Linear probability model)**

	Affected Districts		Nonaffected Districts		Difference	<i>t</i> Value <sup>a</sup>	Coefficient <sup>b</sup> of Affected Districts × Exposed <i>in Utero</i> ( <i>t</i> statistics)
	Mean	SD	Mean	SD			
<b>A. Antenatal Care</b>							
Number of Observations	1,647		4,415				
Not exposed <i>in utero</i>	0.940	0.251	0.950	0.213	-0.010	-0.87	
Exposed <i>in utero</i>	0.928	0.270	0.932	0.224	-0.004	-0.20	0.013
Difference ( <i>t</i> statistics)	-0.012	(0.68)	-0.018	(1.53)	0.006	(1.59)	(0.68)
<b>B. Tetanus Injection</b>							
Number of Observations	1,631		4,343				
Not exposed <i>in utero</i>	0.91	0.302	0.922	0.264	-0.012	-0.87	
Exposed <i>in utero</i>	0.846	0.375	0.884	0.315	-0.038	-1.40	0.0000
Difference ( <i>t</i> statistics)	-0.064	(2.99)***	-0.038	(2.70)***	-0.026	(0.28)	(0.00)
<b>C. Delivery at a Health Facility</b>							
Number of Observations	1,660		4,452				
Not exposed <i>in utero</i>	0.410	0.521	0.461	0.489	-0.051	-1.85*	
Exposed <i>in utero</i>	0.351	0.497	0.405	0.483	-0.054	-1.27	-0.0028
Difference ( <i>t</i> statistics)	-0.059	(1.66)*	-0.056	(2.28)**	-0.003	(0.32)	(-0.06)

<sup>a</sup> The *t* value is for testing whether means of affected and nonaffected districts are statistically different. Numbers in parentheses are *t* values for testing whether means of exposed and nonexposed cohort are statistically different.

<sup>b</sup> The last column is estimated by linear probability model. Values in parentheses are *t* statistics. All models include controls for child, parental, and household characteristics, as well as district birth year, district, birth year, and birth month fixed effects. \**p* < .05; \*\*\**p* < .001



The results are shown in the last column of Table 3.8, where a dummy variable identifying women who received prenatal care during the pregnancy is the dependent variable in panel A, and a dummy variable for being immunized with the tetanus toxoid vaccine during the pregnancy is the dependent variable in panel B. In panel C, a dummy variable for whether a child was delivered at a health facility is the dependent variable. None of the coefficients are statistically significant. We do not find evidence that the negative effect of exposure to the violence on childbirth outcomes was due to disruption of access to health care services during the violence. Combined with the results obtained in earlier sections, we can conclude that maternal stress early in pregnancy from the 1992 Kenya electoral violence negatively affected birth outcomes.

### **3.7. CONCLUSION**

In this study, we investigate the impact of prenatal exposure to pre-election violence on birth outcomes. We find that exposure to prenatal stress negatively affected the health of the exposed children. The results of our analysis show that babies exposed to violence *in utero* had an increased probability of low birth weight and being very small size at birth by 18.9 and 5.3 percentage points, respectively. An extra month of prenatal exposure to the violence increased the probabilities of low birth weight and a child being small at birth by 2.1 and 0.55 percentage points, respectively, suggesting that the negative impact was stronger for children exposed for longer periods. Exposure to the violence in the first trimester decreased birth weight by 271 g and increased the probabilities of low birth weight and very small size at birth by 18 and 4 percentage points, respectively. The findings are consistent with the hypothesis that prenatal exposure to conflict affects birth outcomes. Our findings reveal that the 1992 ethnic violence in Kenya had a greater impact on birth outcomes

than did the violence described in the other studies. Further analyses confirm that the estimates presented in the study are robust.

Although exposure in the first trimester of pregnancy significantly increased the incidence of low birth weight, exposure in the third trimester did not. Furthermore, we do not find evidence that the negative effect is greater for less-educated mothers than for more-educated mothers. These results suggest that lack of proper nutrition during pregnancy due to the electoral violence is not the main reason for the increased incidence of low birth weight. In addition, we find no evidence that those who were exposed to the violence were less likely to take antenatal care and tetanus injection and to deliver at health facilities. Therefore, decreased usage of health services due to the violence does not explain the negative effect, either. Rather, based on the results that *in utero* exposure in the first trimester significantly decreased birth weight, we conclude that maternal stress is the main channel through which the violence affected birth outcomes.

Ethnically and politically instigated conflicts are unfortunately a common phenomenon in Kenya, Africa, and other developing economies. It is, therefore, important to understand the health, educational, and economic consequences of such events that derail human and economic development efforts. These results have policy implications: they demonstrate the need for reducing violence. Free and fair elections are critical for preventing electoral violence. Electoral competition can work if there are checks and balances. Cooperation is needed among citizens, media, and the court system to ensure that elections are conducted according to the stipulated rules; and where grievances arise, they must be resolved according to the law. Or, as the findings of this study reveal, violent episodes can have profoundly devastating effects on vulnerable women and children.

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## CHAPTER 4: CONCLUSION

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This thesis sought to investigate the causes and consequences of ethnic and political violence that rocked the Rift Valley, Western and Nyanza regions of Kenya in the early 1990s. Post-independence Kenya was politically stable, peaceful and the most economically developed country in East Africa. Although Kenya is comparable to many African countries in terms of overdependence on primary commodity goods, ethnic diversity and authoritarian leaderships, there have not been any episodes of civil wars that have plagued two-thirds of the continent. However, in the early 1990s and coinciding with the introduction of multi-party democracy, Kenya experienced sporadic attacks targeting specific ethnic groups opposing the regime and supporting the democratization of the electoral process.

The first essay in Chapter two of the thesis identifies electoral rule as the cause for the violence. Political studies had identified suspension of aid by the World Bank and international donors pending economic and political reforms as the final push that ended authoritarian rule. The president who had previously run unopposed knew that multiparty democracy would challenge his power and economic dominance. To guarantee victory hence remain in power, the ruling party introduced election rules which would force ethnic groups to turn on each other in the race for political power. The minority ethnic group in power attacked majority ethnic groups in the opposition because they saw a win as a defense of their privileged economic position and a defeat as a loss of their power. The underlying land grievances and ethnic competition for resources resulting from the colonial strategy of divide and rule provided a fertile ground for polarizing ethnic groups.

This is the first time that this link has been tested empirically. The main challenge was the lack of data. We generated a data set for occurrences of deaths and displacements as reported in international data sources, local organizations, newspapers and reports of committees appointed to investigate the causes of tribal clashes. Our data revealed that the attacks were in three regions and targeted ethnic groups most opposing the authoritarian president. Communities that had once lived together turned against each other as politicians from the ruling party incited the president's minority ethnic group against those in the opposition. By election time in December 1992, thousands of people were displaced and could not vote. The political regime achieved their objective of disrupting the electoral process and retained power. The violence was viewed as a serious threat to the unity of Kenya, rule of law and economic progress.

The second essay in Chapter 3 investigated the consequences of the violence on the birth outcomes of children whose mothers were pregnant during the violence. This is motivated by growing empirical literature that estimates the impact of war on human capital accumulation. Specifically, epidemiologists and economists have found that shocks *in utero* have negative effects on child health which in turn can have long-run impacts on education, income and health. Therefore, if psychological and physical circumstances affect an individual's outcomes in adulthood, there is need to identify factors that could interfere with prenatal development. The violence displaced more than 300,000 people and more than 1,500 lives were lost.

Survivors of violent attacks not only suffered injuries but also lost their property, were displaced from their homes, lost their source of livelihood, were malnourished and were unable to attend school. Despite the catastrophic consequences for the violence, there was no empirical study

focusing on the extent of damage on the health of women and children. Indeed, our analysis shows that children who were exposed to violence during pregnancy had lower birth weight and increased probabilities of low birth weight, very small size at birth and premature birth, outcomes that have shown to have long term economic and health consequences for the affected groups.

These essays highlight the importance of understanding the motivations for engaging in violence and the economic legacies of conflicts if we are to develop strategies for prevention and recovery. Although democracy is the most effective form of governance, it is important to understand that it can only be effective if a country has a knowledgeable population and functional legal system that can offer checks and balances. The essays also highlight the need to instill a sense of national identity in multi-ethnic societies. In absence of nationalism, people pledge allegiance to their kin hence creating a suitable environment for turning ethnic groups against one another. There is need to create education and employment opportunities for the youth who can be easily lured into violent activities if they have no source of income or entrepreneurial skills. Understanding the long-term negative consequences of conflicts on human capital accumulation and economic development is paramount for development of intervention programs which target the most vulnerable groups in society.

The findings of this thesis provide a guide to future research. The next step is to compare the constituency (electoral boundaries) adult populations with the number of registered voters and votes cast to identify the effect of the violence on displacement, voter registration and casting of votes. This would also be useful for verifying accusations of votes rigging that have been reported after every election.

Further research will also investigate the impact of the violence on schooling attainment. The displacement of families, financial constraints as parents lost their source of livelihood, burning, closure and looting of schools and eviction of teachers from the targeted ethnic groups could have contributed to the disruption of children's education. This is particularly significant because education improves the health, productivity and human development of a nation.

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