

# Measuring Violent Conflict in Micro-level Surveys

## Current Practices and Methodological Challenges

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## Abstract

This paper reviews both current practices and common challenges of measuring the causes, functioning, and consequences of violent conflict at the micro-level. The authors review existing conflict- and violence-related survey questionnaires, with a particular focus on the World Bank's Living Standard Measurement Surveys. Further, they discuss methodological challenges associated with empirical

work in conflict-affected areas—such as operationalizing a definition of conflict, using the appropriate units of analysis, deciding on the timing of the survey, dealing with data biases and conducting surveys in an ethically sound manner—and propose ways to improve the usefulness of existing surveys to analyze conflict processes at the micro-level. Violent conflict, households, survey methods, questionnaire design.

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## **Measuring Violent Conflict in Micro-level Surveys: Current Practices and Methodological Challenges**

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Because it affects nearly 1.5 billion people worldwide (World Bank 2011), violent conflict is arguably one of the most important challenges facing the world today. Violent conflict has a considerable impact on the welfare and behavior of individuals, households and communities, and also affects development, peace, and democracy-building processes worldwide. Conflict-affected countries include one-third of all people living in extreme poverty and are responsible for almost one-half of the world's child mortality (Collier 2007; World Bank 2011). Currently, one-third of all international aid is allocated to fragile and conflict-affected countries (OECD 2011).

Analyzing the causes of violent conflict has preoccupied social scientists for a long time. The academic literature on conflict has traditionally had a strong macro perspective, with a focus on understanding the rise of violence against state institutions and between different ethnic groups (see, e.g., Hirshleifer 2001; Horowitz 1985; Skaperdas 1992; Collier and Hoeffler 2004; Fearon and Laitin 2003; Brück 2013). This literature has led to considerable advances in our knowledge of the complex causes of political violence. This literature has, however, offered a more limited understanding of the role of the causal mechanisms and micro-level dynamics that may shape the relationship between violent conflict and social, economic, and political outcomes. These concerns have resulted in a new and growing research agenda on the micro-level analysis of violent conflict.<sup>1</sup> This emerging body of research has begun to shed light on some of the complex micro-level causes and consequences of violent conflict by generating important theoretical and empirical insights on a number of dimensions of violent conflict processes, including the emergence of violent forms of collective action (Goodwin 2001; Kalyvas and Kocher 2007; Petersen 2001; Wood 2003), the organization and strategic use of different forms of violence (Balcells 2011; Cramer 2006; Kalyvas 2006; Keen 1998), the internal organization of armed groups (Humphreys and Weinstein 2008; Richards 1996; Weinstein 2007), and the consequences of violent conflict on political participation (Blattman 2009), interpersonal trust (Voors et al. 2012), political identities (Balcells 2012), and long-term human capital accumulation (see Justino 2012 for a comprehensive review). However, despite considerable progress, we still have limited rigorous and comparative evidence of how people live in contexts of violence and conflict: what choices they make to secure lives and livelihoods, how institutional structures impact on and are affected by these decisions, or what policies work for establishing peace and supporting economic stability in areas and among populations affected by violent conflict. This lack of systematic understanding is explained to a large extent by the limited amount of information we currently have on how people live and survive in areas of violent conflict.

Over the last three decades, The World Bank and other institutions have developed highly sophisticated surveying techniques, most notably the Living Standard Measurement Studies (LSMS), to collect socio-economic data at the micro-level. These advances in data collection have led to a wealth of knowledge on how individuals, households, and communities live and adapt to a variety of shocks and life events, including price changes, sudden climatic shocks and loss of work or illness, among others. The impact of political shocks and events, such as violent protests, communal riots, revolutions, civil wars, genocide, and international wars, is less well understood. Despite the implementation of many large socio-economic surveys in conflict-affected contexts, only very few questionnaires have been explicitly adapted to understand the processes of conflict.

and violence, and their impact on the lives of local populations (see Verwimp, Brück, and Justino 2009). Several large household surveys conducted in conflict-affected countries, such as Nigeria, Indonesia, Colombia, Rwanda, South Africa, Pakistan and Liberia, only sporadically feature (a limited number of) questions that capture the effects of violence and other forms of political instability. The absence of detailed information on how individuals, households, and communities experience violent conflict means that researchers typically rely on crude proxies of conflict (e.g., whether dwellings have been destroyed, the number of deaths in a household, and whether a household has ever been displaced), which makes it hard to build a systematic and comparable understanding of how processes of violence have affected different people and communities, the channels through which violence may affect welfare and behavior at the micro-level, and how violent conflicts may transform societies, politics, and local economies.

The objectives of this paper are to review current empirical research on conflict processes at the micro-level, discuss the methods used to empirically capture such processes, and suggest potential advances to current survey methodologies. The paper is organized as follows. In the next section, we review current survey practices in conflict-affected contexts, paying close attention to recent academic literature that utilizes quasi-standardized institutional surveys such as LSMS. Researchers have recently designed surveys to investigate conflict processes, thus creating new methods for collecting data at the micro-level. This new empirical research offers considerable opportunities for improving our knowledge of processes of violent conflict. We review this recent literature in the subsequent section and reflect on common methodological challenges related to the design, implementation, and analysis of micro survey data in conflict-affected contexts. The final section concludes the paper by discussing potential ways forward to improve methodologies for data collection at the micro-level in conflict-affected contexts, including suggestions for how existing socio-economic surveys could be strengthened to provide a more solid basis for systematic and comparative empirical work on conflict processes at the micro level.

### **Current Empirical Approaches to Understanding Conflict at the Micro Level**

Economists, political scientists, anthropologists, and other social scientists have used a variety of empirical methods to research the impact of violent conflict on human welfare and behavior. These advances have been possible thanks to the wider availability of rigorous evidence from conflict-affected contexts. This new empirical research has developed in two broad directions (see survey in Verwimp, Justino, and Brück 2009). The most common direction has been the use of socio-economic datasets in conflict-affected regions that were not explicitly collected to analyze processes or consequences of violent conflict per se, but either contain a number of variables (often self-reported) that can be used as proxies for human exposure to violent conflict, or can be creatively merged with conflict event data. The second direction is based on data specifically collected to identify the causes and functions of violent conflict at the micro level. This is the ideal approach because it allows researchers to tailor the surveys to directly address important research questions about different aspects of conflict processes, their causes, and their consequences. The high costs of these surveys, the level of resources required, and the ethical and security constraints associated with doing primary research in areas of violence has made this an uncommon approach.

In this section we review recent studies based on existing socio-economic surveys that were not conducted to analyze conflict processes, but have been used to generate important insights on

conflict processes and welfare outcomes. We focus on studies that have used the widely available LSMS conducted by The World Bank and partners, national census data, and the Demographic and Health Surveys (DHS). We discuss the “ideal” approach in the following section.

### **Using Living Standard Measurement Surveys to Understand Conflict Processes**

The LSMS implemented by The World Bank aim to provide high quality data for policy makers to assess the effectiveness of interventions designed to improve the living standards of individuals, households, and communities in countries where they are conducted. Micro-level empirical research on the effects of conflict and violence has made use of various LSMS. The main advantage of such surveys is their comprehensive treatment of household welfare, covering topics such as household demographics, income, health, labor, and education. However, these surveys are primarily designed to be conducted in peaceful contexts and often neglect to explicitly address violent conflict as a category in its own right, even when they are implemented in countries affected by conflict.<sup>2</sup>

LSMS are designed to meet the needs of government policy makers, who sometimes wish to avoid referring to the conflict in an effort to start afresh. As a result, questionnaires may focus on the experiences and the standards of living after—rather than during—the conflict. Some questions about conflict may also be politically sensitive and government officials may be apprehensive about including them in household surveys. For example, questions about the destruction or theft of assets that identify the perpetrators, especially if government forces are included in the list, may raise controversial or even legal issues for government administrations. Likewise, government-sponsored surveys may avoid addressing the conflict in formerly rebel-held territories for fear of invoking distrust or upsetting a delicate peace settlement. Accordingly, some questions that are relevant for researchers may be left out of government-sponsored questionnaires.

However, several LSMS have included conflict-related questions that yielded important insights for conflict research. In other cases, researchers have been able to match the information in these surveys to external conflict event datasets to design identification strategies that allow the causal analysis of conflict effects on individuals, households, and communities. We reviewed 24 of these surveys, and analyzed their structure and contents; the list includes Azerbaijan (1995), four waves in Bosnia & Herzegovina (2001–2004), Guatemala (2000), Iraq (2006), Kosovo (2000), Nepal (1995/96, 2003/4, 2010), two waves in Peru (1991, 1994), Serbia (2002, 2003, 2007), Tajikistan (1999, 2003, 2007, 2009), Timor-Leste (2001, 2007) and Malawi (2004, 2010).<sup>3</sup> Although we found in general that including conflict questions in LSMS has been done in a piecemeal fashion, resulting in insights scattered across countries and categories rather than a systematic and comparative approach to measuring conflict, we have also found many good examples of conflict-sensitive questions across these surveys that have resulted in important new knowledge on the impact of conflict on the lives and livelihoods of people in areas of violence. We provide a summary of existing socio-economic surveys with conflict related questions in appendix I. In

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<sup>2</sup> For example, the LSMS conducted in Timor-Leste in 2001 (after the country had experienced intensely violent events in 1999) asks only two questions on war damage that focus almost exclusively on damage to dwellings. The LSMS conducted in Tajikistan in 2003 shortly after the Tajik civil war asks only one question on war damage.

<sup>3</sup> For an excellent description of the design and use of the LSMS, refer to Deaton (2000: 32–40).

appendix III we summarize existing studies that have used LSMS (and DHS) to understand conflict processes.

### **The Use of Other Standardized Household Surveys and National Census Data**

In addition to the LSMS, researchers have leveraged other standardized household surveys and national census data to study conflict processes. For example, Deininger (2003) conducted one of the first micro-level analyses of violent conflict and its consequences using data on communities and households included in the 1999–2000 Uganda National Household Survey (UNHS) and the 1992 Uganda Integrated Household Survey (IHS). These surveys contain information on approximately 10,000 households and 1,000 communities, and ask respondents questions related to the civil war, including information on victimization and motivations for participation in the war. Czaika and Kis-Katos (2009) have studied the determinants of displacement in Aceh, Indonesia, using the Village Potential Census (PODES), which maps conflict-affected villages across the whole of Indonesia. The census itself includes questions posed to community leaders on conflict events in particular communities. Rohner, Thoenig, and Zilibotti (2012) have matched two waves of the Afrobarometer survey, a widely available socio-economic survey, to the ACLED dataset in order to investigate the effect of the conflict in Northern Uganda on social capital.<sup>4,5</sup>

Verpoorten (2011) demonstrates how to use widely available census data to indirectly measure conflict mortality. Census data is generally quite comprehensive and includes mortality information on victims targeted by all combatant parties, those dying in both large and small events, those in both remote and accessible areas, as well as direct and indirect mortality levels. This comprehensiveness creates a relatively unbiased estimator of wartime mortality (though this method may also capture mortality unrelated to wartime events). Census data has also been used in Weidmann (2009), who combined the Bosnian census with the ACLED conflict database to determine how conflict affects ethnic population concentrations. National census data provides a measure of ethnic concentration across municipalities in Bosnia, which can in turn be matched to an index of violence intensity across the same municipalities. The study finds that contested municipalities, without clear dominance by any ethnic group, were more likely to see intense fighting during the conflict.

Some researchers have uncovered important insights into the human capital effects of violent conflict through the creative use of historical datasets. One good example is Akbulut-Yuksel (2009), which shows how a unique dataset on city-level destruction in Germany caused by Allied Air Forces bombing during World War II can provide far-reaching insights when combined with a socio-economic panel. This is one of the first studies to capture the long-term human capital effects of violent conflict across several generations. Historical archives and surveys of survivors have also been used recently by political scientists to examine the long-term social and political

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<sup>4</sup> The Armed Conflict Location and Event Dataset (ACLED) is one of the most comprehensive datasets on political violence, and includes information on specific dates and locations of political violence, types of event, groups involved, fatalities, and changes in territorial control. This data is derived from a variety of sources such as reports from war zones, humanitarian agencies, and research publications.

<sup>5</sup> De Luca and Verpoorten (2011) have conducted a related study using the same datasets.

legacies of the internal conflict in Greece in the 1940s (Kalyvas 2006), as well as the Spanish Civil War (Balcells 2012).

### **The Use of DHS to Identify the Human Capital Effects of Violent Conflict**

DHS are specialized surveys designed to monitor health, fertility, and mortality outcomes in several developing countries. Although these surveys often lack information on conflict and violence—even when conducted in conflict-affected countries—several studies have used them to analyze the demographic, health, and education effects of violent conflict. The methodologies followed are similar to those used with the LSMS. For instance, Bundervoet (2009) investigated the profile of victims of the 1993 killings in Burundi using the United Nations Population Fund (UNFPA) demographic survey conducted in Burundi in 2002. Verwimp and Van Bavel (2011) used the same survey to study the effect of conflict in Burundi on the gender-gap in primary school completion. De Walque and Verwimp (2010) used Rwandan DHS data from 2000 and from 1992 to estimate excess mortality in the 1994 genocide, while De Walque (2004) made use of a DHS to assess the long-term impacts of the Cambodian genocide during the Khmer Rouge period. The 2002 Rwandan Rural Labour and Death Survey is another useful demographic survey, which asked 1,500 households about changes in the composition of their household in the four years prior to the interview. This questionnaire was not designed as a conflict questionnaire but can be used to analyze the effect of death and disease on household labor supply. The potential of Demographic and Health Surveys in conflict research remains, however, largely underexploited.

### **Discussion**

Researchers have made use of existing socio-economic datasets collected for purposes other than conflict research by creatively using occasional questions related to conflict or by merging them with conflict event data. This approach makes good use of existing data but entails some shortcomings. Most notably, existing surveys often lack a comprehensive treatment of conflict in questions and answer categories. This problem can be mitigated through the use of high-quality event datasets, as demonstrated in several studies discussed above. The main downside of this approach is that matching datasets may be difficult, either because names of locations or identities of respondents cannot be reconstructed, or because researchers cannot access that information for confidentiality reasons. One way of addressing these shortcomings is to conduct primary survey research in conflict-affected areas; several recent studies have attempted to do so, and we review this work in the following section.

### **Recent Methodological Advances for Surveying in Conflict-affected Areas**

Purposely designed studies make up an emerging body of research on the causes and impacts of conflict at the micro-level. The great advantage of such studies is that they identify and measure conflict directly within the survey questionnaire, thereby allowing researchers to identify more precisely the complex causal mechanisms that shape the relationship between violent conflict and individual, household, and community welfare and behavior. We summarize these studies in appendix II. We review here some examples from five types of purposely built surveys used in the



literature: (i) ex-combatant surveys, (ii) genocide and atrocities surveys, (iii) surveys of displaced populations, (iv) post-conflict reconstruction surveys, and (v) conflict surveys conducted among civilian populations.

## **Ex-combatant Surveys**

Several surveys have been conducted to analyze the experiences of specific population groups living through violent conflict, notably former soldiers and members of rebel movements. Below, we discuss the Survey of War Affected Youth (SWAY) from Northern Uganda (2006), Humphrey and Weinstein's (2004; 2008) surveys of ex-combatants in Sierra Leone, Arjona and Kalyvas' (2008) survey of ex-combatants in Colombia, and Mvukiyehe, Samii, and Taylor's (2007) surveys in Burundi. These surveys do not represent the full spectrum of all surveys conducted among ex-combatants.<sup>6</sup> However, these four surveys have developed novel and creative instruments to capture processes of recruitment, armed group support, and combatant-civilian relations, which have led to important insights into some of the key processes that affect the feasibility and duration of armed conflicts.

Blattman and Annan, who directed the Survey of War Affected Youth (SWAY) in Northern Uganda in 2005 and 2006, have made an important contribution to the design of surveys that monitor the micro-level effects of violent conflict.<sup>7</sup> The surveys were conducted among 741 male youths in eight sub-counties in Northern Uganda, with the objective of assessing different dimensions of vulnerability and resilience across social contexts, and to collect information on education and training, livelihoods, health, substance abuse, impacts of war violence and abduction, and the success of reintegration of former abductees. The surveys implemented a novel sampling methodology—employing a technique that the authors define as “retrospective sampling”—that attempts to reconstruct the sample before the conflict took place. This helps correct for attrition bias resulting from conflict-related deaths or migration. The study also creatively uses culturally-specific indicators to measure psychosocial well-being, such as “nightmares and insomnia” or “perceptions of haunting by spirits”. Although culturally specific, the introduction of these questions has provided important directions for the collection of hard-to-quantify indicators in survey instruments.<sup>8</sup>

Humphreys and Weinstein (2004; 2008) profile the motivations of Sierra Leonean ex-combatants for joining and staying with armed groups, and their attitudes towards disarmament, demobilization, and reintegration. The survey was conducted among 1,043 ex-combatants. These authors employed novel methods to reconstruct time periods within the conflict, which allowed

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<sup>6</sup> For example, Brück, Justino, Vicente and Stojetz conducted an ex-combatants survey in Angola in 2013 to understand the long-term effects of conflict exposure and demobilization on social, economic, and political dimensions of post-war coping, including intra-household variations in outcomes.

<sup>7</sup> See <http://chrisblattman.com/projects/sway/> for the project's description.

<sup>8</sup> The survey also measures the scope and nature of violence experienced by various population groups. Based on semi-structured interviews, the team developed a catalogue of the 31 most common—and traumatic—acts of violence. The list of trauma includes experiences such as “you were forced to kill a family member or friend” and “you were forced to betray a family member or friend” (Annan, Blattman, and Horton 2006: 52). A similar measurement of the exposure to violence and emotional distress was also used in the Northern Uganda Social Action Fund Youth Opportunities Project (NUSAF YOP 2008).

them to analyze processes and motivations of recruitment across time. Respondents were asked to recall their geographic location during active participation in armed groups at specific periods during the war. In order to assist recall, the authors constructed a timeline of well-known events and dates and placed individual answers within these different time periods. This method yielded a set of responses at different locations and time periods throughout the conflict. Another innovative aspect of this survey is the way in which sensitive questions were phrased. In order to avoid respondents feeling compromised by their answers, the survey focused on asking whether respondents observed potentially incriminating events (such as theft, rape, and assault), rather than asking whether respondents perpetrated them personally.<sup>9</sup> Overall, the survey portrays an array of motivations for participating in conflict that suggests multiple causes for joining and staying in armed groups, ranging from fear and forced recruitment, to monetary incentives and access to protection and provision of basic needs.

Arjona and Kalyvas (2008) also examine individual motivations for joining armed groups in Colombia. The survey was conducted among 732 ex-combatants of a leftist guerrilla group and a right-wing paramilitary group. The sampling approach followed in this survey was more challenging than the survey conducted in Sierra Leone due to security concerns in various sampling areas and the reliance on sample frames drawn exclusively from a national demobilization and reintegration program; these factors prevented the authors from constructing a representative sample. However, the survey is unique in that it provides extensive information on individual motivations for joining armed groups, how different armed groups are organized, and the groups' relationships with civilian populations.<sup>10</sup>

Mvukiyehe, Samii, and Taylor conducted over 3,000 interviews in 2007 among ex-combatants in Burundi, primarily focusing on armed group recruitment. This survey was implemented among combatants and non-combatants in order to identify how experiences of violence have differed between the two groups. The survey covers personal violent experiences that have not been captured elsewhere, such as physical mistreatment, sexual abuse, or forced labor. Victims were also asked to directly identify their perpetrators.

## **Genocide and Atrocities Surveys**

Genocides are extreme conflict events that produce enormous welfare impacts and pose unique challenges for researchers. In this section, we discuss two studies: the Genocide Transition Survey (2000) and the Darfur Refugee Questionnaire (2006).

The Genocide Transition Survey (2000), conducted in Rwanda by Verwimp, is one of the first examples of the potential for panel survey-based research in conflict-affected areas.<sup>11</sup> Verwimp tracked the fate of household members who had been interviewed in a nationwide agricultural

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<sup>9</sup> See also Taylor (2007), Fearon, Humphreys, and Weinstein (2009), and the Sierra Leone PRIDE/JCTJ (2002). A useful website containing information on different surveys is the Post-Conflict and Ex-Combatant Surveys, <http://www.columbia.edu/~mh2245/XCSURVEYS/>.

<sup>10</sup> A similar methodology was adopted by Guichaoua (2007) to examine motivations to join insurgent and incumbent groups in Nigeria.

<sup>11</sup> See Verwimp (2003a) for a description of the survey.

survey prior to the 1994 genocide. In addition to important insights into the profiles of perpetrators (Verwimp 2005) and victims (Verwimp 2003) of the 1994 genocide in Rwanda, this survey has demonstrated that tracking households and individuals is possible even under the difficult circumstances of such extreme violent events.

The Darfur Refugee Questionnaire (DRQ) laid the foundations for the U.S. State Department to declare the killings in Darfur as genocide. Indeed, the survey solicits a description of violent acts from the victims surviving in refugee camps and links them to their perpetrators. Details of this complex survey are provided in Totten and Markusen (2006).

### **Surveys of Displaced Populations**

The welfare losses suffered by displaced persons are an important area of research in conflict studies. Two of the most prominent surveys of displaced populations are the Northern Uganda Livelihood Survey (NULS; 2007) and the Deininger, Ibáñez, and Querubin (2004) study in Colombia.

The NULS was conducted in 2007 and covered multiple topics concerning the livelihood choices of displaced populations in a survey of individuals and households (see Bjørkhaug, Bøås, Hatløy, et al. 2008). The survey is a follow-up of the 2005 Northern Uganda Internally Displaced Persons Profiling Study and the 2006 Lira District Early Recovery Needs Assessments conducted by Fafu, the Institute for Applied Social Science (Norway). NULS covers 5,000 households and its carefully phrased questions are specific enough to capture important changes in people's lives due to violent conflict, including motivations for migration, experience of violent crime and abduction, other forms of victimization and causes of health problems, as well as future expectations. In addition, the survey identifies whether the person was a combatant, and also provides information on how combatants and displaced civilians may experience violence. Studies using the NULS 2007 include Bozzoli, Brück, and Muhumuza (2011; 2012).

Deininger, Ibáñez, and Querubin (2004) use an unusually large survey conducted among 32,093 households applying for assistance from the Catholic Church in Colombia to investigate the decision to return after displacement. The survey contains unique information on the causes of displacement, household demographics, access to land and labor market, and education outcomes. The study determined that displaced households will want to return when seeking agriculture employment, access to land and reintegration with social networks. Vulnerable groups that faced traumatic experiences before displacement or belong to ethnic minorities are less inclined to return. This is one of the few available surveys that trace the movements of displaced people. Information was collected only if people requested assistance from the church, which may lead to some selection biases. However, this information has been used to examine the extent of asset losses and labor market prospects of displaced people (Ibáñez and Moya 2009), the determinants of displacement (Engel and Ibáñez 2007), and labor supply outcomes and wage changes for displaced people (Calderón and Ibáñez 2009).

## **Post-conflict Reconstruction Surveys**

Some surveys have been developed by international institutions operating in conflict zones to assess the sustainability of post-conflict reconstruction. Academic work on reconstruction is, however, still relatively limited. Below, we review three examples of post-conflict reconstruction surveys: the Standardized Monitoring and Assessment of Relief and Transitions surveys, surveys conducted by the International Committee of the Red Cross, and Mvukiyehe and Samii's (2008) study of peacekeeping in Cote d'Ivoire.

The Standardized Monitoring and Assessment of Relief and Transitions (SMART) surveys provide a standardized methodology for measuring key statistics in the wake of complex emergencies (including conflict). The SMART approach was designed by several humanitarian agencies to standardize surveys that determine the severity of humanitarian crises, while the method itself focuses on basic indicators such as the nutrition status of children under 5 and mortality rates.<sup>12</sup>

The International Committee of the Red Cross (ICRC) and the Greenberg Research team conduct the "People on War Surveys" in a variety of conflict-affected countries (ICRC 2009).<sup>13</sup> The ICRC funds the surveys in part to assess the perception of its own interventions. The surveys are standardized so that results can be compared across all participating countries. To account for country-specific contexts, the wording of some questions is modified where necessary.

Mvukiyehe and Samii (2008) evaluate the peacekeeping operations in Cote d'Ivoire. This survey captures the potential for conflict re-escalation by reporting on events and circumstances that might warn of renewed conflict. The survey also investigates perceptions of security amongst populations and repeated violence against civilians in different locations. Similar to the Humphreys and Weinstein (2008) ex-combatant survey discussed above, respondents of the Mvukiyehe and Samii (2008) survey were asked whether or not they witnessed or suspected "inter-ethnic fighting, presence of armed groups, or recruitment by armed groups in their localities" in relation to time periods constructed between well-known events, which allows researchers to assess how early conflict signs have evolved across time.

## **Conflict Surveys Conducted among Civilian Populations**

Several socio-economic household surveys have incorporated comprehensive components that capture the effect of various forms of violent conflict on civilian respondents. Below, we discuss four recent and ongoing studies, including the Burundi Priority Household Panel (1998, 2007, 2012), the Life in (n Survey (2010–2012), the Maharashtra Household Longitudinal Survey (2010–2012), and the Colombian Longitudinal Survey of Wealth, Income, Labor and Land (2007).

The Burundi Priority Household Panel (1998, 2007, and 2012) was designed to provide detailed information on the welfare effects of the civil war in Burundi by comparing households in villages

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<sup>12</sup> The Centre for Research on the Epidemiology of Disasters compiles the Complex Emergencies Database (CE-DAT), which includes SMART survey data.

<sup>13</sup> Afghanistan, Colombia, Democratic Republic of the Congo, Georgia, Haiti, Lebanon, Liberia, and the Philippines.

affected by the war with households in non-affected areas. A research team from Antwerp, Brussels, Wageningen University, and the National Institute of Statistics and Economic Studies in Burundi (Isteebu) organized the survey, which was conducted among 1,000 households (see Bundervoet, Nillesen, Verwimp et al. 2009). The survey features questions on violence and conflict at the individual, household, and community levels. The panel design, collected in three waves in 1998, 2007, and 2012, captures comparable data on welfare before and after incidences of violence. Special attention was given to tracking individuals who left the household since the first wave of the survey (Verwimp and Bundervoet 2009). The same team followed up the results of this survey with experimental behavioral games in conflict-affected and non-affected areas in 2009. The experiments measured how exposure to violence affects individual risk, social, and time preferences (Voors et al. 2012). This unique set up has allowed the researchers to link outcomes measured in the survey with behavioral data, providing important insights into how exposure to violent conflict may affect people's fundamental preferences and pro-social behavior.

The Life in Kyrgyzstan Survey (LIK) interviewed 3,000 households annually over 3 years (2010–2012) to create a nationally representative panel (Brück, Esenaliev et al. forthcoming). The survey project was implemented by the German Institute for Economic Research. The LIK surveys cover a comprehensive list of topics, including security and violence, demographics, household assets, expenditure, migration, employment, agricultural markets, shocks, social networks, and subjective well-being.

The Maharashtra Household Longitudinal Survey (MHLS), funded under the European Commission's MICROCON program and the UK Economic and Social Research Council, was conducted in 2010 by the Institute of Development Studies (UK) among 1,089 households living in violence-affected areas in the Indian state of Maharashtra (see Gupte, Justino, and Tranchant 2010). The same households were surveyed again in 2012. This unique panel study was designed to capture how individuals and households live in areas characterized by persistent communal violence in India, and includes comprehensive questions on welfare changes, employment, schooling, access to amenities, attitudes, exposure to violence, vulnerabilities, communal relations, and trust.

The Colombian Longitudinal Survey of Wealth, Income, Labor and Land (ELCA) interviews 10,000 households in rural and urban areas affected by conflict in Colombia. The first wave was conducted in 2010 and the second wave will take place in 2013. This is the most comprehensive longitudinal survey ever conducted among conflict-affected populations. A novel aspect of the survey is the inclusion of questionnaire modules on activities of armed groups in different neighborhoods (see Gafaro, Ibanez, and Justino, forthcoming), as well as detailed information on migration, recruitment, and local cooperation with armed groups.

### **Challenges in Purposely Designed Surveys**

Purposely designed surveys conducted in conflict-affected areas are the state-of-the-art of empirical conflict research at the micro-level. There are, however, only a limited number of these surveys. There are good reasons for that. Primary fieldwork research in conflict-affected countries is quite expensive due to a lack of infrastructure and difficulties in engaging with suitably qualified

local field researchers. Security concerns can also pose difficulties to the research team and their respondents. In addition, researchers face a series of methodological challenges. Some of the most prevalent challenges include (i) defining conflict at the micro-level, (ii) choosing the appropriate unit of analysis, (iii) identifying time dimensions in survey questionnaires, (iv) dealing with data biases (such as selection bias and recall error), and (v) addressing ethical and security issues associated with doing primary research in conflict-affected contexts. We discuss these common challenges below.

### *Defining Conflict at the Micro-level*

One of the most important challenges in designing surveys in conflict-affected contexts is to create and operationalize a definition of conflict that captures the complex impact of conflict on the lives of individuals, households, and communities. Several authors have proposed more or less overlapping typologies of violent conflict, which include notions of violence against citizens, civil wars, guerrilla wars, coups, revolutions, and riots. These authors have differentiated typologies by participants and non-participants (Gupta 1990), between interstate wars, internal and civil wars (Singer and Small 1994), between conventional, irregular, and symmetric non-conventional warfare (Münkler 2005; Kalyvas 2006), and ethnic and non-ethnic wars (Sambanis 2001).<sup>14</sup> These definitions are useful for understanding conflict as a macro-phenomenon but are difficult to uphold at the micro level because they are too far removed from the everyday disturbances experienced by local populations.<sup>15</sup>

An additional difficulty in defining violent conflict from a micro-level perspective is to determine when a violent conflict starts and ends, as a conflict may start or conclude unevenly across a conflict-affected area. Further, lulls or spikes in violence may make the conflict feel as if it starts and stops rather than persists at a continuous intensity. Even after a conflict has subsided at the national level, the persistence of lower levels of violence and instability may continue to affect households and their members. Likewise, as conflicts draw to a close changes in the identity of the belligerents may create new coping dilemmas for the population. Many individuals and groups living in conflict-affected areas find themselves, therefore, responding, acting, and being affected by stages in between conflict and peace. Macro-level concepts of time periods may miss these nuanced variations at the micro level. For example, the Armed Conflict Termination Dataset uses a dummy variable that measures the termination of conflict by recording at least one year of non-activity (Kreutz 2005). This definition may be relevant for an army general who wishes to assess the probability of renewed conflict at the national level. However, it may be far less relevant for a woman making the decision to walk alone at night or a household making the decision to hold or liquidate assets. As conflicts change frequently over place, time and context, it is necessary to have

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<sup>14</sup> See Vasquez and Valerino (2010) for a review of existing typologies.

<sup>15</sup> We have proposed elsewhere to define violent conflict as the systematic breakdown of the social contract resulting from and/or leading to changes in social norms, which involves violence instigated through collective action (Justino, Brück, and Verwimp 2013). The systematic breakdown of the social contract signals that groups use some form of violence to contest the role of the state. The changes in social norms points to the transformative, as well as destructive, nature of conflict. The condition that conflict must arise from violent collective action stipulates that some group interaction must be involved, rather than violence perpetrated at the individual level.

a broad definition of conflict, while also establishing observable characteristics that can be easily captured through empirical data collection.

To be useful empirically, definitions of violent conflict must also differentiate between levels of intensity. The HIIK's Conflict Barometer and the conflict database COSIMO/CONIS<sup>16</sup> distinguish between different levels of intensity at the macro-level. The databases contain a spectrum, running from "sporadic violence" used by one of the parties, violence repeatedly used in an organized way, violent force "used with a certain continuity in an organized and systematic way," to force used with "extensive measures, depending on the situation" that create massive and long-term destruction. Household- and individual-level surveys can then add to these definitions by more precisely identifying the types of violence, whether physical, sexual, verbal, or psychological, and the context of violence, whether home, community, or the battlefield.

### *The Unit of Analysis*

The second methodological point in the design of surveys in conflict-affected contexts is the choice of the appropriate unit of analysis for different types of questions.<sup>17</sup> Depending on the type of information sought, survey questions typically target individuals, household heads, or central figures in the community. Although violent conflicts are a collective process and rarely based on individual actions, the multifaceted nature of conflict may be best understood by soliciting reactions from the individuals and households that make up the group. This is because groups are formed by the interactions of different individuals and their families driven by common, but not necessarily equal, interests and aspirations (Justino, Brück, and Verwimp 2013).

The individual is the lowest level of analysis. Concentrating on the individual level allows researchers to account for intra-household issues and thus assess the impact of individual shocks, such as death, disability, disease, dislocation, and destruction; it also captures personal activities, outcomes and expectations, and may enable researchers to gather information on self-identification, such as ethnicity or levels of trust in others. The objective of using individual-level questions is to determine how individual decision-making—across gender, age and different socio-economic backgrounds—may respond to the impact of violence on livelihoods, well-being and security. Individual-level surveys may also be able to capture specific individuals that may have been directly involved in the conflict, such as soldiers, refugees, and displaced people.

In household-level surveys, the head or another member of household responds on behalf of the household. Household-level questions allow the assessment of the impact of shocks on households and their reactions as collective decision makers. Questions can target changes in access to services, markets, investments, and land, which may affect the entire household even if only a few members are directly involved. Household-level questions can, in addition, be used to draw a broader picture about social relations and networks. Standard household surveys are most useful for identifying violent conflict when the latter is relatively widely distributed in the population because asking a larger group will cover a higher number of potentially affected individuals.

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<sup>16</sup> See <http://hiik.de/en/methodik/index.html>.

<sup>17</sup> For a discussion of methodology in practice, see Green and Tony (2008), Verwimp and Bundervoet (2009), and Bundervoet, Nillesen, Verwimp et al. (2009).

Community-level questions may be useful to uncover the extent of the impact of violent conflict, especially when violent conflict events are concentrated in time and space. Community-level survey components may be able to generate a conflict history that records the overall characteristics of localized events. This information can be used as a starting point for designing household and individual-level surveys and, crucially, to provide context when gathering time information. Community-level analysis may also allow for a more accurate determination of deaths across the community, for instance by examining listings of names in local administrative records. Moreover, knowledgeable community members often provide important qualitative and quantitative insights. Community-level questions are also useful for assessing migration flows, urgent needs of the community, and the impact of policy interventions, particularly reconstruction interventions in the post-conflict period.

### *Time Dimension*

The timing of surveys is decisive for the quality of subsequent analysis. As with most socio-economic data-gathering exercises, the quality of people's responses on conflict processes tends to diminish as the time between conflict and survey widens. Yet in many instances, the intensity of conflict experiences facilitates memory, and data collection in conflict-affected areas may be done well after a conflict has ended. However, much depends on the circumstances of the conflict, and we can offer no general rule about how long after the fighting has ended can quality data still be collected. In general, conflict legacies can last decades and, if anything, donors and governments tend to ignore conflict legacies too soon. Indeed, the effects of conflict may even last for entire generations. Researchers have used three main approaches to survey timing, including administering the survey while the conflict is taking place, administering the survey *ex post* by asking respondents to assess before and after conditions, and making use of panel data.

If the violent conflict is still taking place at the time of the survey, researchers tend to use a 12-month reference period to elicit information on the short-term effects of violent conflict on individuals and households. This reference period has a number of advantages. For example, its frequent use in other socio-economic surveys may allow for comparability. This is especially true of the epidemiological literature, which frequently employs 12-month reference periods. Further, it is useful for gathering economic data that may contain seasonal effects, such as any indicator linked to agricultural or climactic cycles. However, before employing a 12-month reference period, researchers should ensure that this is appropriate given the dynamics of the conflict. It may be that in the last 12 months, or in the period immediately before, a major conflict event significantly affected the respondents. In these cases, it may be better to refer to the conflict event specifically in the reference period. Researchers may employ various prompting phrases such as "since your village was attacked," "since the beginning of the conflict," or "since armed fighting ceased in your area."

Surveys cannot always be conducted very close to conflict events. When conducting a survey some time after a conflict, researchers have addressed the issue of temporal comparison by asking respondents to recall aspects of their lives before and after the conflict. Many questions asked in existing surveys address the problems of missing *ex ante* data by regularly using phrases "before



the conflict” or “since the start of the conflict”. These types of questions can create further time variation by asking respondents to recall living standards at specific points during the conflict, usually demarcated by well-known events. Humphrey and Weinstein’s (2008) work in Sierra Leone provides a good example of this technique. However, *ex post* surveys introduce potentially severe biases, as respondents may erroneously recall events, overestimate their levels of welfare before the conflict, or samples may exclude important sub-groups. These surveys must therefore pay particular attention to the design of reliable timelines of events and other mechanisms to elicit accurate information from respondents’ memories.

Researchers may be able to collect longitudinal data if they are fortunate enough to have access to a survey done before, and reasonably close to, the conflict. Panel datasets offer rich time variation and minimize many of the concerns about biases prevalent in other methods. However, the follow-up survey must be especially careful to control for attrition. People in conflict-affected areas tend to be highly mobile and subject to a high degree of mortality, making them difficult or impossible to include in the follow-up survey. When these groups systematically differ from the overall population, excluding them will bias the sample. Recent work discussed above in Burundi, Rwanda, Indonesia, India, and Colombia, among others (see appendix II), has shown, however, that reliable longitudinal data can be effectively collected in conflict-affected countries.

### ***Data-related Biases***

Research in conflict-affected areas takes place under unusual and often insecure circumstances, adding extra difficulties for researchers attempting to create a representative sample. Dangerous environments cause access problems, with certain areas being inaccessible during the survey. This may even continue into the post-conflict period as governments may exclude researchers from sensitive areas, which occurred recently in Sri Lanka, Egypt, Syria, and Mali. Entire areas may be inaccessible, forcing researchers to rely on *ex post* surveys. Insecurity may also cause large segments of the population to move, while localized fighting may lead to a high level of deaths, changing the characteristics of the sample from the original population. In addition, conflict may exacerbate biases that researchers in non-violent settings deal with regularly. The intensity of conflict exposure may cause respondents to give misleading answers or lead to other self-reporting biases. For instance, respondents may self-censor answers to avoid any risk of retribution from insecure political authorities. Conflict researchers have employed several strategies to minimize such biases. Below we discuss some of the most prevalent biases in conflict contexts: selection biases and recall or response errors.

### ***Selection Biases***

Selection biases occur when individuals, households, or groups of households with particular characteristics cannot be sampled or interviewed. For example, declining economic activity during a conflict may result in entrepreneurial individuals migrating out, changing the characteristics of the population left behind. Or combatants may target specific ethnic and social groups during the conflict, forcing targeted populations to migrate or leading to a large number of deaths among specific population groups. In addition, panel datasets may suffer from attrition bias, a type of selection bias that occurs when certain sub-populations cannot be reached in the second round

survey due, for instance, to mass migration or killings. Annan, Blattman, and Horton (2006) warn that skipping individuals or households may bias estimates towards the idle, unemployed, injured, and socially dislocated. In the SWAY surveys discussed above, the team dedicated great effort to track respondents, and asked close family members to respond to an “absentee survey” on behalf of the respondent when tracking was impossible. The SWAY team (Annan, Blattman, and Horton 2006) also employed a “retrospective sampling” technique to create a sample of young individuals living in the area before the conflict. This and other methods can be employed to help researchers generate a sample that has an equal likelihood of including individuals or households who have died or migrated out of a conflict-affected area. Neglecting to re-interview household members who moved in between the two waves of the survey, perhaps due to marriage or work, may also lead to biased estimates. Beegle, De Weerd, and Dercon (2008) and Verwimp and Bundervoet (2009) have shown this to be the case when calculating poverty estimates for Tanzania and Burundi, respectively.

If respondents have died, tracking becomes impossible. Even in these circumstances researchers must take account of the potential biases created by attrition. Mortality is often linked to characteristics such as ethnicity, poverty, or participation in the conflict. In a study on poverty dynamics in Rwanda, Justino and Verwimp (2006, 2012) employ a Heckman selection model to correct for attrition bias when a significant proportion of respondents in a panel dataset have been killed. The method adjusts coefficient estimates by correcting for attrition captured in the error term.

Access to conflict-affected areas may be uneven, introducing further risks of selection bias when particular areas must be excluded. Arjona and Kalyvas (2008) report several interruptions in their interviews with ex-combatants in Colombia often due to certain areas becoming too insecure to survey. This required the researchers to repeatedly improvise (see also Kalyvas and Kocher 2009, and Restrepo, Spagat, and Vargas 2004). Political constraints and sensitivities may also cause similar problems. When access to areas or certain individuals and households depends on complex negotiations with state and non-state actors, those areas may tend to be excluded from surveys. Further, when researchers have no choice but to exclude an area, it is important to sample a territory that matches the population as closely as possible (Annan, Blattman, and Horton 2006). In that way, researchers can avoid problematic areas while maintaining a convincingly unbiased sample.

### *Recall and Response Errors*

The length of recall periods has long been a topic of discussion in socio-economic, demographic, and epidemiological surveys (Deaton 2001). Exposure to conflict may sometimes aid recall, but may also introduce response biases. When violence takes on extreme forms, such as the death of a household member or the loss of livestock, surviving household members will generally remember the situation accurately due to its devastating effect. These events are often associated with dramatic events at the community level, which can help in constructing localized event timelines. However, the reverse scenario is also possible when respondents may repress traumatic memories or even refuse to talk about them. Training and sensitization of survey enumerators can alert them to the potential for these biases.

Recall can be aided by using event timelines that stimulate the respondent's memory and accurately situate personal events in time. Timelines use well-known national events or a local history events to anchor personal events in a well-remembered context. For example, respondents may well remember the period between an important election and the beginning of a military offensive or the period surrounding an attack on the town or village. As discussed above, Humphrey and Weinstein (2008) use this method to map out changes that took place during the war in Sierra Leone.

Other forms of response errors may take place in surveys conducted in conflict-affected contexts. For instance, if the survey sponsor is viewed with distrust or suspicion, respondents may give misleading answers to questions or even refuse to cooperate entirely. In some post-conflict situations, government-sponsored surveys may run this risk, especially in former rebel-held territories. This may create biases if questions about conflict are included, as responses from those most affected may be inaccurate or absent. In the extreme, lingering animosity towards the government might be so strong that discussing the conflict could unsettle the fragile peace and put the security of survey workers in jeopardy. For example, in the LSMS survey in Guatemala in 2000, the authorities asked relatively few conflict questions, though the conflict had only recently ended, because they feared that the population in former rebel territories would refuse to participate. Moreover, in post-genocide Rwanda, the government does not allow researchers to ask questions about ethnicity in surveys, thereby limiting the capacity of researchers to link ethnicity with other variables of interest such as poverty, displacement, or gender.

### *Ethical and Security Considerations*

Conflict surveys risk asking questions that may do harm to respondents. As such, researchers have a duty to weigh important ethical considerations while designing and implementing surveys. Sensitive questions may evoke traumatic memories about suffering, remorse, victimization, or guilt, potentially "re-traumatizing" respondents and harming them psychologically. Some questions may also risk incriminating or inviting retribution upon a respondent. If answers inadvertently become public, responses that identify perpetrators, victims, or actions taken by former combatants are particularly susceptible to this risk. Several mechanisms have proven useful to address and minimize potential ethical risks. The first and simplest way is to avoid asking some of these questions. Researchers should be self-critical about whether questions are strictly necessary, potentially harmful, or if there are less risky ways of obtaining the same information.

To limit the risk of harm, it is generally good practice to ask about group behavior rather than asking for specific names of perpetrators, as revealing the identity of the perpetrator may threaten the security of the respondent. This may in turn prompt the respondent to provide a misleading answer or refuse to answer entirely, thus reducing the quality of the data and potentially causing undue stress to the respondent. Researchers should also avoid posing questions that could threaten the security of respondents and interviewers.

Training enumerators and local research teams is a crucial aspect of doing high-quality surveys in sensitive and insecure areas. For example, survey leaders can inspire a sense of duty among enumerators by clearly explaining their responsibility to care for respondents. Ethics training

should provide comprehensive information about the risks respondents face, and on adequate security responses.<sup>18</sup> Proper training should also make enumerators aware of the emotional stresses associated with addressing sensitive issues surrounding conflict. Further, enumerators should be trained to carefully elicit informed consent from respondents before conducting the survey. A well designed consent script is important. Consent scripts should be written in accessible local language. They should also explain that participation is completely voluntary, as well as how the survey information will be used, and how information will be kept confidential. When consent is given verbally, as is common in areas with low literacy, enumerators should be trained to ensure that the consent script is well understood and be prepared to answer any concerns or questions.

Researchers should also be ready to respond should a harmful event occur, or should respondents become unduly distressed. There is no single definition of a harmful event and much relies on the judgment of the survey supervisors and local research teams. However, some guidelines may help survey implementers detect harmful events or rises in distress levels. For instance, a potential breach of confidentiality may result from the theft or apprehension by authorities of computers, or completed survey materials. Rises in insecurity levels may be clear when physical and emotional threats are made to respondents before, during, or after the survey has been conducted. Signs of insecurity may also be present when an unusual number of respondents refuse to participate in the survey, especially if this occurs suddenly. In addition, any display of acute emotion by respondents, such as weeping or shouting at the enumerator after a question, may indicate high levels of distress. Researchers should respond promptly if a harmful event takes place, or if the respondent becomes upset. If a serious breach of confidentiality or threat to a respondent's life occurs, researchers need to approach the appropriate authorities and inform respondents of the danger. In conflict-affected areas, the appropriate authority may not be immediately obvious and researchers should lay out contingency plans for action in advance. If respondents display signs of psychological harm, researchers should immediately pause the survey and reiterate that responses are completely voluntary. The needs of the respondents should be prioritized ahead of data collection and the survey should only be continued if it is clear that the respondent consents and that continuing will not cause them undue harm. Researchers should be ready to terminate surveys and seek help from appropriate social services when facing rising levels of insecurity and/or emotional distress. These services may be thin on the ground in many resource-poor contexts, but researchers can often find professionals that can lend support by introducing themselves to local governments, UN representatives, or NGO actors before beginning the survey.

### **Final Remarks and Suggestions for further Advances in Conflict Data Collection**

Empirical research on conflict processes at the micro level has flourished in recent years due to the wider availability of good quality surveys conducted in conflict-affected countries. Some of the most comprehensive insights into the causes and consequences of violent conflict at the micro level have been generated through purposely designed surveys. These surveys have been used to uncover the unfolding process of conflict, rather than assessing conflict as a one-off shock because they are able to collect systematic information on the various channels, whereby different forms

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<sup>18</sup> Two American IRB-approved ethics training exercises can be found at <https://www.citiprogram.org/Default.asp?> and <http://phrp.nihtraining.com/>. MICROCON, a large integrated program on conflict research funded under the EU 6<sup>th</sup> Framework, developed guidelines for the ethical review of all data collection efforts prior to field work. See [www.microconflict.eu](http://www.microconflict.eu).

of violence may affect individuals and households. Well-designed surveys also provide valuable disaggregated information on conflict processes across time and place. This groundbreaking body of research has established the requirements for rigorous empirical work in conflict-affected areas. The studies discussed in section 3 above have led to new insights into conflict processes, and have offered important suggestions on how to deal with complex methodological concerns such as accounting for missing populations, asking sensitive questions, and conducting meaningful research in highly insecure settings. However, these surveys require a lot of resources: sample sizes are large, interviews sometimes last several hours, transportation costs are high, and local expertise is crucial. Insecurity may also still be high in many of the areas being surveyed.

One way of minimizing the costs associated with such surveys is to rely on existing large socio-economic surveys conducted by The World Bank and other international institutions, which may either contain self-reported information on conflict exposure, or can be matched to conflict-event datasets. We discussed this approach in section 2. This approach is less ideal due to the lack of precise information on the complex facets of conflict in each case study, as well as difficulties in comparing information across countries. Empirical work based on existing socio-economic surveys has nonetheless resulted in considerable advances in our current knowledge on violent conflict at the micro-level due to the development of a wealth of creative research methods that analyze conflict processes among violence-affected populations and across time. Although information on conflict is sometimes limited, the use of existing socio-economic surveys has many advantages over the use of purposely designed surveys, notably costs and ease of availability.

Given the many security, financial, and human resources trade-offs faced by researchers working on violent conflict at the micro level, we suggest possible ways forward to advance rigorous empirical research on conflict processes at the micro level by using large institutionalized socio-economic surveys. We argue here that socio-economic surveys conducted in conflict-affected areas by large international institutions and research bodies could be more fruitful and rigorous if they could incorporate an explicit treatment of conflict. Below we put forward some guidelines to improve the sensitivity of future socio-economic surveys conducted in conflict-affected contexts, particularly regular Living Standard and Monitoring surveys implemented by The World Bank, the Demographic and Health Surveys, and generic household surveys implemented by national statistical offices worldwide. We discuss four ways in which these surveys could be adapted to more accurately capture conflict-related events: (i) allow respondents to self-report on conflict events more comprehensively by including conflict-related scenarios in answer categories, (ii) record the timing of events, (iii) be sensitive to the type and intensity of violence, and (iv) include conflict questions across several survey sections and include a range of conflict-related choices in answer categories.<sup>19</sup>

### *Respondent Self-reporting*

Asking respondents to self-report on how conflict has affected them is a straightforward way to understand more about conflict dynamics. Too few existing socio-economic surveys extend answer choices to give respondents the opportunity to explain how conflict affects them. For example, the LSMS conducted in Tajikistan 2007 asked respondents why they did not work in the

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<sup>19</sup> We use these guidelines to construct a ‘Conflict Exposure Module’ to be inserted in existing socio-economic surveys conducted in conflict-affected countries in Brück, Justino, Verwimp and Tedesco (2013).

past 14 and 30 days. Yet answer options include no conflict-related causes of voluntary or involuntary unemployment, such as lack of security or a disability due to violence. The 2006 Iraq LSMS addresses the effect of conflict on income by including answer options that indicate “security” and “handicaps” as reasons for the inability to work. However, these categories could be more comprehensive if they included a broader range of conflict-related scenarios such as discrimination, crime, destruction of assets, disappearance of key markets, or military service.

Using self-reported information is of course not without drawbacks. Self-reported answers are highly subjective and may introduce biases. As discussed above, respondents may erroneously recall the reasons why they made certain decisions. In situations as intense as conflict, respondents may construct a narrative after the fact that gives disproportionate weight to extraordinary and memorable experiences. Further, respondents may be unable to distinguish between ultimate and proximate causes. Some of these issues may be solved through econometric techniques such as the use of instrumental variables. Despite these potential limitations, including conflict related scenarios in the answer categories of questions routinely asked in large socio-economic surveys would be a cost-efficient way of adapting existing surveys to better understand conflict contexts.

#### *Sensitivity to the Timing of Events*

In several of the studies reviewed above and listed in the appendices, carefully recorded information on when events occurred has allowed researchers to match socio-economic outcomes to conflict events. However, few socio-economic surveys in conflict-affected areas record time information systematically, thus limiting the scope for matching survey data with conflict event sources. Detailed time information would allow researchers to know whether events occurred before, after, or during a conflict and therefore capitalize on conflict event databases that provide a localized history of conflict events. Examples include time information on when household members left or joined their families, when income, asset, and food consumption losses occurred, when coping measures were introduced, when harm was inflicted, and when people were displaced or migrated.

Researchers can also construct localized conflict timelines by recording dates of major conflict events and allowing respondents to describe when an event occurred in reference to these timelines. This usually requires researchers to establish a local conflict event timeline beforehand, preferably with the aid of an initial community questionnaire. For example, a respondent says she remembers that an event occurred “after a major attack on the village that destroyed the school.” The overarching goal of being time sensitive is to align respondent answers to major changes in the conflict’s dynamics rather than produce a precise chronology. Existing socio-economic surveys can be adapted without adding substantial extra costs by introducing questions that capture the timing of events.

#### *Sensitivity to the Type and Intensity of Violence*

Micro-level surveys in conflict-affected areas should be sensitive to the type of violence. Each conflict creates its own hardships, which local populations feel acutely. Acute hardships vary according to circumstances and war strategies, making each conflict a unique burden for the population. Measuring how much people suffer is important for determining the sources of acute

hardship and type of violence borne by the population. For example, respondents in Angola may suffer physical injuries from the widespread use of land mines, while Palestinians have suffered losses of income from the difficulty of moving through checkpoints. Moreover, Congolese families are ripped apart because of the widespread use of rape and sexual violence. Sensitivity to the type and intensity of violence requires that answer categories go beyond simple binary variables by including a range of responses at different levels of intensity.

### *Comprehensiveness*

Overall, surveys should be more comprehensive in relation to conflict-related events, and should cover a broad range of channels whereby conflict may affect lives and livelihoods. While LSMS are by their nature very comprehensive, conflict-sensitive questions are often left out of many modules. Surveys that focus too narrowly on select categories may fail to account for the multi-dimensional impact of violent conflicts. In order to address this issue, socio-economic surveys could include conflict-related questions across their various sections including demographics, economic welfare, coping activities, health, migration, education, perceptions of security, life satisfaction, and expectations.

Not all existing socio-economic surveys will be able to follow these guidelines at all times given the number of financial, political, and logistical trade-offs they may entail. However, more investment in the development of appropriate methodological systems may lead to considerable advances in gathering rigorous, systematic, and comparable evidence across different conflict-affected contexts. Better knowledge will, in turn, result in better and more effective policy interventions to provide physical and economic security to the millions of men, women, and children that continue to live in persistent cycles of violence and conflict.

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