Personal Accounts

Managing Households during Conflict

Julia Lynn Smith

PhD

University of York

Post War Reconstruction and Development Unit

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Abstract

This thesis examines the impact of political conflict on microfinance engagement to put forth a theory of sparse networks traps. It leverages a natural experiment to distinguish between the effects of conflict on determinants of microfinance efficiency and impact, and includes qualitative evidence from 235 (208 microfinance users and 27 microfinance providers) interviews in the Northeastern Kivu province of the Democratic Republic of Congo. Through a combination of regression analyses and panel data modelling with fixed effects, the research indicates that conflict has a stronger effect on the nature of demand for credit and savings services than it has on the actual performance of financial institutions. By introducing informal financial service providers, including community level rotating savings and credit associations, payday lenders, and moneylenders, the research indicates that the demand for financial services is not greatly reduced during conflict. The reduction in demand reported in the literature is seen in the formal sector, while in the conflict area the demand shifts to the informal sector, resulting in a threefold increase in the likelihood to borrow from an informal source of credit in times of political violence. This shift in user preferences is reflective of an overall decrease in engagement in formal networks and reliance on informal ones, and is reflected in other coping mechanisms such as reduced investment in business creation and increased expenditures in areas that can be considered charitable. The mechanisms by which these choices occur are hyperbolic discounting and reduced trust. In turn, these individual level decisions lead to a sparse networks trap, defined as a fragmentation of the economy into independent enclaves of production and the correlating reduction in interregional interdependence, which may have compounding consequences for post-conflict economic recovery and stability.

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Author's Declaration

I declare that this thesis is a presentation of original work and I am the sole author. This work has not previously been presented for an award at this, or any other, University. This work has not been published previously. However, it is pending publication in a modified format (African Indigenous Financial Institutions under Fire: The Case of Congo and Liberia [forthcoming] NYC: Palgrave Macmillan). All sources are acknowledged as references.

Introduction

I. Background

This thesis investigates patterns of everyday survival in Northeastern Democratic Republic of the Congo. Written with practitioners in mind, it outlines the responses of institutions as well as individuals to the challenges to development posed by armed conflict. War is bad for growth, and it destroys efforts to develop healthy societies. As Costalli, Moretti, and Pischedda (2014:3) note, "War is about killing people and breaking things. It is thus unsurprising that civil wars entail significant economic costs". They find (2014:9-10), using synthetic controls developed using Kalyvas' and Balcells data, that war reduces economic growth by about 1.5% in GDP per capita in purchasing power parity terms, or an average of 17.5% over the course of a 9.5-year civil war. Collier (1999:175-176) finds similarly, that civil wars occur an annual GDP loss of 2.2% per capita, and an average loss of 30% for a 15 year-long war.

Yet the conflict literature all too often chooses a framework of national-level analysis, without accounting for the day-to-day lived experiences of citizens in conflict zones. Within this framework, citizens are either possible rebels or non-rebels, and governments are either weak or strong. This framework stems from the lack of sociological, micro-level data from volatile research environments, not adequately incorporating the work of behavioural economics into conflict studies, and the belief that randomized controlled trials are only suitable for stable environments.

The problem, however, is that unless we can trace the mechanisms linking conflict to poverty, as Humphreys (2005:2) says of the natural resource curse, the "advice of conflict scholars will be of limited use to the policy community. And unless we test these mechanisms, we will be unsure of the generality of the processes we observe in individual cases". But in trying to understand the mechanisms linking conflict to poverty, we unearth myriad research questions. Specifically, this thesis chooses the lens of financial services as empowerment as an assumption that can be tested in a conflict-affected environment. Like Humphreys, I argue that there is a diversity of mechanisms through which conflict will have an impact on development. At the most fundamental level, the threat of violence transforms the ways in which people reach their potential, either through structural or psychological changes. At the same time, conflict transforms societies. Pushing the boundaries of previous social norms and mores, those affected are often involuntarily yet irrevocably different following conflict, the effects of which are inherited for generations to come (Yehuda, 2015).

This thesis explores the link between conflict and citizen's financial strategies, through research investigating the impact of conflict, for an illustrative account. This account, highly relevant for the Post-2015 Development Agenda, the newest framework developed by the UN following the target date for the Millennium Development Goals and solidified in the Post-2015 Consensus Project[1], delves into the lived experiences of citizens affected by civil war. Vice-versa, since war creates economic cycles of underdevelopment (Costalli, Moretti, and Pischedda, 2014), the financial strategies of citizens may well bear consequences for the outcomes of violent conflict. Although large scale, quantitative studies indicate a global, regional and national picture of the detrimental effects of conflict on development, it misses in the mechanism specifications that may or may not be present in the everyday politics, or assumes that certain mechanisms may be apply universally to all cases.

[1] See Hoefler and Fearon, 2014 and Bloomberg, 2014 for examples of papers in this series.

This thesis contributes to a framework to understand the interaction of different impacts of conflict on citizen-level coping strategies. It begins with presenting the current state of the art of empirical studies of conflict, which currently emphasizes the need for a more micro level approaches and subnational studies in conflict studies. The thesis then introduces the current frameworks used to understand the interaction of credit with household economic structures, and draws a number of observations from practitioners to illustrate the current conceptual understanding of realities experienced by credit users, including those extant for conflict-affected contexts. Having characterized the distinct bodies of literature and the few practitioners working on the subject, the thesis introduces a tentative theory that stresses the shifting reliance on different levels of credit, and lasting effects for post-war reconstruction.

Using a series of financial institutions in a single country context as case studies, a natural experiment was used to provide an estimate for the costs incurred during conflict on financial institutions. Financial institutions, a key actor for facilitating economic activity necessary for society to function and thus for development, were chosen as the level of analysis for the first part of the research in order to provide the important, contextual groundwork for the second part of the thesis. Secondly, and more importantly, the impact of violent conflict on financial service usage was investigated, using a natural experiment and over 200 interviews conducted with financial service users in two towns, almost perfectly comparable, except for their variance in exposure to violence. In doing so, the thesis bridges the gap between some of the recent behavioural economic work being done in non-conflict zones for their applicability in politically unstable contexts. It provides an explanation for some of the contradictory viewpoints currently expressed in the literature, and outlines an alternative narrative which is consistent with the suggestion of behavioural economics that different decisions might be made by the same person at different times. Finally, it provides critical recommendations for policy-makers in post-conflict countries for the development of pro-poor financial services which allow for the salience of expressed concerns.

These policy changes would, the thesis argues, create more attractive formal financial structures and negate some of the poor development outcomes experienced through large reliance on the secondary economy in conflict zones. Hence, these findings differ from existing accounts of microfinance that focus exclusively on regulated structures, consider solidarity networks as linear relationships, and consider an inclusive financial sector mutually exclusive to the introduction of conflict.

The main point of reference for this research is the Small Enterprise Education and Promotion Network's series of papers on Assessing the Impact of Microenterprise Services (AIMS), henceforth referred to as the SEEP/AIMS project, yet with added elements of the work of the comparative international development literature related to financial service provision, specifically in post-conflict contexts (Meissner, 2005; Nagaragan and Mc Nulty, 2004; Jacobsen, 2003; Kuehnast, 2001). However, the SEEP network's conceptual understanding of a household economic portfolio is situated as an individual unit in further exploring Collier's (1998) work on shifting capital in war-vulnerable sectors.

The subnational data collected extend the research on household economic portfolios into a micro-level study in a conflict zone to contribute to this framework, verifying whether or not the SEEP/AIMS literature can be applied in conflict zones. The theory suggests a transformation of household structures and processes which re-orients users in the direction of their extended social networks, an alteration to the model in which the interactions of actors with incidents of selective, indiscriminate, or indirect violence yield varying degrees of responses. These suppositions provide a number of hypothetical predictions which can be tested empirically using data collected in the field. Finally, by charting the actual, individual experiences during violent conflict, the thesis analyses the utility function of different financial decisions, and contributes to a better understanding of risk aversion and social insurance during war, a blind spot in the behavioural economics literature. I also offer tentative suggestions for the implications of these findings.

This introduction to the work outlines a summary of the research context, an overview of the central research question and the main sub-questions, a working hypothesis, and the methodological approach which has been chosen to address them.

II. Research Context

Although indigenous cooperatives, where "goods, money, or labour services are pooled for the benefit of one member at a time in a rotating system" (Damachi and Seibel 1982: 215), have been recorded as early as the 16th century in Nigeria (Oluyombo, 2012), microfinance in its more modern incarnation rose to prominence as a government sponsored credit system in various countries in the 1980s[2], and exploded into popular media in 2006 with the Nobel Peace Prize award to Mohammed Yunus and the Grameen Bank. As development interventions have become increasingly fine-tuned for fragile states, so too have financial services been pioneered as part of post-war reconstruction efforts. Yet despite externally supported financial services

[2] For more information, see for example India's NABARD program of agricultural credit, or Bank Rakyat's in Indonesia

being increasingly seen as a pillar of post-conflict reconstruction (ILO, 1999; Ohanyan, 2002; Kuehnast, 2001; Barr, 2004; Cain, 2007; Matabisi, 2011), the literature on financial services in conflict settings falls short in addressing several key questions. Notable among these are how the empowerment effect of microfinance services interacts with limitations imposed by insecure environments, such as, for example, ill-defined property rights and poor contract enforcement (Blattman and Miguel, 2010).

While the intellectual community has remarked qualitatively on the challenges posed to financial services and their introduction in conflict-affected contexts, contradictory statements abound. For instance, Kimberly Maynard remarks (1997 cited by McDonald 2002): "Intimate exposure to brutality and subsequent displacement and civil disorder leave individuals psychologically scarred and the intricate network of social interactions deeply torn…in war-torn societies, healthy social patterns between dissimilar groups are replaced by distrust, apprehension, and outrage, impairing community cohesion, interdependence, and mutual protection." Meanwhile, on the other end of the spectrum, Dunn, Kalatzandonakes and Vladivia (1996: ix) state that "In response to risk, households may seek to maintain non-market relations, such as communal or kinship relations, as a means of accessing resources and spreading risk through sharing. Establishing access to credit is also a critical insurance mechanism that can be called on later for consumption smoothing".

In terms of existing operational advice, some practitioners are more cautionary than others. Frederick Cuny warns well before the Do No Harm framework that "by failing to understand the elements of each community activity and their interrelationships, an outsider may respond inappropriately and delay or prevent a return to normal. (1999:58)". The Consultative Group to Assist the Poorest, a leading think-tank on microfinance impact evaluations, corroborate this, noting that in post-conflict settings, "Poor economic conditions, weak social and physical infrastructure (education, health, roads), corruption, and lack of security adversely influence the ability of clients to benefit from financial services (Cohen, 2003:1)".

On the other hand, in a more optimistic voice, Elaine Edgecomb of the SEEP Network remarks that:

> [M]icrofinance and microenterprise development programmes successfully operate in policy environments where regulations are often not in place, or where they are unfavourable to best practice. There are few governments that understand the implications of interest rate ceilings or of regulations on the informal sector. Implementing institutions have found that the fluidity of the situation allows them an advocacy role that ultimately may result in more favourable legislation further down the road. (1998: viii)

When microfinance is offered, it may be provided in a targeted manner, prioritizing selected groups based on ethnicity or other status designations such as returnees, refugees, women, or demobilized soldiers (Bücker 2001, as quoted by Ohanyan 2008: 24), while other programmes pursue the expansion of microfinance services for a commercial, financial, or general reconstruction gain, regardless of pre-existing local tensions, presenting, as Ohanyan (2008: 24) terms it, a zero-sum landscape.

In one of the better-researched writings, Nagarajan and McNulty (2004)'s report for the ILO on microfinance in post-conflict settings, the evaluators conclude that main lessons to date that can be agreed upon by practitioners include that microcredit can be initiated with very few environmental requirements, yet it is only one tool amongst many for economic development. Yet such divergent views on collateral requirements, pricing and product design, and the suitability of loans over grants can lead to the proliferation of development programming in post-war contexts focusing on easier products than traditional credit (i.e. in-kind lending, business development training, and grants over loans [Nagarajan, 1997]).

In both theory and practice, then, the main shortcoming of the state of the art of the literature is the current inability to bridge the qualitative, often contradictory statements of development practitioners with the more methodologically rigorous practices of micro-economic studies, the paucity of micro-economic studies conducted in conflict zones, and the lack of mechanism specificity in the currently existing macro-economic studies on conflict. This thesis thus also aims to tease out the contextual relationships between this observed paradox between the lip-service paid to microfinance services in conflict and their actual provision- and the implications for providers and beneficiaries.

III. Objectives and Contributions of the Study

The research builds on existing literature in several key aspects. The first point of contribution is the comparative opportunity costs accrued due to conflict for microfinance providers, whose activities may be limited or affected during conflict due to security concerns. In post-war periods, the lingering effects of conflict continue to impose strategic and operational considerations on informal and formal development initiatives, including financial services. Collier (1998) calls this the war overhang effect, and substantiates a cost to capital-intensive sectors such as finance during conflict through an analysis of the National Accounts of Uganda. The research proposes, then, to extend Collier's observations to a more discursive account, and substantiate the aggregate findings of changes to capital intensive sectors through a study where individuals and institutions are the unit of analysis. It examines some of the trade-offs associated with offering formal financial services in conflict settings, including the transaction costs incurred by adverse security conditions, and the adaptive and reflexive strategies of microfinance programming in volatile environments.

Since research is only beginning to experiment with methods to capture the comparative costs of conflict on economic indicators, this thesis is a timely one, and necessary for the remaining questions posed by the research. With the exploration of such subjects, the framework of the SEEP/AIMS project was expanded to include a more accurate and precise understanding of the implications of political risk, which Dunn, Kalaltzandonakes and Valdivia (1996:4) define as "the chance of loss due to the exercise of power. In the traditional sense, this category includes losses from riots, wars, or unfavourable acts by the state or its officials."

The key finding from my initial explorations centres on the phenomenon of increasing reliance on informal financial service providers during conflict: that is, the discrete operational advantages and limitations of the informal sector in providing financial services at short notice, but sometimes high cost. Since returnees and war-affected regions are rarely economically inactive (Jacobsen, Marshak, et al, 2006), it is worth a second look at the changing demand for financial services. And in fact, this thesis finds a proliferation of these informal credit and deposit services, which is testament to the cash-management needs of highly entrepreneurial markets, regardless of the supply of services by formal structures. And this is not unique to the context studied. Yet reliance on informal sources of credit is poorly understood, and the micro-level exploration of these providers is one of the key contributions of this work.

In a deliberate effort to include this often-unmeasurable aspect, this thesis illustrates how capital flight not only occurs through the expatriation of capital into foreign assets during conflict, as Collier has hypothesized, but also as assets are converted (or appropriated) into or by the informal sector. This is a critical distinction, and by taking the time to capture some measure of the magnitude of the effect, puts us in a stronger position to explain the mechanisms at work that create the net effects that Collier has picked up on.

Usually, relying on official reporting figures for policy development only tends to point out what is known, and as large N quantitative studies also seek to utilize known figures for modelling purposes. Yet what is not known may be even larger than what is known, and it is reasonable to suggest that even small, local samples aimed at gathering these "unknowns" have some external validity for national-level analysis. Estimates of the size of Congo's informal economy, for one instance, suggest that it could reach up to two thirds the size of its formal economy (MacGaffey, 1991). And in the DRC in 2011, only 1% of the population had access to banking services, according to the African Development Bank, and commercial bank credit comprises only 7% of GDP, "one of the world's lowest rates (ADB, 2013). Analogously, the informal financial sector will be a dominant repository of individuals' savings in countries with high rates of a secondary economy, since high incidences of unregulated trading tends to reflect the lack of state reach and regulation in these areas. With such a low level of documented financial activity, it can be logically inferred that the majority of the financial activities in the DRC are undocumented, and most likely pass through informal financial institutions.

Informal finance, characterized by the limited outreach of operations, the lack of formalization of procedures, and high interest rates compared to the formal sector (Matin, Hulme, and

Rutherford, 2002), is often assumed to have lower transaction costs and lesser problems of some kinds of risks than formal microfinance. It is also lauded for lessons in designing micro and formal finance (Schreiner, 2001; Ardener and Burman, 1995; Bouman 1995; Burkett, 1988; Caskey, 1994; Christen 1989; Graham 1992; Von Pischke 1992). The comparative costs of informal finance relative to formal finance during conflict, however, have not been empirically demonstrated sufficiently, as "there are no objective means to reliably measure its relevance pre and post conflict as no reliable records exist" (Matabisi, 2011:42).

Yet, the relevance of informal finance in conflict zones is, as this thesis argues, precisely what drives the environment for credit in a post-conflict phase. And in turn, the salience of conflict drivers, structural and proximate, such as ethnic, tribal, and economic, will be reflected in the performance of financial services. Perhaps best put by Dunn, Kalaltzandonakes and Valdivia (1996:15), the authors note, in their paper submitted as part of the SEEP/AIMS project, that:

> Under conditions of imperfect markets for labour, land, credit, and insurance, households will try to build a number of alternative insurance mechanisms that they can draw upon in the event of a loss. Principal among these will be the accumulation of savings and assets. In addition, households may seek to maintain active non-market relations, such as communal or kinship relations, which represent important non-market mechanisms for accessing resources and spreading risk through sharing (Ellis 1993). A third potential insurance mechanism is the establishment of access to credit, which may become a critical mechanism for consumption smoothing.

The interaction between such kinship networks, or supra-household networks, is hypothesized without qualitative or quantitative evidence, and does not take into the current state of the art on the related issues here. How these mechanisms work (or do not) objectively across case studies could vary. For instance, preliminary evidence suggests ethnic diversity alone could bear a negative effect on coping mechanisms or their outcomes, and it is worth examining the role of trust in such networks, especially in conflict-affected contexts. Mauro (1995), for instance, identifies a negative correlation between ethnic diversity and institutional efficiency and corruption, contributing to a poor investment climate and thus weak economic growth. La Porta et al (1999) also relate ethnic fractionalization to the quality of governance, while Collier and Hoeffler (2002) emphasise the dynamism and volatility of ethnically diverse societies as a significant factor precipitating the outbreak of civil war.

How far the mobilisation of social cohesion, or the lack of it, interacts with other significant variables, especially at the level of individual institutions, has been largely analysed from a non-conflict perspective (Dahl 1971; Horowitz 1985; Montalvo and Reynal-Querol 2005; Merkel and Weiffen 2012). Indeed, apart from some work conducted in Liberia by Seibel and Massing in 1976 well before the Liberian civil war, there exist few ethno-linguistic power structure analyses relevant for the understanding of local-level development in conflict zones. There actually exist few studies with any micro-comparative evidence examining how individuals are mobilized in conflict zones (apart from a growing body of literature on voting patterns, and some post-war studies), as emerging studies concentrate increasingly on the quality of quantitative data instead (see Nunn and Qian, 2014; Dube and Vargas, 2006; Fearon an Laiton, 2003 for examples). Stathis Kalyvas brought these shortcomings to light in 2003, and developed a sophisticated theory of engagement in selective vs indiscriminate violence in his seminal publication of 2006. This has seen been applied by Severine Autessere in the DRC in her 2010 book "The Trouble with the Congo", which are both key works of interest for their specificity in this study. This thesis also provides further civilian level data, in a logical extension of the theoretical findings of Kalyvas and Autessere related to individuals currently experiencing conflict.

In this light, then, a methodologically rigorous, mixed methods approach will be useful to examine the social, political, and operational implications of war vulnerable and war invulnerable activities, and their changing relationship with different levels and types of violence. But this alone is not sufficient. In fact, it is the discussion of the qualitative evidence from this study which is its most important contribution to the literature. Because acknowledging the limitations of working within a conflict-affected context, the efforts of policy-makers and planners to promote stability and good governance in the financial sector in conflict-affected contexts such as Central Africa should be deeply appreciated. At the same time, these same limitations- curfews, armoured vehicles, accommodation which meets security standards- often define the experiences of said policy-makers, and provide a narrow understanding of the cultural-context at hand, leading to nonspecific, repetitive and sometimes prescriptive analysis that reflects such limited engagement.

This research, on the other hand, spanning two years of field visits, and accessing information in French, Swahili and Kinande, offers a window into the homes and expectations of average urban Congolese citizens living in the Kivus[3]. It recognizes that there is intrinsic value in understanding how they come about and what consequences and costs they may pose for the

[3] The period of surveying was between 2013-2015 and included three visits to the field. Two separate translators were used for assistance in surveying, transcriptions and translations from French were done while in the field. Personal information was encrypted and physical copies destroyed for security reasons.

future. To adequately unpack the raised issues, the following overarching research objectives will be addressed:

- Understanding the current difficulties in financial market programming in contexts of conflict. Exploring, through a combination of research techniques, the adaptations of regulated finance and informal finance in conflicted affected environments, including efficiency, outreach, and mission drift during times of high-intensity conflict and insecure post-conflict periods, compared with relatively secure periods.
- Contributing to the understanding of reciprocity and solidarity-based forms of resistance to government oversight in post-conflict periods, through the development of in-depth typologies related to informal finance.
- Understanding the rational choices made by actors to engage in utility maximizing choices, recognizing the universality or particularity of the cases chosen, and exploring the implications for development programming at the policy-maker level.

IV. Why are citizen engagements with informal financial services remarkable?

In many ways, the idea of working with informal sources of credit fundamentally clashes with the ideals of microfinance providers, who see themselves as providing a fairer credit product than the informal market, to the extent that entire parallel structures are often formed. Recommendations to subcontract are also aimed towards formal institutions. For example, the Consultative Group to Assist the Poorest (CGAP) (Bruett et al, 2004:2) recommended that, during conflict "Donors should pick implementation partners that have experienced staff and a track record in microfinance in conflict affected areas. Preferred partners include local financial institutions (commercial banks, credit unions, NGOs) and specialized international NGOs." In some countries, this means the replication of financial cooperative structures by microfinance agencies and the hedging of beneficiaries' savings between various possible sources of credit services, each meant to serve different purposes. During a conference with the Women in Peacebuilding Network in Liberia, for example, where someone compared indigenous savings clubs (called SUSUs) to bank accounts, and many of the participants laughed (although I am sure some of the same participants were also members of SUSUs). Ultimately, however, the deliberate lack of investment in, cooperation with, or understanding of informal financial services leads to several shortcomings, which are addressed through this work.

Harm to the formal economy

First of all, the rate of reliance on informal savings mechanisms in itself is a significant component to the second economy, or "all unreported or unmeasured economic activity falling outside the scope of a nation's technique for monitoring the economy" (Feige 1979, as quoted by MacGaffey, 1991: 12). As financial services are constricted, halted, or redirected from conflict-affected environments, and informal financial services become a primary depository, this rate will become even more significant. Numerous scholars have documented the negative effects of large scale capital diversion into non-productive (Robertson, 1892, Keynes, 1930; Chamley, 1984; Bryant, 1987) or untraceable (Khan and Ajayi, 2000; Sharman, 2012) directions, which in conflict-affected countries becomes even more relevant due to the destruction of local production capacities. In a country with high rates of savings outside of a formal economy, and a high dependency on imports, capital flight (for lack of a better term) through indigenous savings mechanisms, in addition to illicit trade and capital relocation, threatens other kinds of financial reconstruction. Collier (1998:3), for instance, points to how, "Although it might seem esoteric to focus upon portfolio choice in the context of civil war, the sheer scale of capital flight from capital-hostile environments suggests that its effects on economic performance are likely to be large". To add to Collier's point, the prevailing logic that the amounts saved in informal repositories are small and thus insignificant, can be rejected if in countries with majority secondary economies, only a small minority save formally. Thus, if we are to instead consider the informal savings as a kind of dissaving, and examine some of the causal mechanisms behind such portfolio choices, we may stand a better chance at promoting sustainable reconstruction than if otherwise.

Oversimplification misses opportunities to copy innovative successes

Secondly, the generic labelling of informal financial services as 'informal' itself overlooks key contextual and discrete differences within their milieu, including discrepancies within operating styles and the very extent to which they can be considered exploitative or enabling. Attention to informal governance structures is gaining increasing recognition among policy-makers and the international donor community, who admit that "Social and political leaders, social movements, institutions and political parties/formations and faith groups are critical to creating constituencies to promote pro-poor development. (DFID, 2013)" However, blanket assumptions of local governance as positive or negative can risk more harm than good if institutionalized too quickly. Understanding typologies and their relative efficiency and effectiveness allows for a nuanced understanding of the types of coping mechanisms in the informal sector, including those which may be sub-optimal or exploitative, and those which may in fact represent scalable programming options and are enabling.

V. Research questions and hypotheses

The thesis addresses the following key research question:

How does violent conflict affect the efficiency and impact of informal and formal financial service providers, and/or change citizen engagement with financial services?

From this, the logical development of sub questions can be summarized as follows:

1. How does the presence of conflict affect the efficiency of formal and informal financial service providers?
2. How does the presence of conflict affect the impact of formal and informal financial service providers?
3. How does the presence of conflict affect citizen engagements with financial services?
4. What are the implications of solidarity-based forms of survival for post-conflict reconstruction?

The above can be expanded into three hypotheses built upon relevant literature for empirical specifications:

Hypothesis 1:

While informal institutions may be more efficient, resilient, or effective in conflict-affected contexts (Helmke and Levitsky 2004; Azari and Smith 2012; Waylen 2013, Sundaseran, 2008, Schreiner, 2001), formal financial institutions are, ultimately, more efficient and impactful in the long run.

Hypothesis 2:

The decline in microfinance demand during and after conflict will be due to portfolio diversion to more liquid and private asset choices. This is due in part to the increase in depreciation due to insecure property rights, the documented attractiveness of liquid assets during civil war (Collier, 1998; Dixit and Pindyck, 1994), low levels of trust, and hyperbolic discounting.

Hypothesis 3:

Citizens are well-aware of the levels of risk tolerated by formal and informal institutions, and intuitively understand their comparative efficiency. Therefore, citizens act accordingly in order to maximize individual utility from financial service usage. In periods of violent conflict, citizens will sacrifice efficiency in financial services in favour of services which are more risk tolerant, even if it costs a premium.

VI. Overview of the Study

The thesis itself is structured in four main parts: An introduction of the state of the art and theory, history, empirical analysis through two surveys, and discussion and conclusion.

The theoretical framework is developed through a sectoral review of the literature. In the introduction of the state of the art, Chapter One examines, first, the surrounding evidence on the impact of conflict on countries. Providing a cross-sectional study of the literature in the field of conflict as it is currently studied in the political sciences, it highlights the overarching recommendations made by many for greater precision in empirical work and more subnational studies. The chapter then dovetails the financial development literature into the discussion, recognizing the applicability of theoretical findings for physical structures, and microfinance as one example of these. The chapter then provides a brief state of the art of the current understanding of the impact of microfinance services, and the extent to which informal financial services have been analysed by economists. It also analyses the comparative considerations of microfinance services during and following periods of high intensity conflict, the considerations and precautions remarked on by leading practitioners and the operational strategies observed to date to counter high risks associated with low security. The gap in the literature on informal finance during conflict is highlighted- and suggested as a critical issue for further exploration.

In Chapter Two, the thesis introduces the historical chronology necessary to understand the current situation of the Eastern Congo, bridging the theoretical framework developed in chapter one with the specific details of the case studies. The history presented has been chosen to provide an ontological understanding of the identities present in the parameters chosen for the cases. The main intention of the chapter is to identify and highlight conflict dynamics and mechanism (s) throughout the course of events detailed, since it makes the argument that it is the salience of conflict drivers that shapes the market for credit in the areas studied. Thus, the chapter pays special attention to highlighting weak governance and organisations, in an attempt to investigate the network mechanisms at work (or not) that contribute to the violence being studied. In illustrating the local-level dynamics in the area chosen, Kalyvas' intuition is accepted that "It is the convergence of the local motives and supralocal imperatives that endows civil wars with their particular and often puzzling character, straddling the divide between the political and the private, the collective and the individual (2003:1)". Doing so strengthens the case for the external validity of my arguments, since the structural issues pointed out to bolster the rest of our findings are, although shaped by their context, not unique to them.

Chapter Three is an attempt to capture the preliminary suggestions from our data related to efficiency. First, the research is used to construct categories of financial institutions, including informal ones. By visiting all of these and treating them as comparable, a range of the same questions to managers, staff and accountants was asked to find similarities and differences in operating procedures. From these, standard microfinance methodology was used to create typologies needed to answer the research questions. Comparing key performance indicators across a range of informal and formal financial service providers, some of the data compiled in part one of the research was mapped onto my constructed typologies, and patterns found and discussed between categories of institutions in relation to typologies of efficiency and impact. The aggregated means found among the sample were substantiated with observations made about actual practices, pointing to some of the less efficient practices in addition to the importance- and sometime- unimportance of rhetoric.

In Chapter Four, the design and mechanics of the natural experiment run in the study is introduced. Part one of the data collected is used to try to isolate the effect of conflict on performance of the financial institutions. In providing tentative regressions of the data, the direction of the findings suggests some probable underlying relationships. To check the robustness of these findings, there is a detailed look to the qualitative notes from the surveys taken, searching for narrative evidence from respondents to corroborate the findings.

Chapter Five provides two case studies, one of an informal financial service provider in an area considered post-conflict, and one which is considered heavily exposed to conflict, in an attempt to answer my question related to variance in impact. Here, the data used was collected in Part two of the study, which surveyed over 200 respondents related to their use of an engagement with microfinance services, as well as a range of socio-economic indicators that could conceivably be impacted by access to microfinance services. In attempting to isolate the impact of conflict on the outcome of microfinance engagement, a series of models was created that show the impact that the length of membership in a cooperative has had on a respondent's spending, working hours, and revenue, with two types of conflict as added controls.

Chapter Six seeks to further analyse the choices employed by individuals in conflict-affected contexts. Through modelling, the individual level dataset was analysed for meaningful relationships to substantiate hypothesized mechanisms with reference to field interviews and notes collected through the surveying period. Finding additional support for my hypothesis, alternative explanations and possibilities to reach tentative conclusions were explored, leading to some theretical linkages.

The thesis concludes, in Chapter Seven, with a re-visitation to the original research objectives. Reapplying the examined theoretical frameworks, the empirical findings, the conceptual precision of recorded accounts can be used to substantiate the justification for the application of macro-economic principles to the study, while simultaneously reworking the findings of extant microfinance practitioners' guidance notes to address some of the shortcomings of existing research. Finally, like much other research of this nature, the biggest implication of the study may be that the hypothesis confirmed leads to other, testable implications which are worth further examination.

VII. Methodology

Case Study Selection and the Potential for Generalization

In order to address the research objectives, a combination of a comparative and a statistical approach, triangulated with a literature review and key-informant interviews, has been chosen to explore and test the hypotheses. The comparative approach, understood according to Lijphart (1971:683) as a "method of discovering empirical relationships among variables" requires that cases should be sufficiently sensitive to variations in respect of different national, regional, institutional and sectoral dynamics. The comparative approach here is different than the experimental approach, where deliberate randomization ensures the selection of two groups who are equivalent, except that one is exposed to a stimulus and another is not (Lijphart (1971:683). Rather, it is a substitute for the experimental approach due to limitations imposed by ethical considerations[4] (indeed, if we were to design this thesis as a perfect experiment, it would be necessary to distribute arms, spread ethnic hatred, or somehow introduce violence to one city and not to another in order to observe the effect of the treatment, which is armed conflict!). The statistical approach as well is regarded as an approximation of the experimental approach, entailing the mathematical analysis of observed data which is not managed situationally. As Lijphart points out (1971:685):

> It is logically possible and may be advantageous to shift from the comparative to the statistical method. Stein Rokkan distinguishes two aims of cross-national analysis. One is the testing of "macro hypothesis" concerning the interrelations of structural elements of total systems"; here the number of cases tends to be limited, and one has to rely on

[4] The introduction of credit services in a conflict zone is not an activity of this study and thus will not be situationally manipulated

the comparative method. The other is "micro replications", designed "to test out in other national and cultural settings a proposition already validated in one setting." Here too, one can use the comparative method, but if the proposition in question focuses on individuals as units of analysis, one can also use the statistical method; as Meritt and Rokkan (as quoted by Lijphart, 1971) point out, instead of the "one-nation, one-case" approach, nationality can simply be treated as an additional variable on a par with other individual attributes such as occupation, age, sex, type of neighbourhood, etc.

In this sense, then, that cases to test the "macro-hypothesis" should be chosen in order to minimize the limitations (i.e. limited sample size, lack of external validity) to the comparative method; we seek to comply with the following selection of Lijphart's recommendations, as explained below:

1.) Increase the number of cases as much as possible

Cases will be extended geographically as much as possible. That is to say, financial services will be sought in as many locations as possible. Indeed, even if the total existing number of cases is too small for a statistical approach, investigating all available cases is a method by which to increase representativeness. More cases can also be included in the study by "restating variables in comparable terms (Lijphart, 1971:686)", that is, terms which allow previously ineligible cases to be considered in the case selection. Using Gabriel A. Almond's functional approach, Lijphart argues, political scientists can also establish general concepts which are not specific to certain cultures. When comparing financial services across formal and informal structures, then, this principle allows us to group "non-repayment rates" with "portfolio at risk estimates", "clients" with "members", and so forth.

2.) Reduce the "property-space" of the analysis

Variables will be combined together in order to increase the number of cases representing a single variable, for example in our discussion of formal or informal. Attributed to Lazarsfeld (quoted by Lijphart, 1971), the "property space" of a sample refers to the number of classes into which variables are divided, which decreases the number of cases available for each relationship comparison. By reducing or combining these sets, the available number of cases per category increases.

3.) Focus the comparative analysis on comparable cases

Cases will be selected which are within an area, as opposed to in a randomly selected variety of areas, since "inter-unit" differences can be held constant if comparison is focused at the "intra-unit" level. This follows the recommendation of Smelser (as quoted by Lijphart, 1971:689), who advocated focusing on intranational analysis rather than international analysis, hypothesizing that "For many purposes it would be more fruitful to compare Northern Italy with Southern Italy, and the Ruhr with Bavaria, than it would be to compare Germany as a whole with Italy as a whole".

The relevance of this principle for its application in conflict-affected contexts is further substantiated in the Oxford Handbook on Conflict Economics (2012), which states:

> An important challenge to be overcome in the unified approach is the construction of the hypothetical region. In their study, Abadie and Gardeazabal (2003) can use different regions from the same country, because the conflict is clearly contained in one part of the country. This is optimal, and using other countries to replicate the conflict host is

fraught with difficulty (Brook, Groot, and Bozzoli, in Garkinkel and Skaperdas, 2012:69).

4.) Focus the comparative analysis on the "key" variables.

Finally, cases will use parsimony in selecting a few key variables for ultimate comparison. In essence, in contrast to the decision-making approach of international politics, which calls for an analysis of an exhaustive list of all variables, focusing on key variables allows for the segmentation and simplification of social sciences for the scientific method.

Criteria for Selection

As such, in accordance with point 1:

- The unit of analysis for the comparative part of the research should be financial institutions rather than countries, as this will allow for a greater number of cases.
- A range of financial institutions will be considered for this research, including informal, semi-formal, and formal service providers. These categories, which are present in most countries, serve to identify and group a range of financial coping mechanisms under the categorical label and thus augments the number of cases.
- All available cases will be included, so far as is possible and ethical, in order to ensure representativeness

In addition, however, in accordance with point 2:

- Distinctions between informal financial service providers and formal service providers will contribute to a composite indicator of "informality", rather than creating a multiplicity of categories based on judicial status, for instance. When modelling, this may even be dichotomized into informal and formal. In order to ensure an adequate number of cases for both groups, a 50% distribution between cases will be sought.

- Distinctions between different types and levels of violence will contribute, again, to a composite indicator of "intensity of conflict", rather than keeping separate categorizations for each institution on the amount of violence they have experienced.

In accordance with point 3:

- The limit of the area to be sampled will be a nation-state, rather than several nation-states.

And finally, in accordance with point 4:

- The research will focus on the key variables of efficiency, impact, conflict and formalization. Each of these composite variables will have a limited number of contributing variables.

As such, in the framing of the research question and criteria for case selection, it becomes clear that a nation-state which matches the following will be the ideal site of case selection:

- Has varying levels of conflict in different parts of the country, which can be combined into a composite indicator, including areas of current conflict and areas which might better be termed "post-conflict" (in accordance with point 2)
- Has both informal, semi-formal, and formal service providers which can be analysed using general western terminology (in accordance with points 1 and 4)

- Has a large but defined geographic mass for gathering more cases (in accordance with points 1 and 3)

To find a nation-state suitable for the above criteria, the Heidelberg Institute for International Conflict Research's 2013 Conflict Barometer was checked for the top 10 high-intensity conflicts worldwide. These countries are further examined below for case study selection suitability.

	VARYING LEVELS AND TYPES OF CONFLICT?	INFORMAL, SEMI FORMAL, AND FORMAL SERVICE PROVIDERS WITH COMPARABLE STRUCTURES?[5]	LARGE LAND MASS[6]?
DRC	Y	Y	Y
Mali	Y	N	Y
Nigeria	Y	N	Y
Sudan	Y	Y	Y
Afghanistan	Y	N	Y
Mexico	Y	Y	Y
Syria	Y	N	N
The Philippines	Y	Y	N
Somalia	Y	N	Y
South Sudan	Y	Y	Y

TABLE 1. COUNTRIES FOR CASE STUDY SITE CRITERIA

[5] Here, countries with a majority Muslim population were ruled as not qualifying for, given the complex relationship between Islam and credit-activities, which is not the domain of this thesis.

[6] Here, the CIA factbook figures were checked for country size. So called "large countries" are those that fell in the top quintile of all countries in terms of land mass per square km.

As we can see when comparing criteria, the Democratic Republic of Congo, South Sudan, and Mexico emerge as suitable nations. As all three nations fit the area selection criteria for the purpose of this project, relative size was then compared.

COUNTRY	LAND MASS (SQ. KM)(CIA, N.D.)
Democratic Republic of the Congo	2,344,858
Mexico	1,964,375
South Sudan	644,329

TABLE 2 COUNTRY SELECTION DELIBERATION

In accordance with recommendation 1 of Lipjhart's notes on the comparative method, then, the Democratic Republic of the Congo is taken as the most appropriate site of the intra-state comparative study due to its greater relative land mass (905,600 square miles)- and thus ability to seek a greater number of cases.

Preliminary investigations confirmed the suitability of the DRC for a case which matches the criteria. 2009 figures from the central bank indicate 19 banks and over 100 financial cooperatives present in the country (BCDC, 2010)- although a 2007 dissertation was only able to identify two banks present in North Kivu and 11 financial cooperatives (Tshimpaka, 2007), or roughly 10% the infrastructure registered in Kinshasa.

CGAP partially explains this in a 2004 brief that mentions "In the Democratic Republic of Congo, USAID and CIDA focused microfinance efforts on pockets of stability while other areas of the country remained inaccessible." Meanwhile, 2013 observations observed a range of informal financial service providers not registered with the central bank, underscoring a combination of informal governance and opportunism by these actors. Together, these indicators were taken as a promising sign that the country context of the DRC aligns well with the theoretical assumptions specified for Lipjhart's comparative method, and could provide a number of suitable cases.

Research Design

Essentially, as can be seen from the multi-part research question, the independent variables on the left-hand side of table 3. were compared with the dependent variables on the right-hand side of the table.

Independent Variables	**Divergent Outcomes**
Intensity of Conflict	Efficiency
Formal Integration	Impact

TABLE 3 KEY VARIABLES OF INTEREST

Rephrasing these as models with an interaction term for conflict, and recognizing that individuals typically use a combination of formal and informal services within a year, monthly (t), yearly, and geographical (i) variants can be exploited in the intensity of conflict (Conflict), and the level of formality of financial service used, to see variance in the impact (Impact) and performance (Efficiency) of financial service providers, conditional on conflict.

$$\text{Impact}_{imy} = \alpha i + \beta_1 \text{Conflicts}_{im,y} + \beta_2 \text{Formal}_{im,y} + \beta_3 \text{Informal}_{im,y}$$
$$+\beta_4 \text{Informal*Conflict} + \beta_5 \text{Formal*Conflict}\ \epsilon_{i,m,y}$$

$$\text{Efficiency}_{imy} = \alpha i + \beta_1 \text{Conflicts}_{im,y} + \beta_2 \text{Formal}_{im,y} + \beta_3 \text{Informal}_{im,y}$$

$$+ \beta_4 \text{Informal*Conflict} + \beta_5 \text{Formal*Conflict}\ \epsilon_{i,m,y}$$

In order to compile the data for each of these variables, information on subindicators informed the building of composite indicators, or "the mathematical combination of individual indicators that represent different dimensions of a concept whose description is the objective of the analysis (Saisana and Tarantola, 2002)." Several extended field trips to the Democratic Republic of the Congo were made in order to collect subindicator informers, and a multi-step data collection plan was developed to guide the collection of responses.

IX. Part 1: Groundwork, institutional data collection, and comparison: A collective inquiry into comparative efficiency

To develop an analysis of the macro-relationships between the formal and informal financial sector, original data was collected in a methodologically rigorous evaluation of the comparative performance of both types. 21 financial institutions were identified and visited with a translator, in order to attempt to identify, for each institution, the relevant performance indicator[7]:

- Age
- No. borrowers
- Total loan portfolio outstanding

[7]These performance indicators are modified from Microrate and IADB, 2003. Microfinance Performance Indicators: A Technical Guide. Washington, D.C: Microfinance Gateway

- Portfolio at risk
- Write-off ratio
- Average loan balance
- Depth of outreach (Average loan balance/GNP per capita)
- Administrative expenses (as % of average loan portfolio)
- Average staff salary (as multiple of GNP per capita)
- Staff productivity (no. borrowers /staff)
- Cost per borrowers (Administrative expenses / No. of average borrowers)

The indicators above, while taken from formal banking terminology, conform to principle 1 of Lipjhart's work, that is, seeking the application of western terminology across cultural boundaries in order to include previously excluded cases. So, despite their origin in formal banking practice, these indicators should be present in even the most informal financial institutions.

The research selected sites and cases in order to maximize variation in the key independent variables (conflict and formalization), while keeping all other situational characteristics constant. There was also an effort to create an even distribution in each group of cases, in an effort to reduce the property space and increase the number of cases of each type. However, in order to attempt approximate representativeness, all available, visible cases were approached, skewing the data in favour of formal institutions who were generally easier to identify and locate. As such, the following distribution was reached to this effect:

- 14 financial institutions were surveyed which are formal
- 7 financial institutions were surveyed which are informal
- 11 financial institutions were surveyed which operate in a context affected by conflict
- 10 financial institutions were surveyed which operate in a "post-conflict" context

Such a bias in favour of the formal sector is accounted for by the dichotomizing of sectors- the averaging of key performance indicators per sector compensates for the higher response rate from the formal sector. In addition, not all institutions provided all the required information, therefore averages by sector also compensate for missing or null responses to more sensitive questions. Where needed, the binary category of formal and informal can be expanded into four types of financial services: 1. Moneylenders (informal), 2. Mutualities and unregistered Coopecs (informal), 3. Registered savings and credit cooperatives, and (formal) 4. Microfinance Societies and Banks (formal). In chapter 3, more detailed descriptions justify these groupings.

X. Part 2: Evaluating impact through user analysis

Part two of the project delves into some of the discrete variances between some of the financial institutions, and their interrelationship with conflict dynamics. In an effort to capture institutional effectiveness- and sort out how this may in turn be affected by the various conflicts of the particular area of location, an-in depth, statistical sampling of a select number of cases was conducted, in turn with Lipjhart's conceptualization of a "micro-representation" of a "macro hypothesis".

A questionnaire was administered to two sample groups of respondents, allowing for an impact assessment of two financial cooperatives.

The sample groups were chosen according to the following:

- One of the group of cooperative participants were based in a town which, due to its geographical location (mountainous, situated along roads maintained by Nande traders, and neighbouring Uganda) is predominantly isolated from the conflict

- One of the group of cooperative participants and 1 control group were based in a town with, due to its geographical location (situated near what has been called the Eastern Congo's second biggest threat to security) is considered in to be exposed to the conflict.

Analysis of the surveys examined the impact of the length of a member's membership in the financial cooperative against indicators of economic well-being, covering a wide-range of direct and proxy indicators of purchasing power and economic resilience.

In total, part two of the research collected 208 surveys through the trial, including 103 interviews conducted with the members of a local financial cooperative in the northern city of Butembo, North Kivu, and 105 interviews through a second questionnaire developed and conducted in Beni, North Kivu. (The survey data are not published for reasons of confidentiality.) The surveys were conducted in a mix of French, Swahili, Kinande, and Lingala. Survey participants were asked about the following proxies:

- Number of businesses

- Monthly profit
- Number of loans
- Household size, including adopted
- Household consumption (rent, fuel, transportation, clothing, recreation, taxes)
- Household expenditures (education, furniture, repairs, appliances, vehicle purchases, vacations)
- Savings
- Resilience to emergencies (types of emergencies, coping strategies)
- Family contributions
- Lending to others

Not surprisingly, part two of the research took considerably more time and effort than part one. The findings of part two contributed to the question of financial service impact, and at the same time enriched the discussion of results for both sections.

Bringing the state of the art of microfinance to bear on survey design

Informal finance takes many forms and presentations, and it should be noted that the lack of regulation of some providers is more from necessity than from outright resistance to regulation. Informal service providers claim their structures from indigenous and tribal practices which may not be uniformly exercised nor evaluated. This research, therefore, is based on studies gathered from a range of literature, ranging from post-conflict to comparative studies of political economy, and to the social, anthropological and political sciences. Its primary point of reference, as noted in the preamble, is the comparative literature on international development, specifically the literature on microfinance and post-conflict microfinance. Although the thesis follows the work of the SEEP/AIMS project, it acknowledges the limitations in the current state of the art in microfinance evaluations.

First of all, the noted limitations of using new microfinance members as a control group in evaluating microfinance impact, as summarized by Dean Karlan, (2001) include the sample and selection bias of only considering currently participating (i.e. successful) clients, as well as changing institutional and contextual dynamics over time. In order to control for this, comparable groups of financial service users were sought, attempting to sample a representative, rather than random, group of clients. Comparison of the two groups of users to each other reveals the treatment effect, exposure to violence, rather than access to financial services, whose impact is captured, and the case is made that in the area chosen, exposure to violence is as random as any that could be found in a natural experiment.

Secondly, in evaluating efficiency, hidden operating costs such as time- or risks to personal security- are difficult to account for when surveying informal financial service providers. It should be noted, in addition, that although the work is grounded in empirical analysis, it is not a quantitative economics thesis. Nonetheless, the findings have revealed consistency with the central hypotheses to the thesis, and suggest a widening of the existing framework to include, in future studies, a consideration for the operational efficiency of the informal financial sector.

XI. Data Collection, Sample Selection Issues, and Ethics

The main body of data for the thesis comes from surveying financial service users, as these were identified, from the onset, as the unit of analysis for the case studies. A necessity in seeking representatives from local organisations required mediation of communication, in some instances, as some participants did not speak French. In addition, there was a necessity to ensure, through the non-random selection of participant population, that data collected on participants and their families was sufficiently protected due to the high risk nature of collecting personal data in conflict zones.

This required communication with organisations in order to secure the permission to collect personal information, and a use of changes to the original sampling technique. An original version of the proposal, for instance, sought to find two control groups from outside the microfinance clientele group, with the only defining characteristics being that the members of the control group should somehow themselves be in comparable economic circumstances. However, it has been pointed out by Lipjhart (1971) that randomized control groups pose ethical risks, which would be exacerbated in conflict-affected zones. As such, the 'control groups' were eventually chosen according to microfinance impact assessment methodology using randomization techniques recommended by Karlan (2001) to identify an appropriate group of new members to the cooperative as a control group[8].

Selection criteria for institutional cases, meanwhile, was kept broad in order to identify as many providers as possible. Starting in Butembo with the guidance of the annex to a paper discovered in the local university's library "Les Innovations des Institutions Associatives et le Developpement Local Dans la Ville de Butembo" (Kahambu, n.d.), which listed a group of 25 mutualities the author had identified. Representatives from my host organization, in turn,

[8] Dean Karlan (2001) recommends excluding, from those members of the new and incoming clientele, those who do not conform to the characteristics of those who remain with the program for a long time in order to create two comparable groups. As such, the control group is more of a carefully selected subset of the original sample group than a separate group not linked to the financial institution.

helped me contact and meet with as many of the cooperatives on the list as possible, in addition to balancing these visits with an equal number of visits to more formal banks and even less formal sources of credit, such as money-lenders.

Community mapping was also conducted with a translator in Butembo and Beni, using snowballing techniques to discover the location and approximate size of local financial institutions. Preliminary visitations determined case study eligibility and, where possible, scheduled a follow up visit to speak with as many staff as possible. Staff were recruited through asking local managers for permission to speak to their staff. Lastly, participants in the two impact surveys were recruited in close collaboration with institution managers, and these interviews followed a set questionnaire with anonymity assurances, consent forms, and in accordance with data protection best practices including ethical review and approval by the University of York's ethics committee.

Both sampling techniques for both surveys adopted may still have been affected by sensitivity issues, however. Questions related to the operational efficiency of financial institutions, for instance, tended to reveal, at times, out of date records or poorly organized client records, and research participants may have been unwilling to share these either due to their lack of due diligence or unwillingness to disclose clients' personal details. A number of research issues therefore presented themselves. In the following section, nature and severity of conceptualization and bias issues are outlined, and efforts to mitigate their effect on the research are discussed.

Partisan Bias

This research was begun as a well-intentioned member of the board of directors of a small credit and savings cooperative in Butembo. The original work with the cooperative had led to confusion over the declared efficacy of some of the less formal financial services seen in the community. In 2013, it was decided to frame the conflict as the treatment effect, and conduct further research on the participation in financial services as a way to understand the interaction between conflict dynamics and household coping strategies. However, the naturally competitive nature of financial services defined the methods of approach, which became a mixture of expressed solidarity and transparency. Gatekeepers (those with "ownership, stewardship or other executive authority in line with the existing cultural norms of the research setting" (Sanders, 2006)-at all levels- required the most careful handling. This included the divulgence of the association with another savings and credit cooperative, as well as the clear and straightforward introduction of the author as an academic conducting research.

Copies of a letter of introduction from the University of York were provided to gatekeepers of institutional information as well as personal information. At the institutional level, a multi-day review period, agreed to with managers upon first meeting, provided them the time necessary to check with their supervisors and headquarters, sometimes in Kinshasa, as well as make a decision to grant access to information and/or clients or not. Yet partisan bias-taking the side of one party over another- coloured many responses, a fact aggravated by the limited communication practiced between savings and credit cooperative. A pervasive form of partisan bias, the romanticism of the role of credit cooperatives was seen again and again. Conforming to S.P. Mackenzie (quoted in Kalyvas, 2006:37)'s observation that journalists can "accentuate the positive, the selfless, the heroic, in the revolutionary context, in order to legitimize a particular set of social beliefs", financial service providers tended to exaggerate their positive impact, and minimize the profit made through their operations. For instance, one credit cooperative, asked about its founding story, shared how:

> It started by raising awareness in Christian businessmen gathered within an association called AHAC (Association of Christian Businessmen) …they had to meet in churches and in other public areas in order to meet economic operators to join them, and then other social categories of people motivated by an interest in savings started to change their mind... That consisted of getting rid of egoism, and teaching or preaching the act of working together for economic independence

A mirror image of informal finance or microfinance as usurious, however, is found in a bulk of the critical literature on microfinance, including stereotypes of moneylenders who exact punishment on noncompliant borrowers. More tellingly, by the casual handing of members' savings was repeatedly perturbing, sometimes with high disregard for portfolio quality in favour of established family ties.

As such, keeping an "intellectual distance" (Reig Tapia, as referred to by Kayvas, 2006:37) was considered ideal in order to avoid undue influence on the question of impact. As pointed out by Patrick Christian (n.d.), that in a conflict-affected setting "Given that gatekeepers or their participant populations have little ability to act on the full and continuing disclosure of agenda and purpose of the research effort, there is most often little harm that can result by full disclosure. What this disclosure does do however, is fulfil an underlying human need within the subject community of participation in the development of their narrative".

Data Reliability

The reliability of the provided information will depend largely on the gatekeeper's perception of the researcher- their motivations, capacity and integrity. This becomes especially critical in contexts which, having been exposed to conflict perpetrated by foreign forces, may be extra sensitive to cooperation with foreigners. As Bearak (2000:30, as quoted by Kalyvas, 2006:41) tells, a journalist who was once investigating a massacre in Kashmir's respondents started arguing with each other: "His translator leaned over him and whispered: "They are debating whether it is for the greater good of the village to lie to you, and if so, what are right lies to tell"".

Gatekeepers such as institutional managers may have been either selective in the information provided, highlighted positive biases, or presented outright inflated or outdated data due to a combination of their cultural differences from the researcher. For example, the manager of one branch of a credit cooperative in Beni, when asked what the average staff salary at his branch was, simply told me "Here in Congo, we don't have salaries. We live in the informal.", although his counterpart in Butembo's branch of the same cooperative was able to provide an average figure of $200 a month for staff. Where possible, interviews included sufficient time to work with staff in order to calculate the proposed indicators directly from financial books- and offered this as a useful and informative activity for the research participants. Time for repeated follow-up visits was allocated for each institutional case study. At the same time, it is acknowledged that results related to institutional efficiency may be positively skewed due to the reasons above, yet at the same time the data collected interviews providers who would have never appeared in formal or previously recorded records of financial services.

Question related to services impact and coping mechanisms, meanwhile, may have provoked embarrassment or recalcitrance from participants, thus efforts were made to allow for null responses when preferred and offer privacy, anonymity, and clear explanations of the nature of the survey before starting. A selection bias within the survey of financial service users, meanwhile, would imply problematic analysis due to non-random participants. Yet efforts were made to find a representative, comparable, group of users, and once identified, in coordination with the organisations managers, the research team were positioned in the location of surveying daily for a period of two months. At the individual level, a shorter review period (i.e. time to go over the information sheet and consent forms), as well as clarification that participating or not participating would not affect client's access to services, nor be shared with the managers of institutions who clients may be wary of criticizing, was included in consent seeking processes. This was of course in addition to conducting all interviews in a private space in full confidentiality.

It is therefore hoped that a representative cross section of users would have visited during this time period. Given a lack of automatic teller machines, those who do use financial services will have likely visited at least once. However, further coordination with the institutional managers following the survey adjusted the client-level service accordingly to ensure representativeness of the actual membership of the cooperative. Additionally, as we shall see in further chapters, microfinance methodologies to approximate randomness were used when required.

Urban Bias

Costly information is often a cause of urban bias (Kalyvas, 2006:41), in addition to a lack of interest, oftentimes, in more challenging research assignments. "Not coincidentally, one of the most intensely studied conflicts is Northern Ireland: an English-speaking country with good hotels, very pleasant scenery, temperate climate, tasty local cuisine[9], and most important, not a high level of danger" (Smith, 1995 as paraphrased by Kalyvas, 2006:42). On the other hand, as Kat Nickerson colourfully recalls, travelling in the Beni/Butembo region can only be safely done if you are integrated into a local host family:

> Traveling by car for any length of time is an impossible task for there are no dependable gas stations, hotels, stores, or restaurants in the rural areas- and above all, no law enforcement agencies. That means no police force and above all, no one to turn to if something goes wrong unless you've been adopted by the local tribe. No one travels far in the Congo except for Congolese soldiers grouped together in small bands who walk the roads by day with automatic weapons in hand dispensing justice to those who pay them the highest fees… Pulling into a border town feels very much like entering the bar scene in Star Wars I where violent assaults literally occur at the "drop of a hat".

Without an official UN Escort (and indeed, one probably would have come with its own host of implications from this research), this research is limited to the cities of Butembo and Beni, with an acknowledgement that the experiences of financial service users here is not representative of those hardest hit by the conflict. At the same time, visits were made to surrounding rural areas and some limited inquisitions were made to villagers living around Beni. Yet, it was decided to focus the surveying sample frame on two comparable groups and these rural visits served more as out of sample observations and informal consultations than part of the formal structure of the research. In summation, for the timeframe spent in the field, the sampling technique was as effective as possible given political and security constraints.

[9] Depends on the partaker

XII. Research Limitations

While this research was a positive indication that the development of culturally specific, original tools based on microfinance evaluation methodology can be applied in even the most insecure research contexts, the study was limited to a certain geographical area. Thus, while methodologically sound, and likely to produce the same findings even if the timeframe was expanded and the sample size larger, it would be interesting to replicate in a more ethnolinguistically heterogenous area, or in an area where livelihoods are extremely different in nature, to aggregate to a more general level. Yet, the study chose to explore its cases in depth, and at the end of the day the data collected on the cases identified was more than sufficient to support an argument.

Secondly, the survey design struggled to find a counterfactual not affected by spillover effects, and realizes the dampening effect that the proximity of Beni may have had to the responses of those in Butembo. Expectations of the future may still have been guarded by some in Butembo, and profits affected by interregional trade, including with partner cities such as Beni. Yet this effect would likely be one that would simply be larger, or more stark, if a more perfect natural experiment were found. As explained, the specific questions related to personal eperiences of victimization by the conflict were used as a robustness check, and usually indicated that being located in Beni and being personally affected by the conflict resulted in similar outcomes. Yet it would be naïve to say that Butembo residents were not affected by the conflict at all, belittling the wide-ranging array of challenging and threatening aspects of life in Butembo today, which are hard to distengangle from other, potentially unobserved variables.

XIII. Preliminary conceptualizations

In the following section, a series of analytical distinctions are introduced: between formal and informal financial services, for instance, and between efficient and impactful, including the subcomponents to the indexes created for the purpose of this study.

Ethnicities and the DRC

Throughout the course of this study, the terms "The Congo" and "DRC", are used interchangeably, referring to the Democratic Republic of the Congo and not its neighbour, the Republic of the Congo. When referring to indigenous Congolese tribes, the French-origin term "autochthone" is used occasionally, which broadly includes all tribes who can trace their origin to the Congo and not Rwanda. Those tribes originating from Rwanda are generally referred to as "Banyamulenge" and "Kinyarwandan", the distinction between these indicating the period in which the individual's family migrated to the Congo, or collectively as "Banyarwandan".

Informal and Formal Finance Defined

For the purpose of this project, microfinance can be understood as: "The provision of financial services to low-income clients, including the self-employed[10]" (Ledgerwood, 1999: 1). Microfinance therefore can be considered to encompass both informal and formal finance (when formal finance is offered to low-income clients). In fact, according to Matin, Hulme and Rutherford (2002), microfinance institutions can even be categorized into three types of providers: Informal, semi-formal, and formal finance. Financial services may be offered

[10] Financial services generally include savings and credit; however, some microfinance organisations also provide insurance and payment services. In addition to financial intermediation, many MFIs provide social intermediation services such as group formation, development of self-confidence, and training in financial literacy and management capabilities among members of a group. (World Bank, 1999: 1)

through a variety of products: for the purpose of the following passages, let us consider that the microfinance programmes referred to may offer any (or a combination) of the following: savings, micro-insurance, microloans, and money transfers.

Informal finance encompasses the range of traditional financial services that use unregistered sources of credit. Informal finance is characterized by the limited outreach of operations, the lack of formalization of procedures, and high interest rates compared to the formal sector (Matin, Hulme and Rutherford, 2002). Informal finance can be considered existent and indigenous to a location, enjoying advantages and disadvantages slightly different than formal finance- and tends to cover the broad range of institutionalized coping measures of low-income entrepreneurs to meeting cash flow shortages, including local wholesalers who operate on credit, pawnbrokers, money-lenders, rotating or accumulating savings and credit associations, savings clubs, and indigenous financial cooperatives. Risk is judged based on information held by the creditor regarding the client, and transaction costs, at least in terms of time, are typically high. The member-owned financial institutions referred to in this research, meanwhile, were, for the majority, financial cooperatives, but included some more indigenous and informal structures as well, including church associations and indigenous savings clubs termed "likilimbas" in Swahili. Using the framework of ROSCAs and ASCAs to understand their operations, they can be defined as either (Rotating Credit and Savings Associations) an association formed upon a core of participants who make regular contributions to a fund, which is given in whole or in part to each contributor in turn, or Accumulated Savings and Credit Associations, where members are appointed to manage an internal fund (Ardener and Burman, 1996).

Semi-formal financial institutions fall in between informal and formal financial institutions. Part or all of their operations are registered and licensed for operations at the national level (Matin, Hulme and Rutherford, 2002); however, they rely heavily on traditional and informal financial arrangements such as group lending, solidarity groups and the use of peer pressure to manage relatively small financial transactions. Semi-formal financial institutions may have an indigenous or an external origin- either they have slightly formalized previously informal operations in order to avoid legal repercussions or benefit from national opportunities, or they are new to an area- perhaps offering financial services as a component of a wider development strategy- and consider their operations below the volume needed for formal registration with centralized financial mechanisms. When splitting their services as formal or informal, it will be most accurate to check the status of the institution at the level of the Central Bank of Congo - and if pending or registered, count it as a formal service provider; whereas if the status is not registered or pending formal recognition, we can count it as an informal institution.

Formal financial institutions are those that are subject to, and compliant with, their country's banking laws (Matin, Hulme and Rutherford, 2002). They often include the regular banking system as well as private and chartered banks. They are characterized by having the resources to give larger loans and often fill a void for banking services in more rural areas. In conflict affected and post-war contexts, they may be highly limited in their outreach, often centralized in capital cities, with limited operating hours and few rural branches.

XIV. Definitions

Conflict Defined

For the purposes of this study's argument, the armed conflict definition developed by the Peace Research Institute in Oslo (PRIO) and UPCD is adopted, as it is consistent with that used by the Armed Conflict Location and Event Data team. Here, an armed conflict is defined as:

> A contested incompatibility that concerns government and/or territory where the use of armed force between two parties, of which at least one is the government of a state, results in at least 25 battle-related deaths. (Gleditsch et al, 2002)

Here, it also becomes relevant to discuss whether horizontal or categorical inequalities identified by Gurr and Moore (1997), Tilly (1999) and Stewart (2001), should be included in the composition of this understanding of conflict. Buhaug and Rød (2006), also identify salient indicators which can predict civil war, including ethnic discrimination, income inequality levels, the effect of geography, access to contraband goods, and international (crossborder) support (Jobbins, 2008). Kalyvas's understanding, which is that civil war is "a product of large amounts of mobilizable social capital and networks of trust within communities, which are co-opted and organized for political violence (as quoted by Jobbins, 2008)", serves to indicate, further, the presence of conflict in addition to the narrow one adopted by PRIO. As such, the additional factors are considered as contributing the maximalist concept of a "Positive Peace", or one in which citizens have access to economic equality, social protection, and environmental justice as opposed to simply the absence of violence; a state which, it is argued in this thesis, none of the selected sites have yet reached.

Efficiency Defined

Efficiency, as mentioned in Part 1 of the research overview, is a composite indicator including interval and ratio variables. In addition to these performance indicators, which are lifted directly from the finance literature and chosen for their relevance for the cases, we may do well to also ask the relevance of each indicator in a context affected by violent conflict. As such, these should also be periodically compared with, for perspective, the same variables in a case in a comparable country which has not been affected by conflict, for an idea of their generalizability.

The relevance of each variable is below:

Age: The age of the visited branch of the organisation, expressed in months. Related questions might have to do with the formation of the capital and, if relevant, what happened during high intensity conflict.

No. borrowers: That is, the number of current accounts open, or total number of potential borrowers. This will indicate, especially for conflict-affected providers, the relevance of financial services. A related sub-question sought what percentage of these “accounts” have been opened and then became inactive, which might indicate financial difficulties due to difficult economic conditions, conflict, or the frustration with inadequate services provision, for example.

Total loan portfolio outstanding: The total value of credit in active loans at the time of the visit- which is used to calculate other indicators. As Frederic Kalala Tshimpaka’s 2007 thesis stated, in an environment such as North Kivu where microfinance organisations poorly structure their data, theoretical and foundational indicators of effectiveness need to be identified via others (p149).

Portfolio at risk (PAR): The total value of late or restructured credit, compared to the total loan portfolio outstanding. Tshimpaka's work on microfinance in the DRC found that "portfolio at risk is the dominant indicator for evaluating the effectiveness of microfinance organisations active in the Kivus[11](2007: 149)". Indeed, we will expect to see a higher PAR in conflict-affected environments, instead of expecting institutions to meet the golden benchmark of 5% when such benchmarks have evolved from the application of banking disciplines to microfinance. Dominik Bartsch mentions how, in refugee situations for example, UNHCR struggles to apply this particular principle:

"Without the necessary technical experience in "banking for the poor", only scant attention will be paid to key financial benchmarks: UNHCR may consider a repayment rate of 50% quite acceptable although 'best practice' would demand much higher rates of around 95% (Bartsch, 2004)"

Write-off ratio: The loan loss reserve which is in place to write off bad credit, and forgive struggling clients. Taken from the organisation's profit, it should cover all loans older than 1 year which have gone unpaid. In addition to Tshimpaka's prioritization of PAR in North Kivu, the write-off ratio, as this thesis argues, is incredibly important in balancing the internal

[11] Translation is the author's own

organisational resources with the outstanding credit portfolio, and in contexts of conflict, one would expect a correlated increase in the write-off ratio in forgiving a high PAR.

Average loan balance: The average value of a loan, which will be constricted or augmented depending on the capacity of the organisation.

Depth of outreach: This is the average loan balance, in comparison to the GNP per capita, which in the DRC is among the lowest in the world.

Administrative expenses: This is expressed as a percentage of the average outstanding loan portfolio. It relates to purely financial expenses, and thus may not cover time and opportunity costs.

Average staff salary: This is expressed as a multiple of GNP per capita, and is also an indicator of the profit that the organisation is making. In a conflict affected environment or one with a slow economy, staff salaries are expected to be lower.

Staff productivity: Here, this is otherwise known as the loan officer ratio, of the number of staff divided by the number of borrowers they are each technically responsible for.

Cost per borrowers (US$): This is expressed as administrative expenses, divided by the average number of borrowers.

Impact Defined

Finally, impact, the dependent mentioned in Part 2 of the research overview, is a composite indicator including nominal, ordinal and ratio variables. In addition to the above, impact is calculated based on number of businesses, monthly profits, the number of loans taken and repaid, household size including adopted persons, household consumption on a set of items, household expenditures on a number of items, emergencies and coping strategies, family contributions to life events, and lending to others. In looking at individual households, further terminology would be useful to clarify, noting that terms are consistent with mainstream literature on international development.

A household, for instance, was analysed as a common unit of consumption, wherein income or food was shared between members.

suprahousehold networks, as the caveat on page 24 mentions, may render some depictions of household structures, especially those who have experienced conflict, displacement, and conflict-related adoption as unreliable. Here, they are taken to mean the wider social systems in which households are bedded, which include "a set of social institutions, each represented by a complicated system of rights, duties, sanctions, and consequences" (Guyer, 1981)

Heads of households were, in this study self-defined through the question "who of the working members in your household earns the primary source of income for your household?"

Poverty, meanwhile, is a term used to describe a variety of vulnerabilities, and in this study, generally refers to those who scored relatively low on selected indicators, namely the income earned from the primary and secondary business of the household, which was estimated through the profits earned by businesses or employment over the period of a week or month.

Vulnerability, another term with potentially non-economic meanings, is used throughout this study with the intended meaning of the FAO (Scaramozzino, 2006) or "The presence of factors that place people at risk of becoming food insecure or malnourished, including those factors that affect their ability to cope."

Coping mechanisms were looked at in a range of presentations, including non-economic survival strategies, but can broadly be summarized by a Department of Humanitarian Affairs, as "the coping responses over time to repeated or endemic shocks, which can become systematic and refined" (Lautze, 1996).

Chapter 1

Financial Service Provision to High-Risk Environments

1.1 Introduction

This thesis explores the relationship between conflict and development, using the specific lens of financial services as empowerment to account for changing household economic portfolios during periods of political risk. On the one hand, poverty as a result, and cause, within conflict-affected states is gaining increasing attention. A wave of recent scholarship identifying and contesting effective public goods provision strategies and limitations in these contexts have reviewed and commented on historical cases. They have offered models, theories and summaries of the literature which highlight the utility maximization choices of citizens and elites (i.e. Tepperman, 2016; Banerjee, 2007; Robinson, J, 2006: 4), and identify temporal economic consequences of civil wars on national outcomes (Collier, 1998). Yet the academic community has so far focused on more overarching questions of good governance, the propensity of societies to re-escalate conflict based on a range of indicators, and generally macro-level questions, or as Blattman and Miguel (2010) term them, "reduced form empirical relationships". The presence of conflict, of course, has a number of documented and undocumented effects on the efforts of development work. However, with the link between both levels only being addressed, currently, by development practitioners, we run the risk of, as Gramsci (1971, quoted by Blattman and Miguel 2010) puts it, overstating the proximate causes, and missing the complexity of the direct, divergent, and sometimes temporally fluid outcomes in conflict-affected situations.

On the other hand, the microfinance sector has grown into a regulated global market, with its own distinct theoretical underpinnings, research initiatives, and measurement studies quite separate from the conflict and development literature. At the same time, the understanding of the limitations in using financial services as a poverty alleviation tool is reaching a better conceptualization. The work of Cohen, Dunn and Chen (1996) for the Small Enterprise Education and Promotion Network/ Assessing the Impact of Microenterprise Services (SEEP/AIMS) project provides perhaps the best account for the dynamic expendability of credit. They summarize three levels of analysis that are used to approach microfinance (enterprise, household and client). In illustrating the continuum of intra-household arrangements and often separate (and competing) preferences of household members, we can better trace the introduction of credit and its allocation. Yet the household economic portfolio model (HEPM) is designed to illustrate a universal household, and in doing so reifies some non-specificity problems. Unfortunately the bulk of the interesting, comparative and experimental literature on development outcomes is[12], often for good reasons, posited largely in non-conflict contexts.

The following sections introduce an overview of the state of the art related to the main foundational underpinnings of the thesis, which aims to bridge the two literatures. More concisely, I attempt to link the conflict and development literature with the current state of the microfinance sector's research. This includes an introduction of the "lay" concepts (Kalyvas, 2006:5) which are usually discussed in the conflict literature and the microfinance literature, and which it is argued are plagued with evidentiary shortcomings. The chapter is organized by

[12] Such as that being conducted by the Innovations for Poverty Action and the Jameel Poverty Action Lab (J-PAL) at MIT

sector, specifically by political background (the empirics of conflict), then practice background (post-conflict practitioners), then microfinance background (microfinance practitioners), and finally behavioural economics (microeconomic empirics), in an attempt to highlight the full scale of approaches previously taken to the subject. The chapter is organized from broad to specific, first within the conflict studies community, and then broad to specific within the microfinance and microeconomics community, since this provides a great insight into the actions of individuals. And, through laying out the relationship between empiricists and practitioners in both the microfinance and the conflict sectors, the theoretical framework developed aims to connect the literatures at the junction between empirical studies of conflict and empirical studies of microeconomics, as in the diagram below:

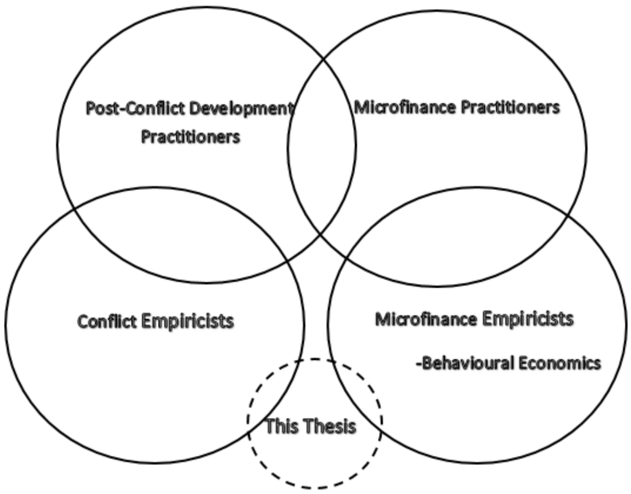

FIGURE 1 PROPOSED THEORETICAL FRAMEWORK

The chapter first discusses larger themes of conflict and development, which it argues builds a foundation for the work presented in this thesis, and the main empirical findings used to interpret results from the project are put forth. Second, it provides a survey of the opinions of post-war practitioners on the subject of financial services in conflict, which are found to be rarely empirically tested.

Third, the chapter introduces the state of the art of the microfinance sector. The addition of randomized controlled trials to the field of microfinance has introduced the concepts of impact measurement, and developed, perhaps better than anything, the metrics of evaluating outcomes. Yet it is only recently that long-term studies, coming to their end, have pointed to null or close to null results. Not having robust enough data to confirm some of the original hypotheses of microfinance, the micro-economics community is beginning to acknowledge that different questions should be asked. Taking this into consideration, the chapter explores alternative measurement frameworks, and explores the SEEP/AIMS project as the most theorized explanation of the interaction of credit products with household structures, including the introduction of risk and risk aversion as a decision-making factor in microfinance uptake and impact. Yet this model lacks conceptual clarity in its understanding of political risk and distinction between informal financial services and typical microfinance ones.

Fourth, the chapter proposes a number of alternative suppositions that could substantiate the null findings of the microfinance community, including a number of findings from behavioural economics. An alternative framework of conflict and development is developed, positing through the survey of the state of the art that an analysis which does not acknowledge the heterogeneity and divergence of coping strategies (i.e. the positive and negative aspects of unrecorded activities) at a grassroots level will result in biases that can perpetuate ineffective post-conflict development at the policy level. In doing so, this framework effectively links the extensive body on behavioural economics with the mentioned gaps and recommended future studies of the conflict empiricist community, with implications for practitioners in both sectors.

1.2 Financial Market Development in the Aftermath of Conflict

Conflict Empiricists

A large body of literature examines the relationship between drivers of conflict and the onset and duration of civil war and other violence, and has disentangled some of the competing and conflicting accounts of conflict from previous decades. Others have used datasets and written accounts, now more widely available than ever, to draw correlations between history and current economic, security and political outcomes. For instance, Timothy Besley and Marta Reynal Querol (2014) use variations between and within countries to identify that violence in African countries from 1400 to 1700 is associated with lower levels of trust, a stronger sense of ethnic identity, and a weaker sense of national identity. Acemoglu, Johnson and Robinson (2000) have also pointed to correlations between the historical rates of settler mortality and lower income and institutional performance.

Less work, however, has been undertaken to understand the economic consequences of violence, due to measurement problems and endogeneity concerns[13]. To date, the best estimates of the cost of armed conflict comes from the work of economists Anke Hoeffler and James Fearon (2014) and the Institute for Peace and Economics (2014), who use aggregated unit costs (from McCollister, 2004) interacted with UNODC reported figures on country incidence rate, to present a breakdown of the cost estimate for civil war. In addition, Hoeffler and Fearon

[13] For a good overview of the issues, refer to the Oxford Handbook of the Economics of Peace and Conflict (2012)

(2014) estimate the costs of homicide and other violent crime; violence against children; and violence against women[14]. These cost estimates, called for as part of the Post-2015 Consensus project (the follow-on for the UN Millennium Development Goals, which all had a deadline for 2015) have been used to formulate a number of recommendations for the Post-2015 Development Agenda, and as such represent a positive step towards bridging the gap between top scholars in the academic community and implementers.

Yet, as Costalli, Moretti, and Pischedda (2014) point out, "reliable costs estimates are [also] necessary for systematic analyses of the determinants of the impact of civil war, which, to our knowledge, no previous study has attempted". Taking this logic further, we can also wonder what the cost estimates for the assumed determinants of economic consequences are, since as Hoefller and Fearon (2014) point out,

> If one looks at spending by the major multilateral and bilateral aid donors…one finds that at best a tiny fraction of their programming is targeted at reducing societal violence or improving judicial systems that deal with crime.

This is likely to be due to a generalized approach to understanding the factors affected by and contributing to conflict. These tend to be assumed to be either obvious or solved by other channels, such as democracy, however, when the scope of the questions being posed are macroeconomic in nature. Macroeconomists, on the other hand, are usually more concerned in

[14] Anke Hoeffler and James Fearon (2014)'s cost estimates for selected categories of violence include collective violence, interpersonal violence, and homicides

capturing the gross or aggregate effects of conflict. A convention has thus emerged in which macroeconomists seek to answer very specific questions on the effect of conflict. These accounts take economic growth and local-level development as mutually inclusive. In doing so, the main question which has commonly been posed has been: What is the effect of conflict on economic growth?

A stylized summary of the developments in the answer to this question are as follows: Taking a basic economic growth model with the addition of human capital (Mankiw, Romer and Wei, 1992:31, as quoted by Blattman and Miguel) as a starting point, it is straightforward to assume that conflict will affect economic performance, through either a factor of production, the augmenting infrastructure, physical and cultural, which created these factors of production, or on prices (Blattman and Miguel do not address the importance of savings, however, which is a determinant of capital in following periods in a traditional Solow-growth model). The model's production function, shown as:

$$Y(t)=K(t)^{\alpha} H(t)^{\beta} (A9t)L9t))^{1-\alpha-\beta}$$

augments the Nobel-prize winning Solow-growth model[15], where Y is output, K is capital, L is labour, and A is a level of technology, with the addition of human capital (H). This addition is important in its contribution to the accuracy of the Solow Model, as well as in aiding an intuitive understanding of how human capital contributes to economic recovery.

[15] $Y(t) = K(t)^{\alpha}(A(t)L(t))^{1-\alpha}$ *where* $0 < \alpha < 1$.

After 1992, a point of divergence is observed in the literature in predictions for the longitude of such effects (Blattman and Miguel, 2010:37). Thus, effects of destruction on a factor of production could be short term in a neo-classical model of growth, for instance. However, in models which assume a poverty trap, endogenous growth, or vintage capital, the effect of such an impact could also be persistent. Preliminary evidence conforms to neoclassical growth models, Blattman and Miguel (2010:398) argue, rather than the poverty-trap models advanced by Jeffery Sachs (2006) and Collier (2008). Miguel and Roland (2006), for instance, find few visible legacies left 25 years following the Vietnam bombings, in local living standards and human capital measurements across regions. However, elsewhere, micro-economic findings have in some instances identified long term impacts on human capital. For example, lower nutritional intakes and malnutrition have been demonstrated to lead, in both Burundi (Bundervoet, Verwimp, and Akresh, 2009, as quoted by Blattman and Miguel, 2010:40) and Zimbabwe (Alderman, Hoddinott and Kinsey, 2006 as quoted by Blattman and Miguel, 2010) to lower height-for-age measures relative to others. Even studies of US and European veterans of WWII and the Vietnam war finds negative effects to later earning and higher rates of mortality (Angrist, 1990, Angrist and Krueger, 1994; Hearst, Newman and Hulley, 1986; Imbens and Van der Klaauw, 1995).

One such model that addresses possibly variant speeds of recovery is a production function suggested by Barro and Sala-i-Martin (2003:246), which shows what could happen in a context affected by "highly asymmetric destruction".

$$Y=AK^{\alpha}(Lh)^{1-\alpha}$$

Where again A represents technology levels, K represents physical capital, L represents workers, and h represents "average worker human capital". Testing this model, Barro and Sala-i-Martin find that where one type of capital is destroyed while another type of capital stays largely intact, an “imbalance effect” makes up for the destruction quicker than if both sectors are affected. Where the physical/human capital ratio is affected such as through war, adjustment costs accrue. For instance, when physical capital investments are destroyed, there are costs to recover physical capital accumulation. Conversely, when human capital is destroyed, there will be costs for human capital accumulation which can also result in slow economic growth and recovery.

Peace dividends and War Overhangs

In addition to the destruction of resources, Paul Collier (1999) points out some additional effects of Civil War on GDP, including through the disruption caused by the breakdown in social order (i.e. increased transportation costs), and the diversion of public expenditure from more to less productive activities. Examples of this include reduced expenditures on police forces and the subsequent higher cost of enforcing contracts.

Finally, Collier identifies both dissavings resulting from shocks to incomes (similar to the destruction of capital effect) and claims that private agents engage in portfolio substitution, shifting human, physical and financial assets out of the country. Through these, he argues, wars may have lasting effects on GDP growth rates since portfolio substitution occurs through private choices, and post-war countries are still worse off than countries which have never experienced civil war and can encourage continued portfolio substitution. As Collier puts it, "The very fact of the civil war constitutes news that the society is prone to civil war".

From identifying these families of effects, Collier is able to predict that elements of the economy which are endogenous to civil wars will remain affected by the partial credibility of peace and the diversion effect, thus lowering the rate of return- and raising depreciation rates- on such elements, relative to their pre-war level, even after peace has been reached. He also predicts a lag, in for example shorter conflicts, where the adjusted rate of return to such sectors will continue to settle (and lower) even after a peace agreement, leading to what he terms a war overhang effect. Conversely, if the conflict has been going on for a long time, and the rate of return or depreciation of such endogenous assets is already adjusted, then the signing of a peace treaty could yield a peace dividend.

This leads to a question of which sectors or assets are susceptible to diversion or disruption, which Collier terms as war vulnerable and manifestly war invulnerable. In dis-aggregating the GDP by sector, Collier points to the vulnerability of the finance sector through its extensive transactions. Specifically, through examining Uganda's national accounts he finds the war vulnerable sectors to have halved their share of GDP during a period of conflict, including finance.

Limitations

In the example above, one of the most renowned conflict experts is only able to test his prediction on the dataset of one country, given the standard of the national accounting available in Uganda in contrast to comparable data available in other war-affected contexts. Yet the data to test any such hypothesized relationship is usually problematic, and scarce in relation to what it could be. 20% of countries have experienced at least ten years of civil war since 1960 (Blattman and Miguel, 2010:1), and 30% of Sub-Saharan African countries had civil war or conflict during the mid-1990s. Yet, despite the clear and obvious relationship between conflict and development, Blattman and Miguel point out that the subject has not received the centrality it should (2010:4). In a survey of 63 development economics course syllabi in leading US universities, the writers find evidence that "war", "conflict" and "violence" only make an appearance in 13% of undergraduate courses, and 24% of graduate courses. Their principal conclusions are that existing theory is incomplete (p5), leading theories remain untested (p6), and "theories seldom specify the empirical predictions that can test between competing accounts". Fourthly, the writers find that cross-country regressions need more credible econometrics:

> Convincing causal identification of key relationships is rare, robustness to alternative specifications or assumptions is seldom explored; country-years are often assumed to be independent units in time and space, measurement error is rarely addressed; an absence of evidence about particular effects has often been interpreted as evidence of absence; and theories of individual or armed group behaviour are tested at the country level despite obvious aggregation difficulties (Blattman and Miguel, 2010:6).

As ways forward, the authors suggest that subnational studies at the level of communities and individuals may be the most promising. Although they note that to date, such studies are scattered and highly context specific, they nevertheless urge for more such studies, as well as integrating quantitative evidence with case studies. As a topic in conflict studies, economic consequences are highlighted as a gap which particularly deserves more attention:

> Both theory and evidence are weakest in assessing the impact of civil war on the fundamental drivers of long-run performance- institutions, technology and culture-

even though these may govern whether a society recovers, stagnates, or plunges back into war (Blattman and Miguel, 2010:7).

For example, a function not yet explored in depth, to the best of my knowledge, is that in the original Solow growth model, the savings function of the economy will determine how much capital can be invested at any given time. Since the savings of one period become the capital of the new period, concepts of capital accumulation and convergence should necessarily also examine the variance (and impact from political crisis) on savings rate as a key determinant of growth. However, studies have not adequately addressed the diversion in savings to other activities due to conflict; nor has this been integrated into the study of the economics of armed conflict. Thus, as outlined, the disaggregation of conflict consequences and the specification of mechanisms have increasingly defined the objectives of the empirical studies of conflict literature, yet still deserve further attention.

1.3 Post Conflict Development Practitioners

The conflict literature has chosen the framework of national economic loss to understand the impact of violent conflict on societies, but it has not fully developed some of the practical implications of this loss, including an understanding of capital flight into the secondary economy, for instance, or the resilience of credit markets. As a way to address this, this thesis follows the work of the SEEP/AIMS project and applies it to the context of armed conflict in a sub-national, micro-economic study.

However, to improve the AIMS project and its understanding of political risk, first of all, more can be said regarding the findings of practitioners who actually implement development projects in conflict zones. Until now, the majority of relevant commentary for policy makers is coming not from scholars on development, but practitioners themselves whose comments tend to be experience and perspective-based. Veteran professionals, for example, when remarking on the subject, are often disparaging of associated risks. A UNHCR policy advisor, for instance, remarking on microfinance difficulties with refugee populations, decries poor performance benchmarks reached by financial programming in camp settings, saying that interventions should be designed as grant aid (Bartsch, 2004). Bartsch points out that "If microfinance is pursued in isolation from other interventions and not based on a thorough understanding of what constitutes viable avenues for self-reliance, it may easily become a "strategic fig leaf"; an activity that is implemented because it is presumed to be effective as opposed to one that is known to be effective."

Others (Knaute, as quoted by CGAP, 2014) remark, on the other hand, on the absence of providers in conflict zones:

> [In conflict zones], there is a dearth, if not total absence, of local financial operators who fail to serve the market in an effective way…. It turns out that the issue of outstanding payments is tied more to the risks of fraud and weak internal oversight in an environment where the accessibility of agencies is not always certain.

But largely, the efficacy and suitability of microfinance in a conflict and post-conflict zone has been deemed an appropriate assumption- largely within a discussion of how to implement programs, rather than whether or not to do so (Jacobsen, 2005; ILO, 1998; Nagarajan and McNulty, 2004). In a well-documented series of workshops and workshop reports, ILO and UNHCR brought the issue of microfinance in conflict-affected areas to the forefront of discussions on social finance from 1996-1999. Adjunct researcher Geeta Nagarajan was brought on board, who subsequently worked in collaboration with USAID on the Accelerated Microfinance Advancement Project in 2004. Her theories, which included the stratification of the effect of conflict on a nation's economy at the macro, meso and micro level (1997), concluded that main lessons to date that can be agreed upon by practitioners include that credit led microfinance can be initiated with very few environmental requirements, yet it is only one tool amongst many for economic development- and cannot be a primary vehicle for peace building. In suggesting ways forward, Nagarajan (2004:16) points out the limitations of research so far, including the understanding of when to offer microfinance services apart from credit in post-conflict areas, and how informal operators work, among other unexplored areas of research, stating clearly that the role of informal arrangements, money-lending, and self-help associations are seldom examined carefully. In her earlier consultancy as an external advisor for a three year, DFID funded project on Post-Conflict Microfinance, Nagarajan also emphasizes that:

- Microentreprenuers are highly resilient and become very active at the post-conflict stage, creating a market for microfinancial services.
- Pre- and post-conflict environment matters in deciding the type of intervention.
- After the immediate post-conflict stage, a conflict-affected with few recurrent conflicts country is like a normal country, only with war memories. Therefore, building of sustainable financial institutions require facilitating conditions similar to any normal developing country.

- Best practices apply and work in post-conflict situations with reasonable stability after the immediate post-conflict stage. There are several lessons from normal developing countries that apply to post-conflict countries.
- There is no "one size fits all methodology" for implementing microfinance programmes in post-conflict situations (Nagarajan, 1999:14).

Conceptually, however, a "country-affected with few recurrent conflicts" should probably still be seen as variant from a country which has been historically peaceful, as Collier (1999) has already pointed out. Anna Ohanyan's 2008 Book "NGOs, IGOs, and the Network Mechanisms of Post-Conflict Global Governance in Microfinance" began further answering questions related to the governance and sphere of influence of NGOs in post-conflict microfinance. Ohanyan, whose work investigates how the structures of transnational policy networks bolster or undermine organisations, donor and grassroots accountability in post-conflict states, presents several key findings on network mechanisms in post-conflict microfinance governance. These include the development of a strong appreciation for local contexts within the international community, which has emerged over the last decade. Departing from a state-centred approach which treats NGOs and political institutions as working in isolation, Ohanyan proposes a network-based framework that more accurately captures the dynamics between NGOs, donors, and their strategic approaches to global governance and policy making. In doing so, she reveals how "Bureaucratic universalism, perpetuated by organisational efforts to cut costs and exercise economies of scale in global policymaking, has produced a pattern of network formation by default. (2008: 224)", which microfinance institutions are uniquely positioned to influence as a key network actor. Her lessons presented are significant in their implications for microfinance actors to play a key role in influencing policies in the power vacuum that is often present following periods of intense conflict. These findings, however, lack statistical power, empirically robust findings, and an explicit link to development outcomes.

Kathy Guis, a portfolio manager for Kiva's portfolio in Francophone and North Africa, has added her inputs on the modifications necessary to take the realities of conflict affected microfinance into account when designing financial programmes, through a more specific take on operationalization than the more academic writings of Nagarajan and Ohanyan. Field partners in conflict affected offices, she noticed, adopted a variety of safeguards to preserve their organisational integrity. First of all, in the event of a violent event occurring near a branch, partners will immediately revise their loan loss provisions to provide for businesses that may have been affected by the event. Secondly, she notes, partners in more violent areas will invest in heavier safes in order to keep their branch offices as fortified as possible. Thirdly, Guis remarks on the social discord that may be present in a war zone- and on the psychological stress and trauma which even staff deal with which easily erupts into conflict- and on the trainings some microfinance providers offer to staff as well as, sometimes, clients. Fourthly, Guis notes the need to balance accessing remote areas with the need to protect the organisation's resources- noting that, in instances where staff may travel and be exposed to risk of robbery, they may also have an easier opportunity to conduct fraud themselves. Fifthly Guis mentions the issue of inflation and hyperinflation, and the need to increase staff's salaries according- and occasionally raise interest rates in order to cover expanding administrative costs. She also remarks on difficulty in repaying apex funding (i.e. the creditors of microfinance institutions, when these exist). And finally, Guis commends the partners that are flexible enough to open operations again 'as soon as the dust settles', noting the operating mode of a Kivutian microfinancier as an example:

> HEKIMA Microfinance, in Goma, DRC is a great example of this. HEKIMA was forced to shut their doors to keep their staff safe when M23 invaded Goma in 2012. So did all other banks in the town -- commercial banks and MFIs alike. But after just a few days, when the dust had barely settled, HEKIMA was one of the first financial institutions to open its doors again. They did this out of a commitment to not only serve their clients, but also out of a need to keep their clients loyal so that repayments would continue to flow in, and be able to be lent back out to more borrowers in need. (Guis, n.d.)

Other researchers have also started to examine post-conflict microfinance's operational and strategic considerations. Several studies (Kuehnhast, 2001; Matabisi, 2011; Barr 2005), for example, have indicated the potential of microfinance as a tool for reconstruction in post-conflict contexts. The Post Conflict Microfinance Periodical (PCMF, 2002.)[16], for instance, describes, in its fifth issue, how post-conflict microfinance often suffers from a clash of cultures between humanitarian oriented workers and business-oriented workers, stating:

> What the research found in research case study countries was that there was often a first wave of microfinance activities which suffered from high delinquency rates, chronic inefficiencies and were unsustainable. After a learning curve or a collapse, the microfinance industry in the post conflict country adopts more conventional 'best practices' and restructures.

[16] A product of the 3 year DFID project on post-conflict microfinance, mentioned earlier

Meanwhile, the SEEP network (Doyle, 1998) identifies a number of prerequisites before implementing microcredit programmes in contexts of conflict. Remarking on fluctuations in uptake and use, they remark that:

> The demand post-crisis clients place on programs fluctuates, with demand being dampened, not unexpectedly, immediately after the termination of hostilities or a resurgence of violence. Although it is difficult to determine levels of demand a priori, in most instances there is evidence that demand usually reaches very high levels during periods of reconstruction, and is responsive to the stimulus of credit availability.

However, the research method employed in this publication was largely key informant interviews, combined with a literature review- leaving the evidential basis ofr these claims questionable. The assumption that demand for credit post-conflict will decrease is seen in other locations, an assumption largely validated only through its repetition. For instance, one of the articles published in the "Disasters and Conflict" topic series of the Consultative Group to Assist the Poorest (CGAP), the CGAP interviewer asks the CEO of Oxus Development Network, which promotes microfinance in conflict zones:

> Uncertain socio-political circumstances and a lack of security generally make people reluctant to borrow money, thus changing the nature of supply and demand…. what types of financial products and services are people in conflict areas looking for? (Knaute, as quoted by CGAP, 2014)

To which the Oxus CEO responds, not questioning this assumption, that:

> Overall, we can say that demand for SME financing is more fragile in countries where insecurity is greatest…so Oxus, which is specifically involved in country contexts of chronic conflict, will target the small economy, the bottom of the pyramid, mainly through productive credit, since demand for consumer goods is weaker than in intermediate or emerging economies. Parallel to this, even if it applies more to Africa than to Asia, one finds strong demands for savings, since the banking system is largely undeveloped in this type of country.

This feeling of the irrelevance of borrowing during wartime is even echoed by the Central Bank of Yemen. Mansour Rageh, the acting Manager for Islamic and specialist Banks, the Central Bank of Yemen, suggests that microfinance providers should ask themselves "is your financial product war proof?"

> In Yemen, we've found our wartime financial needs are definitely different from what we wanted before the war. For example, microfinance institutions did a great job during peace time but they haven't been able to survive this conflict. What people want now is somewhere to exchange their money. (2014)

In sum, then, the current state of the literature posits the formal microfinance sector as a key player in financial service provision, with the potential to provide clients with a range of material and non-material outcomes. Practitioner-oriented observations remark on temporarily weakened and then strengthened institutions (PCMF, 2002; Guiss, n.d.) and dampened, lowered, or non-existent demand for credit in the immediate post-conflict period (Doyle, 1998; CGAP, 2014, Rageh, 2014). What the literature does not provide is a concrete, empirical analysis of the operating changes made by microfinance programmes throughout and following periods of intense civil, political, or ethnic conflict. Neither does it narrate the transaction costs incurred through the adaptive and reflexive changes made to microfinance programmes in the face of high-risk contexts. And finally, surprisingly, there is the absence of a thorough study of coping mechanisms of microfinance users, or micro-economic evidence to support claims about borrowing patterns, in a conflict-affected context.

1.4 Microfinance Practitioners

Outside the field of conflict and development, the best resource to understand the dynamics of microeconomics may be the non-conflict, general microfinance literature. In order to understand the necessary vocabulary, relationships, and previously established correlations for their relevance in conflict zones, it is useful to introduce some of the cutting-edge studies currently published by leading experts in the larger field. The theories of change behind microfinance have, arguably, inspired a generation of policies favouring the bottom-up approach- and as the global microfinance sector grows, so has the venture capital funds available to the sector. The Microfinance Barometer 2013, a yearly report which analyses data available from the MIXMarket, a global dataset on microfinance institutions worldwide, estimates the current size of the formal microfinance sector's global portfolio at 78 billion USD, and having reached 94 million borrowers in 2011, the latest year for which statistics are available. And as financing for microfinance operations and research has increased, so too has the sophistication for studying and evaluating the outcomes of microfinance.

Over the last four decades, feminist discourse, anthropological, economic and behavioural sciences have started to converge in their understanding of the household unit and its activities.

Cohen, Dunn and Chen (1996), for instance, identify three main shifts in the ideological approaches used to development evaluation tools for microfinance service. The first major development they note is the shift away from believing that household relationships are unilaterally altruistic and cooperative, and may include negotiation, bargaining and conflict. The second notable shift has been from viewing a household as a fixed unit towards viewing it as permeable- and embedded within wider networks (ibid). Finally, although quite broad, the authors identify a third development in the literature to recognize the "enormous variability in household composition and structure, both between and within societies as well as over time."

Cohen, Dunn and Chen (1996) build a conceptual model to incorporate these diverse arrangements of allocating time, resources and decision-making power in a model referred to as the Household Economic Portfolio Model (HEPM). While economists look at households based on their more quantifiable related activities, such as investment, ownership, collective production and consumption, anthropologists point to the overlapping and contradictory results from this, suggesting instead to use consumption, or define households as "hearthholds" (where the primary demarcation of the household lies around the group which eats from the same 'hearth') (ibid). However, as pointed out in the HEPM paper, while this unit of analysis may be comparable across societies, it poses exclusionary problems for the understanding of suprahousehold networks- which have much to do with determining the functions of households. According to Jane Guyer (1981), the suprahousehold network is the set of wider social systems in which households are embedded, "each represented by a complicated system of rights, duties, sanctions, and consequences". Since social systems and cultural factors which are both endogenous and exogenous to the household often influence the activities within a household, namely, production and consumption, the HEPM recognizes and incorporates this.

The HEPM also chooses a specific set of economic assumptions for the building of their model. For instance, in neo-classical economic theory, the functions of production and consumption are typically treated as separate. Theories of consumption, based on an individual as a unit of analysis, point to a decision maker's objective to increase utility through attempting to reach an optimal balance between goods and leisure. The amount an individual or household can consume is determined by its income level, which is in turn determined by its amount of labour. In production theory, firms meanwhile seek to maximize profits through selecting an optimal combination of production (which is costly) versus output (which is profitable). Yet the authors highlight the work of Becker's "new home economics", which integrates the two functions of the household. Secondly, they note the important of allowing for market conditions "consistent with the actual conditions faced by the households in the study areas".

When combining these concepts, of households, suprahouseholds, and production theories[17]- the introduction of externally supported credit becomes a logical "input" that will allow a variety of household models to increase, in one way or another, either their output, their leisure time, their consumption levels, their bargaining power, or a combination of these, assuming that credit is fungible, that is, that it can be allocated where the user chooses. Notably, generally accepted theory posits that depending on the size of the available credit, consumption may be

[17] The first integrated model of household decision making, the Chayanov model (1920, as developed by Sen, 1966), combines utility maximization from consumption theory with the productive function from production theory. It suggests that, if a household has access to a perfectly competitive wage market, then a household's work efforts will be determined by existing wage rates. In 1964, Becket refined the household decision making model to introduce the concept of "Z" goods, or goods that combine time and human capital with purchased goods to create home commodities. Since then, a range of household decision making models have been developed.

lowered in the period immediately after accessing a loan, or it may (if the credit size is larger) go up in both periods. As Banerjee, Karlan and Zinman (2015) put it, "potential [microfinance] borrowers have a lumpy expenditure opportunity that would generate benefits both in the present and the future. Additional credit facilitates that investment because otherwise, the cut in present consumption to finance the investment may be unacceptably large."

Yet, as an important caveat, and as will be seen in Chapters 3-7, the suprahousehold networks of some societies-that is, the extended affiliated social networks of households- may mean that credit may have more impact in some societies than in others. And in some cases, the collateral damages incurred to households from conflict related events will mean an increased reliance on, and linkages with, the suprahousehold network.

Cohen, Dunn, and Chen (1996) term this process, or how households arrange and "rearrange their resources, labour and activities to cope with changing economic and social objectives or contingencies" the portfolio system. In the HEPM paper, it is modelled as a circular flow. The main point of contribution of this model to the literature and to this thesis lies within the ability to distinguish between competing preferences, constraints, and resources at the individual level. The authors fully acknowledge, even highlighting, that since individuals may cooperate in some areas and not cooperate in others, both conflict and cooperation can exist in the same household. Finally, the authors note that "the strategies of individual members reflect differences in their bargaining power which, in turn, reflect differences in their access to resources (both physical and social) and in their socially defined roles and relationships (1996:36)"

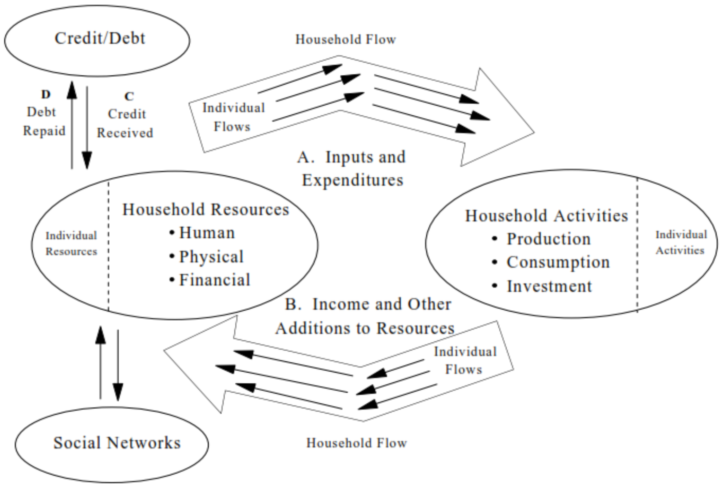

FIGURE 2 THE HOUSEHOLD ECONOMIC PORTFOLIO MODEL

The HEPM paper briefly acknowledges risk environments and risk aversion, leaving the subject to be further explained in another series paper (Dunn, Kalaitzandonakes and Valdivia, 1996).

The HEPM has been criticized by Hayyan Alia (2015) for being too complex. To overcome this, modifications suggested include clear assessment units and efficient measurement tools. However, more than anything, the timing of these modifications, proposed 19 years after the original HEP paper was published, indicate the lasting validity of the HEP model until now and its relevance as a framework to understand credit choices. Yet the emphasis on measurement issues as its critical improvement (Alia, 2015) is also indicative of a wider trend in microfinance: establishing quantitative and empirically verifiable relationships between the injection of credit and household benefits, in addition to conceptual ones.

Various quantitative studies point to the beneficial economic and social impacts of microfinance services (Holcombe, 1995; Hossain, 1988; Khandker, 1998; Otero and; Remenyi, 1991 and Schuler et al., 1997). In Due Diligence: An Impertinent Inquiry into Microfinance, Roodman (2012), points out three types of "successes" often accrued to microfinance agencies: the first and foremost being a measurable impact on the reduction of indicators of poverty for clients, the second having to do with the increasing amount of civil liberty and autonomy of individuals 'empowered' with financial services, and the third having to do with the positive impact of job creation which microfinance may contribute to in an economy. A typical case study highlighting the potential of microfinance, specifically in a post-war context, is that of "Awham', a featured profile of a Women for Women beneficiary:

> Awham remembers the year the war started in Iraq, and the additional hardships she faced after her husband fell ill and lost his job. "I was left to care for my four children with no income. My father had pulled me out of school to arrange my marriage, and I had no skills to start any type of work that could support my family." Through a friend, Awham heard about Women for Women International. "I wanted to visit the centre before enrolling in the programme. When I saw it I thought, 'This is the open door I was waiting for…. I learned a lot from the training on health.… After graduating, I started my own small business at home using the tailoring skills I learned to provide services to my neighbors and family members. Through this, I managed to provide enough income for my family.

Researchers have been able to highlight, in addition to changes in income and consumption, social impact following microfinance interventions including, but not limited to, nutritional intake, schooling levels, use of contraceptives and reduced family size, and a range of indicators of empowerment and social consciousness (Armendariz and Morduch, 2010).

A growing body of evaluative work, however, has pointed to biases in clear cut assertions of the impact of microfinance programmes. Roodman (2012), for example, contests the clear link between microfinance services and a reduction of poverty, noting, that asides from serving as a useful service to the poor, many biases undermine the credibility of such studies, including unmeasurable variances in client vulnerability at the intake stage, unquantifiable differences in the work ethic of successful clients, high rates of drop-out for struggling clients, and a tendency for microfinance programmes to favour operations in more economically prosperous regions. Others (Hulme and Mosley, 1996 and Mosley and Hulme, 1998) corroborate Roodman's findings, suggesting that benefits are unevenly distributed-and are perhaps not inclusive of the poorest[18].

Critics of microfinance (Adams and von Pischke, 1992; Buckley, 1997; Montgomery, 1996; Rogaly, 1996 and Wood and Sharrif, 1997) have gone so far as to highlight the net negative impact that microfinance programming can have on local communities[19], including high interest rates and high debt burdens- which became a ghostly echo of the United States' subprime mortgage crisis and a fixture of international news in 2010 during 'India's Microfinance Suicide Epidemic' in Andra Pradesh. Armendariz remarks on the potential bias of anecdotal impact evidence in her book, the Economics of Microfinance (2010), pointing out that:

> Anecdotes are culled to show the potential of microfinance, while the statistical analyses are designed to show typical impacts across the board. Inevitably, some customers will

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[18] This thesis not only acknowledges all of the raised points, but actively seeks to include cases of clients who have dropped out or become inactive, and institutions which operate in less prosperous areas.

[19] Paraphrased from Hulme, 2009: 198

> thrive, others will be unchanged, and some may slip backwards. One study of Bolivia's BancoSol, for example, reports that staff estimated that in any given cohort roughly 25 percent showed spectacular gains to borrowing, 60–65 percent stayed about the same, and 10–15 percent went bankrupt (Mosley 1996b) (p199-200).

In these regards, Roodman advises microfinance institutions to de-emphasize their claims to poverty alleviation, and instead focus on their provision of a wide range of useful services. In doing this, he urges programmes to focus less on credit and more on the additional programmes of microfinance which are more commonly required by a population with a low penetration of banking services, such as savings deposits, insurance, and money transfers. Indeed, in order to appropriately assess the "impact" of microfinance services, some form of randomization will be necessary in order to avoid biases that might exclude struggling clients.

In a similar vein, some leading researchers in microfinance call for methodologically robust, randomized evaluations in evaluating the impact of microfinance programmes, comparing the research approach needed for microfinance to that of health interventions (Banerjee and Duflo, E., 2011; Duflo, A. 2013). Annie Duflo, executive director of the research centre Innovations for Poverty Action, in an interview with The Global, highlights this association, explaining:

> The method we use to achieve our mission is grounded in randomized evaluations of interventions and approaches. It's the same method used in the medical field to evaluate the effect of a particular medicine. The only way to find out what effect a programme has is to estimate what would have happened if the programme had not happened. (Duflo, A. as quoted by Israel, 2013)

Here, it can be seen that the argument present in Lijphart's (1971) paper for experimentation as an ideal method for scientific conclusions, but as he notes, "unfortunately it can only rarely be used in political sciences because of practical and ethical impediments" (p683-684). Although the introduction of credit can be the "stimulus" used in the experimental method, it is only recently that deliberate randomization and external control groups have been introduced in evaluation studies, leaving the majority of microfinance studies reliant on the statistical method- an imperfect approximations of the experimental method.[20]

Abhijit Banerjee and Esther Duflo took these questions further, in the publication in 2015 of six extensive, randomized evaluations of the impact of microlending services offered by MFIs in six different countries. Convening a conference at the World Bank to talk about the findings, the research teams presented each study individually. In aggregate terms, this well-picked representation of microfinance institutions across the globe showed "lack of evidence of transformative effects on the average borrower." Banerjee, while speaking, was asked whether the research teams had incorporated the fact that non-microfinance users still had access to other financial services- that is, how the study design had accounted for the informal sector in the control groups, to which he responded:

> Possibly, this might be exactly what they are doing. What's interesting, is that if informal credit is about 60% [of what constitutes people's credit lines] and formal credit is 20% [of what constitutes people's credit lines] … why isn't this showing up in the studies?

[20] See Dean Karlan's 2001 paper on "the perils of using new members as a control group in Microfinance Impact"

> And if this may be contributing to the lack of impact, it's possible…. I suspect that there are these people and you have to find them…

We will return to this important omitted variable at various points throughout this work, including in chapters 5 and 6. For now, these evaluations found a few tentative conclusions: starting with, as mentioned, a lack of substantial improvements in living standards or poverty. However, scattered statistical tests do find positive effects on the size of businesses, occupational choice, consumption choices, female decision-making powers, and improved risk management (Banerjee et al in Duflo, 2015: p14).

The coordinators of the studies also make the case that, "if microcredit's promise was increasing freedom of choice, it would be closer on delivering on it. (Banerjee et al, 2015)", with Dean Karlan, in a nod to Daniel Roodman, insisting that "reliable financial services are extremely important for the poor, even more so than the non-poor. Saying we might be seeing the death of [the microfinance industry] is ridiculous. It's like saying we are seeing the death of healthcare for the poor." Esther Duflo, the editor of the volume, remarked that, "It does matter that microcredit has reached so many people, because even if the impact is modest, it has reached so many people."

A way to reconcile the intentions and promises of microcredit products with their insignificant aggregate outcomes is to acknowledge the heterogeneity of treatment effects on potential borrowers. We know, for instance, from previous statistical studies of microfinance impact that it is the middle-income range of clients (i.e. those who already have businesses) who may pose the least risk for microfinance programming, and that the ultra-poor are considered as high-risk investments (Rahman and Razzaque, 2000; Halder et al, 1998; Hashemi, 1997). This is usually because of a combination of self-preservation and a lack of confidence in clients without existing businesses. In such cases, the accrued interest is not worth the associated risks, though this depends on the mandate and vision of the organisation (and their capacity to grow independent of interest-related profits).

Additionally, in regards to balancing the delicate question of becoming financially sufficient without imposing exploitative interest rates, Armendariz (2010) illustrates how several microfinance providers have chosen not to charge high interest rates in order to be more inclusive of lower income clients. Using the principle of diminishing marginal returns on capital, she demonstrates how it is clear that profits per dollar invested by larger scale entrepreneurs will be larger than profits per dollar generated by smaller scale entrepreneurs. Charging interest rates that assume a high return on capital, therefore, excludes many of the lowest income clients who would otherwise be interested and creates a "credit-related poverty trap", which many microfinance institutions intentionally counter by reducing interest rates across the board. Yet these decisions often come at a cost. They often require institutions to rely on subsidies past their initial start-up phase- as is the case currently for the Grameen Bank, for example, which still takes advantages of subsidies even 25 years after its start-up (Armendariz, 2010: 34) or face pressure to raise interest rates in order to cover administrative costs. Yet these decisions should increase impact, even if efficiency is compromised- and the fact that they may not still provide robust ameliorations of situations of poverty indicate the fallibility of microfinance as the "magic bullet" of the development world.

Theoretical Approaches to The Informal Sector

It is in this sense-either because formal services exclude clients without formal businesses or because adverse security situations make drive microfinance services to more accessible areas- that informal moneylenders may become ‘monopolists’ of a credit market in the absence of competition. However, even informal providers might as well favour more economically advantaged entrepreneurs, or in situations of conflict, more trusted clients. If we look at the lending strategies of informal moneylenders:

> In the case of credit markets, [moneylenders] can charge interest rates well above their marginal cost of capital (which we will assume is still 20 cents per dollar per year). So rather than charging an interest rate of 20 percent (as a competitive bank would charge), moneylenders might restrict the quantity lent and charge all borrowers, say, one dollar for each dollar that is lent (a 100 percent annual interest rate); the remaining 80 cents per dollar goes into the moneylender’s pocket. When this is the case, only the exceedingly productive villagers can afford to borrow to finance their investments; a wide range of otherwise worthy investment projects will go unfunded. (Armendariz, 2010: 34)

Various econometricians have shown how this may be a necessary business model, however, in countering default rates of, occasionally, over 50% by poor borrowers. Common (localized) strategies to subvert the usuriously high interest rates of moneylenders include, in many countries, localized rotating or accumulated savings and credit schemes, which charge members little to no interest (Armendariz, 2010). Other common informal financial mechanisms globally include machinery banks, hire/purchase stores, moneylenders, pawn shops, trade finance, cheque cashing outlets, and loans among family and friends.

Perceptions of informal financial services, or financial services based on social capital rather than formal contractual means, meanwhile, are heterogeneous in their analytical approaches, terminology, and pronouncements. Social capital can be understood, in World Bank terms (Woolcock, 1998), as intra-community ties (bonding and integrating social capital), and extra-community networks (bridging and linking). On one end of the spectrum, Ringmar and Fernando (2005: 85) discursively paint a picture of how championing the positive qualities of social capital might dangerously justify, morally and economically, the independent operations of informal institutions, unburdening the state of certain key responsibilities- which certainly deserves further investigation in light of conflict zones in sparsely populated, ethnically heterogeneous societies such as the DRC. On the other end, proponents of a range of localized, community centred programmes consistently advocate use of social capital to reduce programme vulnerabilities and strengthen impact (Siebel and Massing, 1974; Gow and Vansant, 1983; Seibel, 2006).

Whereas efficiency will vary on the context, preliminary work on nominal indicators of resilience, however, indicate that the informal sector enjoys some structural strengths. A study conducted by New York University, for instance, surveyed 283 microfinance institutions in 65 developing countries and compared this with 112 commercial banks based in 33 countries, finding that MFI's were more resilient in the face of economic shocks compared to commercial banks (Sundaseran, 2008: 41). Schreiner, in 2001, highlights some of the operational aspects of informal financial arrangements as meaningful models for formal arrangements to learn from, including "slashed transaction costs, the supply of not just loans but also savings and implicit insurance, services sensitive to constraints faced by women, substitution of confidence in character for physical collateral, socially enforced and/or self-enforced contracts, and sequences of repeated transactions."

Economic models further illustrate some of the competitive advantages of informal financial service providers, indicating that there are less information asymmetries (or imbalances of power based on one or more parties having more or better information regarding a transaction) in more localized contexts. Additional problems assumed to be less severe in informal financial arrangements include the problem of adverse selection- the tendency to choose riskier clients than would be optimal- and moral hazard- both ex ante and ex post- which expose an institution to a financial liability (due to the other party taking a risk while knowing that the other party will bear the cost of the risk.) It should be noted, however, that formal microfinance agencies may consciously make decisions based on a familiarity with such concepts (i.e. restrict individual loans to exclusively high-performing clients), while informal microfinance providers may unknowingly make decisions based on such concepts (i.e. restrict the loan amount to an amount that can reasonably be defaulted on). In contexts of conflict, these decisions may be even more affected by ex post and ex ante moral hazards and information symmetries, discouraging all but the most capable service providers from functioning.

The key point here is that the demand for such informal arrangements will not necessarily correlate to their quality- and we need to in fact determine which programme vulnerabilities may be a result of adverse conditions, either political, economic, or social, and which shortcomings may be in fact be improved through a process of formalization. Additionally, variations in financial service provisions have tried to counter-and sometimes exploit- perceived and real risks in order to expand services at a sustainable rate; which can lead to the exclusive nature of service provision in more economically vulnerable areas. That is to say, a general observed trend, highlighted and acknowledged by the literature on microfinance impact studies, is that formal microfinance programmes preserve organisational integrity by avoiding high-risk portfolio investments, sticking to urban and established businesses. Meanwhile, informal financial service providers may charge five time as high interest rates, yet can (and do) remain in business due to some contextually critically competitive advantages.

Key among these, of course, are borrower preferences, a topic that we have not yet touched upon. Yet logically, decisions by consumers about where, when, and how much to borrow will be exactly what drives supply-side interest rates and operations. Specifically, in contexts of conflict, what does individual utility maximization look like? In order to answer this, a brief look at existing studies of individual utility maximization in non-conflict affected contexts is required, since to the best of my knowledge, one situated in an armed conflict context- apart from a study conducted by Callen, Isaqzadeh, Long, and Sprenger (2014), discussed in the following - has not been conducted yet.

1.5 Microeconomic Empiricists and Behavioural Economics

In its accompanying paper on the impact of risk on the HEPM (Dunn, Kalaltzandonakes and Valdivia, 1996), risk is defined in six categories: market, natural, technological, strategic, political, and personal. Looking at how the availability of microenterprise services affects households' ability to deal with risk, and vice versa how the risk attitudes and the available risk management strategies within households have an impact on microenterprise services, the writers follow the work of Corbett (1988), who identifies three stages of coping strategies. They also make a key distinction between ex-ante, or risk reduction and income smoothing strategies such as building insurance mechanisms, and ex-post, or loss management strategies, which can also be called consumption smoothing strategies.

In a first stage of risk, households, they posit, tend to turn towards insurance mechanisms they have previously established, such as borrowing, turning to nonmarket mechanisms, and reducing consumption. The nonmarket mechanisms they choose to highlight include marriage (with migration), family remittances and inheritances, and interhousehold income transfers. A number of studies, conducted in South India and the Andean region, are compared, finding that social safety nets and reciprocity relations provide important income smoothing benefits for newly married couples and in the case of land disputes. In stage two (as risk intensifies), according to Corbett (1988), the household disposes of its productive assets or may borrow at exorbitantly high interest rates. Selling assets at less than market value represents a sub-optimal coping strategy, and the nature of the assets sold at this point, such as land, tools or equipment, reduce the ability of the household to provide for its welfare. Stage three, Corbett says, signals the end of the loss management strategies relied on in stages one and two, and is hallmarked by the destitution of the family. It typically causes families to rely on charity, break up the household, or enter into 'distress migration". As a conclusion, the paper posit that microenterprise services can improve households' income smoothing and consumption smoothing opportunities, or both ex ante and ex post risks. However, as a caveat, the writers note that: "microenterprise services will have lower impacts for households that have higher levels of risk aversion and fewer loss management alternatives, thus possibly perpetuating the poverty trap. (Dunn, Kalaltzandonakes and Valdivia, 1996: 30)"

In showing that processes of risk aversion are conditioned by and constitutive of a larger market environment, and that households employ a number of variant strategies in temporally distinct periods, the paper insightfully captures the relationships between risk and microfinance uptake. Yet the issue of armed conflict is touched on superficially. "Political risk" is arguably too broad, encompassing "riots, wars, or unfavourable acts by the state or its officials". Terms such as "confiscation" by the police or municipal authorities", "the exercise of power within a community or household" are implied to be interchangeable with "war". This produces a lack of conceptual clarity, and furthermore these political risks are considered only categorically different than strategic, or personal risks. Together, this creates a study of risk where the operational variables are problematically divergent.

Entering into commitment devices

Choosing a financial agreement to enter into indicates a range of considerations by an individual. Several models offer explanations for how individuals enter into decisions to commit to financial and nonfinancial goals, grouped by Bryan, Karlan and Nelson (2010) as commitment devices. Such a device, they argue, can be characterized by the following rough definition:

> An arrangement entered into by an agent which restricts his or her future choice set by making certain choices more expensive, perhaps infinitely expensive, while also satisfying two conditions: (a) the agent would, on the margin, pay something in the present to make those choices more expensive, even if he or she received no other benefit for the payment; and (b) the arrangement does not have a strategic purpose with respect to others (Bryan, Karlan and Nelson, 2010:3)

Everyday examples offered of commitment devices include, for instance, buying long term gym memberships rather than paying by the day, or taking fixed amounts of cash when going out for an evening (Bryan, Karlan and Nelson, 2010). Such a view on human behaviour has been remarked on in the literature, through a variety of commitment models based on utility maximization theory.

Strotz (1956), for example, asserted that an individual's intertemporal marginal rate of substitution would depend on the which time period a decision is made, leading to a preference for commitment devices, or attempts to mitigate the future negative consequences of current decisions, since individuals naturally value current consumption more heavily than future consumption. Strotz's original model demonstrated perfectly time consistent choices, however, such that marginal rates of substitution would become exponentially larger relative to the time period (time-consistent exponential discounting). Yet Stroltz himself remarked that time inconsistent choices were more naturally likely.

Phelps and Pollack (1968) and Laibson (1997) accounted for this human tendency (e.g., that different time period's 'decision makers' would vary in their course of action/ assessment of future prospects) in what became known as the quasi-hyperbolic discounting model, expressed as

$$U(\{c_t, c_{t+1}, \ldots, c_T\}) = u(c_t) + \beta \sum_{k=1}^{T-t} \delta^k u(c_{t+k}),$$

where U is a one-period utility function, D(k) is any discount function, and t is the decision-maker at a point in time.

A series of social scientists and economists have since worked to make progress in understanding how commitment devices may underlie some of the decisions of the poor, and perhaps explain preferences to work with informal savings and loan arrangements work (Gugerty, 2007; Ambec and Treich, 2007; Basu, 2008; Kast and Pomeranz, 2009). Basu(2008), for instance, found that both time consistent and time-inconsistent, or hyperbolic, savers benefit from the structure of indigenous savings and loan mechanisms called Rotating Savings and Credit Associations[21], which feature regular deposits and a certain amount of illiquidity compared to formal banking. Thus, we would benefit to understand user preferences to enter into informal moneylending and saving arrangements as a type of commitment device. As a corollary, the greater the time inconsistency of the user, or the higher the likelihood that the current user is likely to value current consumption different than future consumption, the higher the incentive of the user to enter into a commitment -device intended to prevent poor or costly decision making later.

Temptations

Yet the quasi-hyperbolic model cannot account for the temptation of competing choices, a factor that Gul and Pesendorfer (2001, 2004) bring up as a salient variable. In their model, the utility of choosing something- at any point in time, even if the present self will differ from the future self by overvaluing current consumption- is weighed against the temptation of choosing

[21] ROSCA's, similar to ASCA's, are found throughout eastern Congo and are referred to as "mutualites" in French, or "likilimbas" in Swahili

something the user knows the future user should be denied[22]. In the Gul and Pesendorfer model, if the temptation outweighs the utility of the commitment device, the logic of the commitment device may falter, and even if followed, the user suffers a temptation cost. The introduction of this model, it is argued (Bryan, Karlan and Nelson, 2010), allows for the consensus in psychology that the human psyche consists of two competing selves, oftentimes viewed as a long run self and a short run self, whereby commitment devices will benefit the long-run self by restricting choices available to a short term self.

Banerjee and Mullainathan (2009) look at how hyperbolic discounting may be contributing to poverty traps through a variation on the hyperbolic discounting model that incorporates this idea of dual selves. Making the rather large assumption that income spent on temptation goods decreases as income increases, they show that as income increases, less income spent on temptation goods leads to a polarization of income. This finding is used to demonstrate why the poor benefit from commitment devices, yet the assumption of disproportionate spending on temptation goods by the poor indicates, perhaps, a function of psychology as much as economy.

Certainty Premiums

Callen, Isaqzadeh, Long, and Sprenger (2014) also note that psychology offers some useful examples of investigating the relationships between trauma and risk attitudes. They combine some tools from psychology and economics to analyse risk preference and traumatic experiences in Afghanistan in what is a highly relevant paper for this thesis. Similar to the

[22] In their model, the example is being given a menu with both fish and steak offered, where the user knows the fish should be ordered for, presumably, health reasons

commitment devices described by Biran, Karlan and Nelson, the findings of Callen, Isaqzadeh, Long and Sprenger defy the expectation that risk tolerance increases in contexts of armed conflict, contradicting expected utility. In fact, findings from a survey of 1,127 Afghan civilians finds that with exposure to violence, individuals become more likely to pay a certainty premium, or engage in less risky activities.

1.6 Conclusions

This chapter has presented a sectoral literature review of conflict economics and microfinance, and explores the current limitations and recommendations posed by leading experts in each sector. If we are to summarize the literature, it will be justifiable to present, then, several main, broad arguments which appear to be substantiated at the time of writing.

Political Background

In conflict economics, the methodologies for estimating the empirical costs of conflict are in continual development. Measuring the aggregate costs of conflict, some scholars aggregate unit costs interacted with country figures, while others attempt synthetic control methods. There is widespread agreement that cost estimates for factors that cause or precipitate civil war or armed conflict would also be useful, yet these have largely not been attempted. The existing data related on factors related to armed conflict mainly centre on questions of the persistence of impact, however, and generally point to negative impacts on generic factors of production. Collier has built upon this with a sectoral analysis of war vulnerable and war invulnerable sectors, using Uganda as a case study, and has pointed to capital and transaction intensive sectors (i.e. finance) to be hardest hit, and sometimes even experiencing a war-overhang effect.

The lens of these studies, however, rarely focuses on factors more specific, a shortcoming addressed only by a few.

Practice Background

Practitioners in conflict zones, meanwhile, corroborate feelings that the destruction of human capital impedes the implementation of development-through-financial-services, although there is, similarly, disagreement about the duration of the effect. Leading organisations in the field of post-war reconstruction and microfinance have remarked on the difficulty of microfinance in volatile and post-conflict settings, indicating a preference for capital intensive investments in communities which bear less risk to both lenders and borrowers. Recent attempts to redefine suitability and methodological considerations for microfinance programming in post-conflict contexts have indicated that, among other findings, there is indeed a market for microfinance services after the immediate post-conflict stage, that many "best practices" of microfinance will still apply, that there may be a need to train staff in conflict resolution, as Kiva has noted; and that a balance must be found between reaching into 'tough' areas and maintaining strong internal controls. Repeated practitioner remarks also highlight a decrease in demand for financial services following conflict, a remark that is anecdotal rather than established. The literature does not present a significant undertaking as of yet in defining and mapping the typologies, relevance and impact of the informal financial market during and after conflict. - and it generalizes, it seems, on the capacity of financial services to recover from the effects of conflict.

Microfinance

The Household Economic Portfolio Model is introduced as a circular flow of household activities which allows for cooperation and conflict within the same household in addition to a link to the suprahousehold network, each of which could be influenced by the introduction of financial services. It is necessary to have a conceptual framework which allows for the fungibility of credit, since microfinance institutions have a variety of definitions of success for themselves. Poverty alleviation as an outcome is commonly claimed, yet empirical studies to determine the validity of correlation have identified major biases that undermine the credibility of such arguments. While formal microfinance has been highlighted as a high impact intervention in international development efforts, anecdotal evidence tends to highlight high performing clients while using a combination of techniques (loan loss provisioning, joint-liability loans, exclusionary lending or joining criteria, or blacklisting) in order to encourage high repayment rates and exclude likely losses. Recent, randomized controlled trial style studies also show a null result for questions of straightforward impact, leaving leading experts asking which questions should have perhaps been asked instead.

When subsidized, microfinance programmes may offer a low-cost product to clients, severely undercutting informal interest rates which may be up to 100% of the original loan cost. Yet continued programme subsidization (through grants) of some of the most internationally acclaimed programmes reveals a key (undermining) component in the sustainability of such programmes.

Meanwhile, informal moneylenders on average charge staggeringly high annual interest rates in comparison, yet these are usually more realistic approximations of the rate needed to cover defaults in areas of high client vulnerability. Furthermore, their continued operations indicate an extant demand for financial services- and a manageable, if somewhat exploitative burden for clients willing to initiate microcredit services.

Behavioural Economics

Factor analysis for why clients would enter informal financial services is therefore useful to establish the current state of the art on the issue. Within the SEEP/AIMs project, a related paper on risk estimates that, based on the literature, risk aversion will adversely affect a household's ability to be impacted by microfinance services, and that a risky environment will cause risk aversion. Bryan, Karlan and Nelson, as well as Callen, Isaqzadeh, Long and Spencer identify a tendency of individuals to engage in occasionally inefficient behaviour which is not utility maximizing, due to either attempting to affect their future actions (Bryan, Karlan and Nelson, 2010) or because their exposure to traumatic events increases risk aversion and creates a willingness to pay a "certainty premium" (Callen, Isaqzadeh, Long and Spencer, 2014).

These micro-level studies are helpful in understanding some of the demand-side mechanics at work in financial markets. Taking the different sectors together, then, one can begin to have an understanding of the implications of past research for current research. Indeed, savings as a factor in neoclassical growth functions has not yet been examined in contexts of conflict, nor has informal finance, especially as a repository of savings. The impact to institutions responsible for managing the economic consequences of conflict has also escaped close scrutiny by empiricists, although practitioners agree that such impact is high, and detrimental. And demand for financial services- although reported to be low- has not been studied at length. Bringing microfinance and behavioural economic literature in to fill these gaps, one can expect to see the flourishing of inefficient practices- such as borrowing at higher interest rates, in return for certain guarantees of certainty. As a corollary, the rate of savings would also go down (as more resources are directed to the informal sector), delaying a country's return to normal. In the following chapters, these conjectures can be rephrased as questions, and answered partially by the thesis.

Chapter 2

Regional and Local Conflict Developments

2.1 Introduction

This chapter will introduce the areas and related conflict affecting the two locations used for case studies (Beni and Butembo) in the remainder of the thesis. It examines the international developments which are considered key turning points in the conflict. This is consistent with mainstream accounts of the DRC, since foreign actors typically receive the bulk of attention from international media, including a number of accounts that largely see the conflict as the result of strategic abuses by unfriendly neighbours. Specifically, the involvement of Rwandan and Ugandan-origin conflict actors is considered of paramount importance, since the area of interest here is the manifestation of conflict in North Kivu, and the account of Gerald Prunier is reviewed as the foremost historical account of the events that would unfold into Africa's First World War due to his extensive interviews conducted with both conflict actors and politicians. Since the thesis is interested more in citizen responses to the conflict than to the specific causes of the conflict, careful attention is paid both to the aftermath and consequences, including current security risks and types of incidents, posed by the conflict actors today.

Ultimately, although international meddling provided the impetus for the onset of conflict, it is also the interactions at the local level between conflict actors, civilians, and the government's army which have determined the course and cost of the conflict in the DRC for the average citizen. For example, localized rebel activities- particularly those of the Mai-Mai - continue to pose threats to enterprises in North Kivu which are dependent on long-distance trade. As

Prunier and Autessere both independently point out, the international community would do well to understand that "the recurring and apparently intractable character of the [DRC] violence [is] considerably more problematic because it pre-existed the war, had been made worse by the war, and would not stop even if the war stopped (Prunier, 2009: 320)". However, I follow the logic of Stathis Kalyvas most closely in guiding the following understanding of the conflict, whose theory of selective violence posits that violence is:

> Jointly produced by political actors seeking information and individual civilians trying to avoid the worst but also grabbing what opportunities their predicament affords them. Violence is not a simple reflection of the optimal strategy of its users; its profoundly interactive character defeats simple maximization logics while producing surprising outcomes, such as relative nonviolence in the 'frontlines' of civil war. (Kalyvas, 2006:i)

Kalyvas (2006:75) offers an analytical critique of Prunier and Austessere's thesis, pointing to inference biases mistakenly attributing civil war violence to pre-war polarization due to overlooking other possible causes. In addition, Kalyvas contests the pre-war polarization causation thesis through pointing to processes by which polarization or violence are endogenous or exacerbated by conflict, so although cleavages may be mirrored in local level violence, they may have been innocuous prior to the conflict, and hardened through a process of endogenous polarization.

Both viewpoints can be brought to bear on this thesis, since the research is interested in the decisions made by providers as well as citizens in maximizing their resources, and how and if conflict affects these decisions. Also of interest are any anomalies such as those mentioned by Kalyva's "surprising outcomes, such as relative nonviolence in the 'frontlines'[i]", which could be either explained by behavioural economics or present new directions for research, and less interested in the polarization produced (or hardened, according to Kalyvas [p75]), since this research is limited to a fairly homogenous sample. Specifically, this research looks at Banande (interchangeably known as Nande) communities in particular, which have been documented previously by Patience Kabamba in his book Business of Civil War: New forms of Life in the Debris of the Democratic Republic of the Congo. It has been well documented how social networks in the Kivus have produced alternative, reciprocal arrangements which have provided privatized public goods and the means of capital accumulation despite the fragile political context. Vlassenroot and Raeymaekers (2004:62) for example, assess that:

> Notwithstanding high levels of poverty, cars and other luxury products are flown in on a weekly basis from Dubai (United Arab Emirates) and the Far East, both places where Nande traders have developed a lucrative trading business over the years... It is generally acknowledged that three characteristics have contributed to the emergence of this 'island of prosperity': strong bonds of ethnic kinship, a favourable climate, and the proximity of borders…together with the possibilities of accumulating wealth in the informal economy, these characteristics have provided a significant platform for the development of a Nande commercial class.

Kabamba usefully notes, however, that: "It would be misleading to hold up the Nande model as a cheerful neoliberal one, whereas its purportedly self-governing network forms of organisation, pursues its own interests and magically produces the greatest good for the greatest number.(Kabamba, 2013:5)" Indeed, the mentioned "New Forms of Life" fuelling the economies of the eastern provinces has arisen not out of perfect market conditions, but out of imperfect, sub-optimal and inequality enhancing relations.

Since this thesis leads towards an analytical understanding of engagement with microfinance services during conflict, a conflict analysis that engages with the leading experts on the area will do well, then, to highlight the individual factors that have contributed to social behavioural change. A simple greed-or grievance approach is of limited use, since following MacCartan Humphreys (2005; 11-12), multiple mechanisms can be at work in a context of armed conflict, even having opposing effects. As such, historical context is introduced, followed by a site-specific analysis of conflict drivers, leading to a discussion of mechanisms and impact. In using such an approach some of the questions raised in Chapter 1 are answered as to which determinants of the impact of civil war merit further analysis, and the categorical risks significant today for ordinary Congolese.

2.2 Thugs Without Borders[23]

Collier and Hoeffler (2004) have advanced empirical work that points to the susceptibility of resource-rich countries to violent conflict, compared to contexts with little natural resources and similar levels of social marginalization. This has helped them advance a popular narrative of what they term "greed" as a root cause of violent conflict. Yet qualitative work also points to the salience of social and cultural factors, known in the conflict literature as "grievances". In the Democratic Republic of the Congo, for example, I could analyse texts to argue either position. In favour of the grievances camp, for instance, citizenship laws and land and property

[23] Prunier, 2009:321

disputes have been manipulated by elites in a manner which have been a direct justification of violence in the DRC since the 1980s. Legislative amendments and the constitution of 1964 did essentially widen splits between indigenous Congolese and Congolese of Rwandan descent, laying the foundation for the traditional, administrative, and economic exclusion of Congolese of Rwandan descent (Prunier, 2009, Autessere, 2010). This in turn set the scene for the unpredictable national and regional events which were to lead to large scale violence throughout the 1990s, necessitating the continued "protection" of Tutsis and Rwandan sovereignty by Rwanda's ministry of defence (MoD) (UN Security Council, 2013). Using proxy-militias in Congo (FDLR, M23) to achieve these aims, various Mai-Mai groups thus also began to see protecting their Congolese communities as a casus belli, in light of the limited government protection provided. Finally, though not exhaustive, the political aspirations of marginalized and militarized Islamic extremists in the specific area studied, the Allied Democratic Forces and the National Army for the Liberation of Uganda, can be considered a further marginalized group seeking a redress of substantial grievances through violent conflict.

Yet to argue a grievances based analysis of the conflict in the Democratic Republic of the Congo is, while objectively justifiable, intuitively undermined at almost every angle by the underlying economic payoffs of the actions taken to redress said grievances. Ultimately, both empirical and localized expert analysis of the Congo point to the war profiteering being practiced by every illegitimate armed group in the Congo, and there is evidence to suggest that legitimate actors are implicated as well.

Resource pillage has been well-documented in the Congolese wars as a self-financing mechanism, and a strategy to maintain a profitable siphon of resource rents and raw materials to Uganda and Rwanda (Renner, 2002, Reno, 1999). Yet how salient is greed for resource appropriation for the conflict in the Democratic Republic of the Congo? Many argue it is paramount, even works of fiction, who declare, "Congo's been bleeding to death for five centuries" (Le Carre, as quoted by Kabamba, 2013:1). Prunier (2009:361) indicates the weight of the economic orientation in the Congolese case in favour of the greed theory:

> Why do we have such a process? Because of economics. The poverty is so massive, so grinding, that anybody with a minimum of perception can be relied upon to activate his or her identity segments into some kind of a militant pseudo-globality if it brings economic rewards. This is why it is always easier to recruit militias in towns and in cities than in the countryside: city people know they are poor because they have the means (radios, TVs, cinemas, newspapers) and the references (rich people, foreigners) that tell them about their poverty…. The international community usually does not know how to react to such crude prejudices, and tries to keep the situation in a polite limbo, where the myth of a possible future consensus can be entertained. The economic distress and instinctive exclusion of the competitors are often the unspoken background of the outwardly polite "peace negotiations" This is often explained off the record as "ethnic hatred", as if ethnicity were a structurally given fact, like a geological structure, and not the product of dynamic historical interaction.

The most significant challenge to examining empirically the salience of the greed thesis is the quality of data available on the Congo. Accounts and the testimony of experts conform with the illegal exploitation of minerals in all sectors in the DRC. However, opinions cannot argue with the evidence provided by physical events, so I constructed a dataset of all recorded armed conflict incidents at the subdistrict for a 10-year period, as well as the location of all mining concessions, active and inactive oil concessions, and timber concessions.

Regressions were run with a series of covariates, including an interacted price index constructed of international prices for each commodity good, the summary of which is presented below[24]. Interestingly, this exploratory research could not distinguish a positive correlation between the location of granted concessions in the oil and timber sectors, although a significant and positive correlation between violence and the location of mining concessions was evident, as expected.

	Dependent Variable: Total conflicts per month		
	(1) Minerals	(2) Oil	(3) Timber
Constant	.073*** [.022]	.051** [.023]	-.679*** [.057]
	.366***	-.592***	-1.199***
Concessions	[.027]	[.032]	[.063]
	2.314E-5*** [.000]	.005*** [.000]	.002*** [.000]
Interaction term Unfriendly Neighbour	-.159*** [.040] -.004	-.109** [.046] -.037***	-.089** [.037] -.019
Rainfall	[.014]	[.014]	[.013]
	18471	18480	19800
N	54.844	121.462	95.210
F	54.844	121.462	95.210

Notes: Robust standard errors reported in parentheses. Levels of statistical significance indicated by asterisks: * 90 percent, ** 95 percent, *** 99 percent

[24] Work conducted as part of a research collaboration with the Empirical Studies of Conflict Project. See Smith, J. 2016. Resource Endowments and Territory-Related Conflict: Evidence from the DRC (unpublished research collaboration)

TABLE 4 ACCOUNTING FOR VIOLENCE THROUGH PRICE VARIATIONS IN RESOURCES, TAKING INTO ACCOUNT UNFRIENDLY NEIGHBOURING COUNTRIES

The negative relationship observed, meanwhile, between the geo-referenced location of oil and timber concessions with the geo-referenced location of violent events reflected, in my interpretation, the fact that concessions indicate the anomic good governance, or international governance, of a location under the control of an international company with international staff, in relation to the lack of control or international involvement in other areas. Mining concessions, however, did not follow this pattern because the mining sector was nationalized in 1970, and international companies were only allowed to start mining in 2002 through joint ventures with Congolese owned-parastatals.

Thus, from the actual spatial distribution of recorded conflict, there is little to be learned if anything about the underlying motivations or lines between behind the territorial capture and practices of armed combat. If anything, what the figures seem to depict include a wide variance in practices related to the protection and capture of raw minerals, which seems to be linked to a variance in the granting of concessions to international versus national companies. Rather than trying to establish the relative greater significance of greed relative to grievance, then, an examination of mechanisms at work linking causes to outcomes- specifically, how these can explain the relationship between opportunities or the lack of, war onset, and duration- might be more instructive. And, if these can be identified, they may provide a more satisfying underlying logic to explain the variant outcomes above, or point to some context-specific "surprising outcomes" worth examining further.

MacCartan Humphreys (2005) identifies six possible mechanisms for the greed argument alone, including the popular greedy rebels mechanism, whereby local groups either engage in illicit behaviour in order to find revenue apart from those offered by the state, or the mere presence of natural resources increases the perceived value of capturing the contested area (the "booty future" mechanism). In another mechanism, (similar to the second variant), the perceived wealth of a region encourages rebels to believe that a secession could be in the best interests of the seceding region. Alternatively, or concurrently (and this is what Humphreys postulates that the Democratic Republic of the Congo typifies), a greedy outsiders mechanism appears, in contexts where third parties- here meaning states and corporations- are incentivized to promote civil conflict for their own interests. Where his mention of the Democratic Republic of the Congo points to, however, are outside the remit of this thesis[25]. In addition to these three types of greedy-rebel mechanisms, Macartan Humphrey also identifies a feasibility mechanism (i.e. where natural resrouces allow for the continuation of a rebellion that was started for other reasons), a weak states mechanism (i.e. where governments reliant on taxation don't have a compulsion to create responsive institutions), and a sparse networks mechanism (where the absence of dense trade networks increases conflict risks).

It is therefore useful to introduce an alternative historical account of the conflict, which will allow for a re-evaluation of the Congolese conflict in terms of mechanisms. In constructing one, Macartan Humphrey's typologies of mechanisms should indicate which one(s) may be at work in the context of the area studied. In fact, it will be critical to understand the mechanisms

[25] In addition to a generalization of neighbours seeking raw materials, he points to the bid made in Katanga for secession which was possibly instigated by (and certainly fortified by) the Belgian firm Union Miniere du Haut Katanga). Humphrey's also mentions the French oil company ELF's involvement in the neighbouring Republic of the Congo, which is not dealt with in this thesis.

at work in order to separate the effects of conflict on microfinance from the effects of microfinance on conflict, if any. And, if by identifying specific mechanisms it will be possible to understand which institutions may be responsible for their governance, then this approach will have contributed important early support for the thesis.

2.3 Historical Background

A first major event in the upset of the social fabric in Eastern Congo, the assassination of Burundian president Melchoir Ndadaye in 1993, prompted a first wave of approximately 300,000 Hutu rebels to flee to the Democratic Republic of Congo. This event was soon overshadowed by the further arrival of 1.2 million refugees from Rwanda fleeing from the Rwandan genocide. As the Tutsi Rwandan Patriotic Front emerged as a victorious counter-coup, Interhamwe militia members as well as escaping refugees flooded into the Kivus, in what was to become a major shifting point in military and political strategies for Kinshasa, Kigali and the international community.

The literature on the Congo largely agrees that the influx of refugees and the spillage of the Interhamwe into Eastern DRC was only another tipping point for a country riddled with political competition from centuries of aggravated land mismanagement. Historically, foreign involvement in the politics of the DRC have led to a hybrid mix of policies favouring some and marginalizing other tribes. With over 365 smaller tribes present (Prunier, 2009) at the start of Belgian colonization, the Kivus was one geographic area of the Congo which escaped new categorizations, or 'synthetic groupings'. As tax gathering practices by the Belgian colonial administration began to systematically identify the previously (largely) unconnected groups in the Congo, in the west, the Ntandu, Ndibu, BesiNgombe, Yombe, and Salongo came to be known collectively as Bakongo, and in the north, the Bali, Mongelima, Topoke, Bango, Doko and Lobala identifed as Bangala (Prunier, 2009). However, in the Kivus, groups largely retained their individual identities.

Prunier offers several plausible explanations for the relative neglect of the Kivus by the Belgians: the first being the geography of the Kivus. They are, unlike the rest of the country, mountainous and therefore difficult to access from neighbouring areas, not to mention more isolated inter-communally as well. A secondary cause for the allowed heterogeneity in tribal unit grouping, he suggests, was the lack of large scale population movements that were commonly forced in mining-intensive areas. Thirdly, cultural influences from the neighbouring Great Lakes Kingdoms gave rise to monarchic, micro-kingships which Belgian authorities, in a pursuit of the path of least resistance, tended to work through as administrative bailiffs instead of recreating as they had in other regions of the Congo. (However, these may have tended to reinforce structural inequalities; which in turn manifested in armed reprisal attacks by marginalized minorities).

Following 1918 and Belgium's role in the defeat of Germany in World War One, the League of Nations granted the country a portion of Dutch East Africa (present day Rwanda). This new territory wasoverpopulated enough to justify the initiative for population movement of over 80,000 Banyarwandans to work in the Kivu's growing plantations- followed by an estimated 110,000 voluntary migrants. Political instability in Rwanda around the era of its independence caused further vintages of refugees to the Kivus in 1959-1960, 1963-1964, and 1973.

As Prunier describes it, the ease in which these refugees integrated with local Congolese in the Kivus was deceptive. A dominant tribe (the Banande) frequently allocated land through local chiefs' discretion, which was easily persuaded. Meanwhile, the fact that this attribution had never represented a permanent form of landholding by the Banande was looked over by the Banyarwandan, but not by minority Congolese tribes, who resented the new arrangements. These "integrations" by the Banande, as well as the granting to local leaders the authority to make such decisions, would play key roles in later years of the Congolese conflicts in the ability of towns to negotiate with armed forces originating from Uganda.

In summation, within the Kivus, the influence of monarchic style ruling from their geographic position adjacent to the Great Lakes kingdom afforded them administrative capacity that colonial authorities worked through, rather than trying to create from scratch. However, in retaining distinct tribal identities, a sense of marginalization by smaller tribes contributed to simmering tensions inter-communally. At the same time, the geographic isolation of the area can also be said to contribute to a sense of disconnection and autonomy from networks in Kinshasa and those of central authorities, further reinforced by closer cultural ties with neighbouring countries than with the administrative bodies of central DRC.

North Kivu

When the Congo civil war from 1960-1965 degraded existing power structures, a small-scale conflict broke out between local tribes and the Banyarwandan of Rwandan origin- known as the Kanyarwandan war - to try to establish claims over contested land. Drawing the attention of Mobutu, who had long been plagued by rebel uprisings based in the East, the "embattled Banyarwandan were a good bet for political support (Prunier, 2001)". Mobutu drew this group close through political appointments and legal concessions. With Mobutu's favour, the period from 1967-1977 became somewhat of a golden age for the Kivutian Banyarwandan. In 1972, the granting of Congolese/Zairian citizenship to the previously estranged immigrant group solidified their rights to landholding- and participation in land acquisitions following the departure of the Belgian colonists. In the period of the 1970s and 1980s, various Banyarwandan even became main suppliers of fresh produce to Kinshasa and Rwanda.

But in 1981, a reverse tide of political appointments abrogated the citizenship law of 1972. The same appointments attempted to oust Banyarwandan appointees of local administrative positions and reverse the commercial and political success enjoyed by the Banyarwandan in the previous decade. The 1993 Ntoto market massacre (in Walikale, North Kivu) of March 20 triggered outright fighting between the groups, highlighting a recent cleavage between Rwanda-origin Tutsi and Rwandan-origin Hutu in addition to the Rwandan-origin and Congolese-origin Kivutians. Political fomentation in neighbouring Rwanda started to spread to Congo as well. With the deployment of Mobutu's troops to Goma in addition to traditional mediation, a truce was reached between the groups in February 1994. But this was soon tested by the further influx of 1.2 million refugees. In short, although the integration of immigrants of Rwandan origin in North Kivu was legally enforced in 1972, distrust and xenophobia from Congolese tribes in North Kivu resurfaced repeatedly prior to the 1994 Goma Crisis, highlighting longstanding political and class grievances.

South Kivu

A key difference in the Kivutian conflicts between the provinces is the relatively lower population density in South Kivu and lower proportional influx of Rwandan migrants (comprising around four % of the population, compared to 40% in North Kivu [Prunier, 2009]), which severely reduced the competition over available land. Another key difference is that Banyarwandan in South Kivu (nicknamed Banyarmulenge) are predominantly Tutsi, and migrated from Rwanda in the 19^{th} century to a previously uninhabited plateau. Staying neutral during the civil war from 1960-1965, the pastoralist community was soon besieged by hungry and defeated rebels who cattle raided the herds of the Banyarmulenge. The victorious Mobutu decided to arm the Banyarmulenge, who subsequently defended their cattle and maintained their autonomy, yet were afterwards seen as traitorous foreigners, complicit with Kinshasa, who had fought against the 'local boys'. In a sense, then, neither North nor South Kivu's tribes welcomed the historical settlement or integration of Rwandan-origin workers or herders, preferring instead to practice a mix of fear and mistrust towards those perceived as Rwandan-origin.

The Goma Crisis

When 1.2 million Rwandan Refugees starting pouring into the country during the Rwandan Genocide and RPF take-over, xenophobia against Rwandans reached an all-time high. Meanwhile, President Mobutu sought to take advantage of the available options to him. Cooperating with an ex-Forces Armees Rwandaise (FAR) general, Mobutu turned a blind eye to the plans to install a "Hutuland" in the land now heavily populated by Rwandans on the Congolese side of the Rwandese-Congolese border. (Prunier suggest that, by being open to the possibility of Hutu forces re-attacking Rwanda, Mobutu planned to postpone the possibility of the looming 1997 democratic elections in Congo [2009]).

Thus, Rwandan Hutus began attacking Rwandan Tutsis and Congolese Tutsis of Rwandan origin. In addition, Hutus began appropriating land belonging to Congolese autochthones, attacking local Bahunde and Banyanga communities. Those fleeing the attacks of the resurfacing militias into Rwanda, as well as a retaliating attack by autochthones on the Banyarmulenge cattle herders, raised the alarm bells of the new administration in Kigali. In the name of protecting Tutsis now perceivably at risk for further massacre, it also provided the logic for an RPF intervention, led by General Paul Kagame of Rwanda, into the Northern Congo.

The long march to Kinshasa, led by Laurent Kabila created, in its wake, a defeated dictator, a new president, and the absence of the rule of law. Local autochthones had sided with the Rwandan Patriotic Front's first attacks against the Hutu refugees in North Kivu in 1996, sympathizing that the disruptive elements of the Hutu militias ought to be wiped out. But by 1997, alliances shifted into antagonisms towards Rwandan Forces, as the threat of constant cross border incursions from Rwanda by meddlers from Kigali became clearer.

Local self-defense or Mai-Mai militias started organizing as a kind of minutemen response. The Mai-Mai originally were militarily weak, and heavily touted superstitious ritual practices to claim invincibility but, by 1998, had gained momentum as a powerful political movement against foreigners, with broad based support from a range of socio-economic classes. They had existed since colonial times in order to defend, as Van Acker and Vlassenroot describe (2001), "traditional rural order" from colonial encroachment[26], since land access was continually being restricted by colonial powers. Land has always been an important institution for the native population's survival and relationship networks. However, as Autessere (2010) and the International Crisis Group describe (as quoted by Autessere, 2010), the group quickly became a groups who practiced " 'A mix of self defence and profit secured from pillage and cattle rustling,' and who ultimately terrorized the communities they had set out to protect."

[26] Belgian colonizers declared all uncultivated property of the state in order to distribute it to colonial families, sell it, or transform it into parks

The new president, President Joseph Kabila, facing considerable pressure to democratize the country, decided instead to wage war with his former allies, and found within the Mai Mai in North Kivu a considerable ally. From 1998 until today, the alliance between the central government, ex-Hutu militants, and Mai Mai has been an evolving and tenuous one- as has the internal coherence and organisation of the opposing, militant movement for democracy, the expeditionary forces originating from Rwanda, and lingering militias originating from Burundi and Uganda.

Prunier (2009) describes how stabilization efforts in the Kivus have therefore been affected by a variety of factors, including:[27]

> A delinquent central government which, instead of trying to stabilise the situation, cynically exploited it in the hope of shoring up an exhausted authoritarian regime… signifying a total vacuum from the point of view of the basic social and administrative services which a normal government is supposed to provide (p155).

Thus, one can see today how a historical neglect of the Kivus, punctuated by the occasional attempt to use them as a strategic outpost by leaders looking to extend their influence through infighting, has contributed to an entrenched feeling of lack of state reach or capacity, and mistrust of the government's intentions. The Mai-Mai, who claim to be nationalists- and with nothing to do with the Rwandan genocide- have nonetheless attacked, on numerous occasions, the Banyarwandan and Banyarmulenge in both Kivus, seeing them as allies and beneficiaries of

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[27] And here, he indicates that this extends through the thirty-one years that Mobutu was in power

the foreign Rwandan forces. By 2000, the claim that Rwandan forces were safeguarding the national security of Rwanda was seen as laughable by those living in North and South Kivu.

Indeed, continued incursions against Ugandan forces revealed, Kivutians felt, the false pretence of the Rwandan forces- and led to several armed skirmishes between Mai Mai, the Rwandese Army, and the RCD, the militant movement for democracy. Such fighting had disastrous effects on the locations where skirmishes happened. They prompted hundreds of thousands of people to flee their villages and abandon ongoing agricultural efforts and others related to food production. Armed men, supposedly guerrilla fighters, became a fixture of several areas, acting as a cross between bandits and false security forces.

However, everyone against the Banyarwandans was not the only division. Historically marginalized indigenous demographic and ethnic groups took advantage of the call to arms to assert a higher position held during peaceful times. Disenfranchised youth, for example, having taken the opportunity to join Mai Mai militias, reportedly denied the return of some traditional authorities to their home villages in Katanga, the two Kivus, and Ituri Provinces (Autessere, 2010:152-153). Following internal displacement, they threatened their previous elders with secondary displacement. And pygmies, who under traditional law were disentitled to land, villages, and the right to select a customary chief, were easily drafted by Rwandan Hutus. The pygmies, who had been relegated to live attached to bantu villages, were regarded as "somewhere in between animals and men (Autessere, 2010:147)" and had historically been used for cheap labour.

Whereas the Hutu's drafted the Pygmies as semi-slaves, the Pygmies easily adopted the role in anticipation of the arms, supplies, and the chance to take revenge on their former oppressors that was then offered. And indeed, exacted. Autessere (2010:147) notes how "All armed groups repeatedly subjected the population to massive human rights violations, including forced displacement, gang rape, killings, massacres, torture, and burning of villages". Autessere notes how, "The interaction with regional and national cleavages during the war thus reinforced local hostilities. It induced a series of new local cleavages, enhanced decentralized violence in places where it existed prior to the generalized fighting, and transformed latent antagonisms into open conflicts in places where tensions had previously been contained."

The Emergence of the ADF Nalu in Beni

Until now, this chapter has focused on the better-known splits between Hutu and Tutsi ethnicities and Rwandan and Congolese origin nationalities, their implications for grassroots militias and marginalized groups, and the creation of a general situation of transforming latent antagonisms over land into manifested ones. These conflict dynamics, combined with a huge landmass spanning more than 2000 kilometers and a centralized government, meant that armed Government fighters sent by the central government to the Kivus were also seen as close to foreign, sometimes speaking Lingala[28] and also seen as predatory. These terrible infrastructural situations led to what Prunier described as "Sinking into the Quagmire". They also allowed for the emergence of an almost completely unrelated conflict that happened to be superimposed in the same geographical region, that is, a proxy war fought between Sudan and Uganda.

In 1989, the Muslim brothers came to power in Sudan through the NIF, and represented a hardening of hostile attitudes towards Uganda and its leader Yoweri Museveni, who was seen

[28] In the eastern cities of Beni and Butembo, and indeed in much of North Kivu, Swahili is the dominant language, and Lingala, spoken in the western provinces, is nicknamed "the language of soldiers"

as a US ally and an obstacle in the Islamisization the NIF hoped would spread through the African Continent (Prunier, 2009; 81). Khartoum began supporting armed incursions against the Museveni government, including assistance to the Acholi -origin Lords Resistance Army, led by Joseph Kony, in exchange for symbolic overtures to Islam (some of his fighters reported pretended to convert to Islam and took on Muslim names). This support and training took place in Sudan, but heralded a trend in supporting proxy militias antagonistic to the Museveni Regime.

Apart from the Acholi, Museveni had his hands full of beleaguered minorities who harboured historical resentments for perceived marginalization. In fact, the Banande tribe mentioned throughout the earlier part of this chapter populates not only the North Eastern part of Congo, but also spread into the Western part of Uganda, and are known as Bakonzo in Uganda. The Ugandan Bakonzo are famous for their rebellion against the British in the 1950s due to a denied claim for autonomy from their subjugation by another British Ally, the Tooro. The guerrilla movement became named "Rwenzururu" after the Rwenzori Mountain, considered the homeland of the Bakonzo/Banande, and Mobutu was sympathetic to the guerrillas given the sizeable population of Banandes in Congo.

Although a peace treaty was in place since 1982 between the Rwenzururu and the then Ugandan Government, a businessman named Amon Bazira convinced Mobutu to revive the Rwenzururu movement in light of the installation of Yoweri Museveni. Supported financially by Mobutu (Prunier, 2009:83), the Rwenzururu were renamed the National Army for the Liberation of Uganda (NALU), although Bazira was assassinated shortly afterward. In retaliation against Mobutu's support for NALU, Museveni formed an alliance with an anti-Mobutu coalition of

Congolese rebels who called themselves the Parti de Liberation Congolaise, funding them and helping to recruit better leadership who could be proxies for himself.

In 1995, a new claim- for a separate kingdom for the Baganda tribe in Uganda- started spreading rhetoric aimed at increasing hostility towards Yoweri Museveni by the Baganda Muslim community, from a group calling themselves the Ugandan Muslim Liberation Army (UMLA)[29]. Although Museveni capitulated and restored the Buganda kingdom for Bagandas in 1993, he did not grant it political power, which led to the breakaway group, the Allied Democratic Movement (ADM). These two groups, the UMLA and ADM, began recruiting followers from a range of backgrounds, including, on ADM's side, ordinary Baganda who were mostly Christian, and on UMLA's side, any Muslims, not necessarily Bagandan. This broad-based opposition group reportedly promised their fighters a lump sum financial reward for fighting (on a steeply unequal pay scale), and appealed to rural unemployed persons as well as city street kids (Prunier, 2009;86).

Owing to their lack of unified or shared ideologies, motivations, or ethnicity; and limited fighting experience, the UMLA and ADM were easily pushed out of Uganda into Congo. But in Congo, they found an ally in the Sudanese Army Security forces, which, as explained earlier, were hostile to Museveni, found an ally in Mobutu, and who wanted to create an international, fundamentalist network. The Sudanese sponsored the regrouping of the defeated UMLA and ADM into the new Allied Democratic Forces (ADF), as well as encouraging the incorporation

[29] This is pointed out as ironic since Museveni had received early support from the same community (Prunier, 2009: 84).

of the Bakonzo independence movement who had found their way to the area as well, the old Rwensururu/now NALU movement.

Peace Agreements

In the wake of the number of violence multipliers across the country (an analysis of Burundian, Namibian, Zimbabwean and Angolan involvement is considered outside the remit of this chapter), a number of peace accords sought to disentangle, appease, and transition the country from one of chaos to relative peace. After more than a decade of projecting individual pursuits in the battlefields of the Congo, however, a number of armed groups were in a period of decline anyway and were able to save face through the opportunities offered by the series of peace accords.

Increasingly. international pressure (e.g.the UN Panel of experts on the Illegal Exploitation of Congolese resources, for instance, the leverage of Heavily Indebted Poor Country status, and promises of economic aid or its withholding) started to deter the outright involvement of Uganda and Rwanda in Congolese politics. However, Rwanda preferred to stay engaged discreetly through a number of paramilitary militias it could officially distance itself from. Although meetings with African leaders slowly but surely solicited the agreement of non-involvement, local actors reacted in a range of different ways. As Beneduce at al (2006) describes:

> Dispersed armed groups continue to profit from the extortion of agriculture, trade and exploitation activities which in turn provide the main mean of living for eastern Congo's impoverished populations. In other words, the present peace process risks

bringing peace to the urban populations while leaving the rural populations in the midst of an unending low-intensity conflict.

According to the Armed Conflict Location and Event Dataset's (ACLED) country report for DRC in December 2013, "Since 2011, violence levels have increased significantly in this beleaguered country, primarily due to a sharp rise in conflict in the Kivu regions". More than half of these conflict events occurred in the eastern Kivus. Below, the ACLED conflict event mapping (of conflict events due to CPND and M23) shows a tendency for events to be clustered in the South of North Kivu.

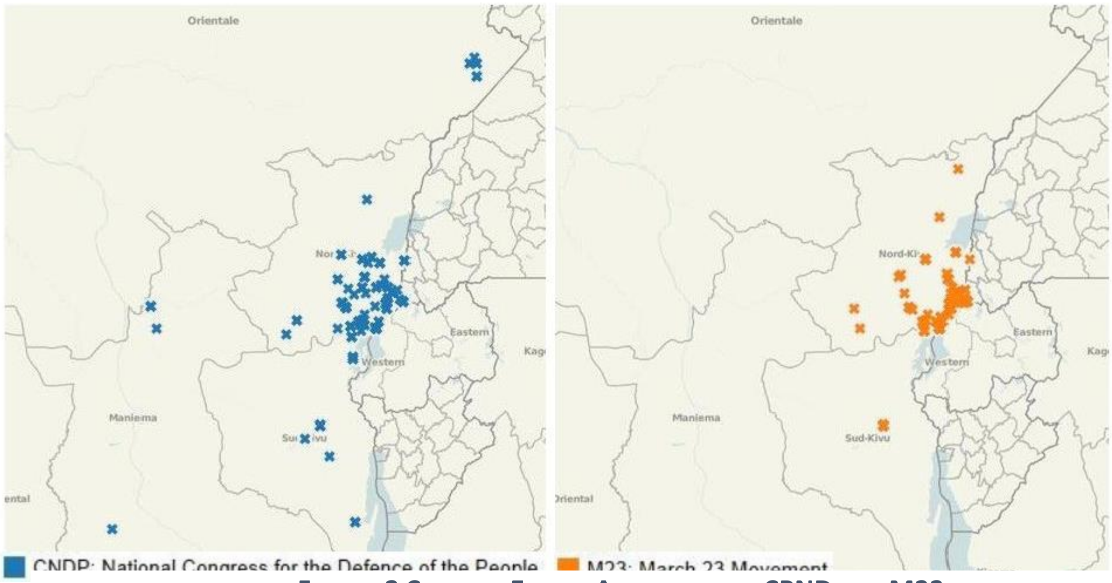

FIGURE 3 CONFLICT EVENTS ATTRIBUTED TO CPND AND M23

Indeed, the Democratic Republic of Congo shows as the first in the Heidelberg Institute for International Conflict Research's 2013 Conflict Barometer's "Top 10 Dangerous Wars in the World", and appears as the second most violent country in the ACLED dataset for 2013. How is it possible that such a scale of conflict has continued? Prunier writes, in 2009 (p322), that:

> The ADF…are-rightly-perceived in Kampala…as carryovers from the past rather than dangers for the future. This nevertheless leaves the Congo forced to deal with what are actually, for all practical purposes, bandits.

Since the time of Prunier's major publication, however, the Congo has seen the rise of several major armed groups resistant to demilitarization efforts, including the FDLR (whom Prunier does identify as a threat) and the M23. Both have suffered major strategic defeats, and have also had major portions of their fighters integrated into mixed-unit brigades in the Congolese national army as part of peace processes. Yet the FDLR in particular remains a major threat to populations living in the Eastern Congo, and the ADF have seen increasing numbers of recruits swell their rank, including forced recruits and defectors from M23. In 2014, the ADF suffered a major military loss, and as Chris Kasali puts it (email, November 7, 2016):

> The ADF appears to have split into smaller parts, since the group may have lost up to 80% of its troops in 2014, according to the UN… It is in this context that the so-called ADF, potentially in complicity with local actors, have regrouped to massacre hundreds of civilians over the past two years and destabilized the region.

In addition, Mai-Mai are extremely difficult to demobilize: on the one hand, because of the perceived inaction of the central government to defend the local population, and on the other hand, due to the economic opportunities afforded by joining the resistance movement. Valssenroot and Raeymaekers (from 2004: 51) suggest that:

> Many groups who have been marginalized at the local (or sometimes national) level, have concluded that rebellion provides them with a means of achieving some form of

immediate redress against, or revenge for, their grievances. As a result, the number of armed actors involved in the Congolese war was seen to expand dramatically

Most manifestations of this low-intensity conflict in 2014 are fought between foreign militias and the Armed Forces of the DRC (FARDC). A quick glance at the headlines collected by the ACLED team (2014), for instance, read:

> 1 FARDC killed and 1 policeman injured in a clash with armed bandits[30] at the Mzee Laurent Désiré Kabila marketplace in Kananga.
>
> ADF-NALU clashed with FARDC in Kamango. 1 killed and FARDC pushed back the rebels into the forest. MONUSCO intervened, firing shots from a helicopter.
>
> Armed men attacked security police in Kibati in the Virunga National Park and a clash ensued. 3 bandits killed & 1 injured. 1 policeman killed & 2 injured.

There are also reports of militias deliberately targeting civilians:

> FNL kidnapped a civilian from Kalazi, near Kagogo in Uvira.
>
> Mai Mai Militia (Raia Mutomboki) shot a child in the leg and demanded a ransom of a goat for the life of another young man.

[30] Bandit usually refers to unidentified criminals in DRC, they may also be militia members

Mai Mai Militia attacked civilians and set alight huts in four villages in Kizabi, leaving 600 without a home.

And even of civilians engaging in acts (though, notably, the majority of which are nonviolent):

Youths rioted in Beni over the killing of Colonel Mamadou Ndala earlier that week.

Wives protested in Lubumbashi against the arrest of their husbands, accused of associating with the Mai Mai Militia Bakata Katanga.

An unidentified armed mob attacked a policeman at his home, mistaking him for a thief and conducting mob justice.

Headlines illustrates that most armed violence results from clashes between the Armed Forces of the DRC (FARDC) soldiers and militia members. However, many noted events are actually the militias targeting civilians as prey.[31] With the origin of militias being complex and often misunderstood, it will be useful to define the type of conflict experienced in each of the cities chosen for this research.

Butembo

Butembo, a large commercial town, is 90% populated by the Banande (Kabamba, 2013; 5), an ethnic group present in both Uganda and Congo. It has an estimated population of 670,285,

[31] These have largely gone underreported- indeed the main source for these headlines is Radio Okapi, which is a national radio station and thus limited in its reach.

according to a 2014 statistics bulletin (Provincial Government of North Kivu, 2014). The city did not escape the violence engulfing the region. Located on a strategic trading route and owning its own airfield, Butembo became a target for a number of armed groups who would have benefited from access to the transportation network controlled by the city. In 1996, the town was looted and abandoned by FAZ (national army troops at the time) and then occupied by both the Ugandan-backed UPDF and ADF for a period; and in 1998, became overtaken by the Rassemblement des Congolais pour la Démocratie (RCD). It subsequently became, along with Beni, the seat of the Kisangani Movement for Liberation, a newly formed faction of the RCD (RCD-K/ML)[32] (Jobbins, 2008). At the same time, Mai-Mai in the area began targeting the RCD-K/ML due to their perceived sympathies with foreign militias and disputes over taxation, leading to the public rebuke of the more violent allies of the RCD-K/ML by Bishop Paluku of Butembo, which drew international attention (ibid). This in turn led to the first peacefire signed between Mai-Mai forces and RDC (under heavy pressure from civil society groups, the bishop, and local leaders). The peacefire agreement, ironically, was regarded as a "betrayal" by top Mai-Mai leaders and by RCD in South Kivu, but was an important first step in bridging Mai-Mai and RCD differences in Butembo(Ibid). Indeed, Jobbins (2008:17) claims that:

> Governance in wartime Butembo revolved around three sets of closely intertwined institutions: the Catholic Church, the business community, and the various armed actors in the town. However, as Timothy Raeymaker observes, the armed groups (Mai Mai, RCD-ML, and governmental troops) were the least effective of these institutions.

[32] The movement, led by the son of a Nande politician who was assassinated by Mobutu, actually enjoyed broad popular support

> By and large, the RCD-ML and Government authorities "hovered" above local leadership, which was the primary vehicle for organizing the community and population. The Mai Mai, on the other hand, relied on local leaders for arms and guidance, and were closely intertwined with Church and business interests.

Today, Butembo is in fact home to an estimated 12 millionaires in USD (Kabamba, 2013), and hosts a number of retail establishments selling imports from Jakarta, Dubai, and other foreign manufacturers. A quick glance at conflict figures (ACLED, 2014) confirms that, in the first six months of 2014, there have been zero conflict events reported in Butembo. Whether the absence of violence in Butembo is evidence of a negative or positive peace is another question.

One observer notes, "these traders make the law, they decide who leads the rebellion, who leads the police. Those who go against their wishes will find troubling obstacles." (Jobbins, 2008). Kabamba (2007), during a presentation at the Woodrow Wilson Centre at Princeton University, gives an anecdote of a foreign investor in hydro-electric power in the area who was kidnapped and released by MaiMai fighters. The kidnapping followed a business-meeting where repayment terms had been disputed between the investor and local businessmen, indicating the kind of "troubling obstacles" Jobbins described.

A respondent for this research told me how (confidential, personal communication, November 20 2015):

> Kidnappings in Butembo are becoming increasingly common. There's one story that people have been talking about. This wealthy businessman had a son, and the son was kidnapped. The bandits called his father and said, give us 10,000 dollars or we'll kill

> your son. The father said, "ok, so go ahead." A few days later, the son was released unharmed. The next week, the father was kidnapped. The bandits called his wife and said, "Give us 10,000 dollars, or we'll kill the old man." This time, the father told his wife, "Go and bring them the money." So now, people are saying the son was actually working with the rebels because his father wasn't giving him any money, and he wanted a way to get his father's money.

Yet what both these anecdotes tell us is more indicative of the deep connections and origin of the Mai-Mai in relation to Butembo, than actual political importance in terms of regime threats posed today by the unofficial accounts of violence available.

Since the military defeat of M23 in November of 2013, Butembo's main political and security challenges are associated with the two issues: the provincial threats of radicalized ADF and ADF-NALU fighters to the north of the city, primarily based around the town of Beni 50 kilometres away; and secondly, the involvement of Butembo-born Nande youth in local militias. In conclusion, I can classify Butembo as post-conflict- and, although the peace experienced by the city may be a negative one, with zero officially recorded armed conflicts it will be treated as our constant- and incorporated into our model as a counterfactual.

Vlassenroot and Raeymaekers echo this assessment, albeit in 2004 (67), stating that "One might say that Beni-Lubero [whose territory includes Butembo] evolved from a situation of a "smouldering" low-intensity conflict to a violent and very unstable peace during the discussed period". From a review of official and unofficial sources, the situation can be said to have mainly remained so in Butembo to date, while events in Beni have caused further instability.

Below, Table 5 identifies some of the key conflict drivers that characterize the vulnerability of Butembo to future violence, and its current negative peace.

	Conflict Drivers[33]	Type (structural[34], proximate[35], trigger)	Actors	Consequences
Butembo	**Categorical inequalities**	Structural	DRC Government Business community	Vulnerable populations Low youth engagement Limited employment opportunities
	Geographic Aspects		DRC Government	Close to neighbouring (unfriendly countries) with porous borders Unpaved roads and lack of electricity
	Increased presence of Increasingly Radicalized Militias	Proximate	ADF Mai Mai DRC Government	Insecurity for trades in cross-border activities Frequent crime, kidnappings, and robbery

TABLE 5 STATUS OF CONFLICT AS AN INDEPENDENT VARIABLE IN BUTEMBO: 2014

Beni

Beni, thought to be 80% populated by the Nande tribe (Kavyavu, personal communication, August 15 2013), and 50 kilometers to the North of Butembo (see Figure 13 below), has

[33] Here, a conflict driver is defined as a "dynamic or element, without which the conflict would not exist, or would be completely different"

[34] Here, a structural cause is defined as "long standing factors that may have been latent for a long period but are critical to address systemic violence"

[35] Here, a proximate cause is "those issues that can trigger or further escalate violence"

experienced much more insecurity from 2006 onwards. It is of comparable size to Butembo, having an estimated population of 500,000 in 2014 (AFP and M&G Africa Reporter, 2014).

The Allied Democratic Force (ADF), as introduced earlier in the chapter, have been located in the Beni territory since 1995, from which time they have unsuccessfully promoted the creation of an Islamist State in Central East Africa (Raeymakers, 2014). Their original demands - more autonomy for the Bakonzo/Banande tribe and the creation of an Islamic state in Uganda - have become increasingly unrealistic, and their activities have become increasingly brutal[36], giving them the reputation of a terrorist organisation and raising suspicions of linkages with Al-Shabaab in Somalia. However, a 2015 UN Group of Experts report, written after collecting testimonies from several ex-combatants and recruits, could not establish this link (p7).

The ADF's tactics have reportedly become much more organized since the M23 defeat in November 2013, representing the biggest threat in Eastern Congo today after the FDLR to the armed forces of Congo (Raeymakers, 2014). A lack of integrated networks, including technological ones, has exacerbated the feeling of government neglect in solving the crisis. A border management technical specialist, for instance, said in Amman, Jordan in 2013 that he had personally installed automated Personal Identification and Recognition System equipment in all of the border crossing points in the Democratic Republic of the Congo during his tenure with the African Capacity Building Centre in Tanzania. Yet, when I asked him about Bwera, the border town closest to Beni, he replied that "We never reached North Kivu, the situation

[36] Infamously known for the burning of 80 schoolchildren in 1990s, and the decapitation of 20 men, women and children with machetes in 2013

was too dangerous there" (confidential, personal communication, April 2013), leaving immigration records entirely handwritten and immigration paperwork easily falsifiable.

The lack of information management capacity has serious consequences for trust and cooperation. Indeed, the accountant for a major international bank in Beni (who is originally from Beni), confided that "I myself am a Muslim, recognized by the state. But the ADF-Nalu are not Muslim, the leaders are. They recruit everyone- even Christians. And when you're recruited, you have to convert to Islam, because those who are training you are Muslim. But most of the ADF Nalu come from Bwera. There is no natural border between Bwera and Congo so people go freely between the border without any difficulties (confidential, personal communication, 20 March 2015)." Other sources indicated a link between the ADF members and the regular residents of Beni, saying "Right before a massacre, you can see that the locals purchase a lot of machetes in the main market. These are not for farming! So they are working together" (confidential, personal communication, 10 March 2015). Neither is MONUSCO, who is present in Beni, seen as particularly effective. "We don't know what they're doing. We see them flying around, but we just don't know" (confidential, personal communication, September 5 2014).

Currently numbering from 1,500-2000, the ADF's continued presence in the Watalingi area, which includes the city of Beni, has caused the displacement of thousands of rural inhabitants to the perceived safety of the city. In 2005, CARE noted growing tension between refugees and their hosts, which are usually extended family members or friends (Raeymkers, 2014). Tensions are usually over the competition between hosts and the refugees for access to farming land needed to maintain livelihoods, since farmers who remain in their original villages are often prey to abductions (800 abductions in the area were recorded as of January 2014) (Ibid). Timothy Raemakers (2014) describes, in his blog, how those living close to and around Beni have adapted:

> The presence of these displaced on the limits of the Virunga Park furthermore fuels new conflicts. While the park continues to cover around 10 percent of North Kivu's territory, Kivus' mobile populations are obliged to make living from temporary jobs in the cross-border economy as well as emerging urban centres. Or they work as agriculturalists for local landowners. Their jobs range from sorting coffee and cocoa beans, to crushing palm nuts and selling the residue as cooking oil. Some younger IDP's drive their chukudu's (wooden bikes) to transport goods on local markets. The reward for such work is often poor and discomforting.

Indeed, a brief analysis of ACDEL's conflict events from February-July 2014 show 28 recorded events out of a total of 557 for the DRC happened in and around Beni. The majority of these are clashes between military forced and ADF forces. Below, in Table 5, a similar analysis of conflict drivers summarizes some of the more acute issues borne by residents of Beni.

	Conflict Drivers	**Type (structural, proximate, trigger)**	**Actors**	**Consequences**
Beni	**Categorical inequalities**	Structural	Business community	Vulnerable populations Low youth engagement Limited employment opportunities
	Increased presence of Increasingly	Proximate	ADF Mai Mai	Use of child soldiers abducted from the area Sexual violence including rape and abduction of combat wives

	Radicalized Militias		DRC Government	Civilian targeting for violent displays of territorial takeover Skirmishes and armed combat with government forces resulting in deaths
	Displaced Populations		DRC Government	Close to Neighbouring (unfriendly countries) with porous borders Unpaved roads and lack of electricity

TABLE 6 STATUS OF CONFLICT AS AN INDEPENDENT VARIABLE IN BENI: SUMMARY

Developments from 2014 Onwards

From October to December of 2014, a sharp rise in attacks contributed to a three-month period of intense violence. Conflict event reporting from the previous six months at the time of visiting (March 2015) show, for the period surveyed, a sharp peak in events in October and November in Beni, with a small spillover in Butembo. Below, both conflict events and fatalities are charted.

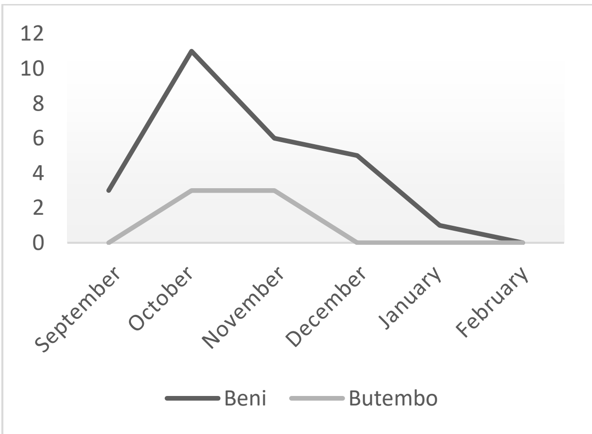

Figure 4 Conflict Events in Beni and Butembo, 2014-15

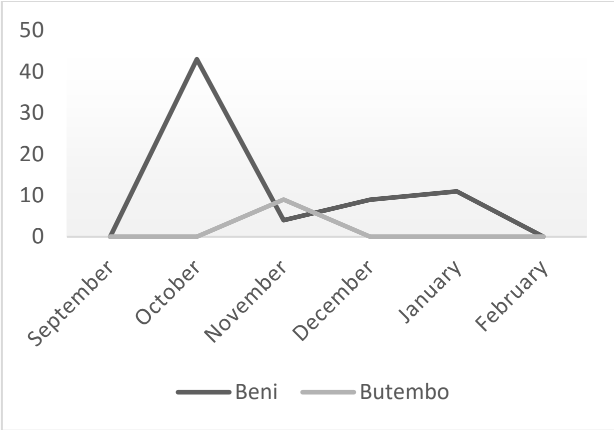

Figure 5 Conflict Fatalities in Beni and Butembo, 2014-15

Chris Kasali, an NGO worker with Mavuno, says how (email, November 7, 2016) "With all the military offensives against the assailants that commenced at the end of December 2014, armed groups were able to successfully shift movements further into the forest and use mobile strategies to attack communities." Thus, one can re-assess visually from the reported conflict events of the two cities (Beni and Butembo) that the two cities are not comparable in the level of violence experienced at the time of surveying.

Vlassenroot and Raeymaekers (2004:54) summarized the effects of the conflict on human capital in 2004 in bleak terms:

> Most households have no other option than to adopt risk minimizing strategies and, therefore, retreat into a de-monetised and subsistence economy. The range of individual risks cannot be pooled via traditional coping mechanisms such as labour exchange, lending or borrowing of individual assets, 'likelemba' (joint savings groups) etc. because there remains very little to pool. Furthermore, the social climate itself leads to the erosion of the asset base of most households (the killing of farm animals, the

> destruction of crop and seed stocks…). When capital and labour cannot be pooled, and people cannot or do not want to become displaced as refugees, then they must resort to the mobilization of their labour as the last asset available. In these circumstances, the options are limited and people (especially young men) had the choice between one of three courses of action: actively join the system of militarized predation by becoming an operative Mai-Mai, join any of the different standing armies as 'Kadogo', or work in a setting and a market controlled by militarized forces, such as the different mines and quarries.

The problem of capital accumulation is clearly felt in both locations, as respondents frequently pass over capital intensive activities in favour of diverse portfolios. This has in turn led to a lack of value added goods production, in favour of selling already finished products, with lower marginal returns. A respondent once bemoaned, for instance, that "We Nande don't know anything besides business. Buying and selling. A lot of Nande don't even finish school. If you have a good idea for business, you will make more money dropping out of school and pursuing that business (confidential, personal communication, 25 March 2015)".

Defecting from local employment opportunities to join mining companies also remains a popular livelihood strategy, despite its obvious inconveniences for quality of family life. A starting monthly salary at Kibali Gold Mine in 2016, for instance, can be 800 to 1000 USD (confidential, personal communication, March 18 2016), in addition to the provision of company covered housing, travel, medical care and transportation (a far cry higher than the income of the sample of persons surveyed in Butembo, for instance, who average 197 USD a month), in conformity with Vlassenroot and Raeymaeker's statement.

In addition to the coping mechanisms mentioned above, individuals who used to trade across territories which became havens of rebels have been forced to change their travel patterns, opening new lines of distribution through border towns such as Kasindi, and abandoning others which cross combat frontiers, particularly the route between Goma and Beni/Butembo. Those who continue to risk travel between Goma and Butembo or Beni by road, meanwhile, prefer not to carry lootable products, conforming to the "hot potato" phenomenon of conflict economics, or an unwillingness to have processed goods in possession which might become a target for banditry. A respondent to the surveying in Beni, who owns one of the only petrol stations in Beni, shared how known involvement in lucrative goods could be grounds for targeting:

> Do you know that our country faces aggression from foreign countries? But here... I saved normally.... I wasn't forced to stop working anytime last year, no, though my daughter was arrested in Kinshasa for complicity with ADF and accused of giving fuel to the rebels... [Regarding crime experienced in the last year], people wanted to kill my son. They shot guns at him, but only his car was damaged and he was safe (confidential, personal communication, April 12 2015).

Facing such personal risks in the form of targeted family members, it becomes reasonable and plausible that even successful businesspersons in Beni may be unwilling to invest in high-return ventures; especially those requiring significant travel between ADF-populated areas. In 2008, the worldwide economic recession further dampened economic conditions and reached the already struggling economy of the Kivus. A savings and credit cooperative manager told me how, "The problems we have known are those linked to the financial crisis of 2008 and linked to the aggressions/war imposed by our neighbouring countries. These two events have generated fear in these periods for our members, who have seen several cooperatives and IMF suffering and closing. It makes them prefer to keep their money at home. (confidential, personal communication, 10 April 2015)"

A lack of government oversight due to the instability in the region, combined with the housing crisis fallout in the US, had further reaching consequences than anyone could have predicted. In 2008, it led to catastrophic outcomes for thousands who saved with cooperatives in North Kivu that claimed bankruptcy. A former manager of one cooperative that closed in 2008 shared how:

> A financial institution shouldn't only work with members' savings, they also have to have their own capital to work. So we had problems for a number of reasons. For one, in a small town like Beni, we engaged people and we had charges. So we started to take the savings of members for administrative charges. So the shareholders disputed, and each shareholder started to withdraw their shares, and the only money that was left was the members' money. And [the cooperative] gave many loans, and things didn't go well, because there was zero shareholders' money, and when they gave so many loans, when a person asked for their shares they couldn't give them their savings. And then, we had a problem with our own staff. We would do a transfer to our branch in Kasindi, let's say 10,000 dollars, and we would put it in a safe here and it would be paid out by the branch in Kasindi, and their reserves would go down by 10,000. And because the shareholders had withdrawn their money, the staff knew the institution was weak, and our staff started to do fake transfers. They would write a paper, for instance, saying that

> their friend's balance was 70,000 USD, when it was only 10,000, and give the friend the paperwork, and person would be able to withdraw the money in Kasindi. A member could give themselves 30,000 or 20,000 USD like this…We had many agencies, our headquarters were in Goma. And we used to send reports to headquarters, but there was a problem. If Beni has 5,000 and Butembo's agency asks Beni to send it 3,000, then Beni couldn't serve members who came to withdraw their savings. So people started to come, more and more…there was a rush on savings (confidential, personal communication, 26 March 2015).

The rush on savings was catastrophic for the organization. It was forced to close, unable to repay member's savings, and was one of three that I documented that ran into similar problems in 2008. Whether fiscal mismanagement, or the poor economic outlook caused by the global recession, or a combination of both were responsible; businesspersons, traders, and financial service users from all backgrounds lost thousands of dollars in accumulated savings overnight.

2.5 Mechanisms

Having identified some of the relevant conflict actors in the areas of interest for this thesis, several findings become immediately obvious. For one, the problem of porous borders encouraging, or at least permitting, the movement of foreign militias in the Democratic Republic of Congo is a real one. Furthermore, it has had devastating consequences for the citizens of the areas visited and ignited passionate responses as a mixture of self-defence and fear. In short, the limited presence of the government, except in the form of financial support to allied governments and the deployment of troops that also, often, prey on local populations, has created a feeling that the eastern provinces in the DRC are a "no-man's land", where the government has no vested interest in local development. As a consequence, local populations have responded by either arming themselves, negotiating ceasefires themselves (as in the case of Butembo), or simply trying to cope with poor governance and exploitation as best they can.

Secondly, actors involved in the politics of Rwanda and actors involved in the politics of Uganda have different motivations- both declared and practiced- for their past and present presence in the Kivus, which affect their current activities. Rwanda's president has claimed the urgent need to protect Tutsi's from further massacres by Hutus, yet allegedly has exercised proxy control over a range of profitable resources through aggressive territorial capture by Rwandan-origin Tutsi rebels. At the same time, there are Hutu, Rwandan-origin rebels who continue to eke out a living through exploitation and self-preservation activities (providing the said justification for the continuation of the Rwandan president's activities), although many of these have been integrated into the Armed Forces of the DRC. Ugandan-origin fighters in Congo, meanwhile, tend to have no association with the Ugandan government, and seek to expand fundamentalist, religious practices, a fact that makes them both less likely to target difficult and politically strategic targets (as they lack the support of a foreign government), yet also less likely to participate in demobilization programmes.

Thirdly, the creation of such a context has led to not one, but several, mechanisms that explain the correlation between the stories of rebels with the economic outcomes and consequences witnessed in the Congo. In addition to from the greedy outsiders' mechanism, a weak state is certainly at play through the absence of effective national security policies or strong borders. In addition, the sparse networks mechanism (introduced by Macartan Humphreys as "the fragmentation of an economy into independent enclaves of production [2005;6]") has exacerbated the economic outcomes in the Congo, and prevented a return to normal.

In terms of the first mechanism, the greedy outsiders' mechanism has already been suggested by MaCartan Humphreys, in addition to others (Dashwood 2000; Meldrum 2000; Willum 2001). I could further explore this through analysing resource market values (if export quantities in countries involved in the conflict are greater than production quantities, I can assume that illicit importation from the Democratic Republic of the Congo is occurring). The quite straightforward empirical literature on this subject has already established that this mechanism is at work. Yet, with such a high level of assumption, the mechanism can be overgeneralized, without specific attention to the translation of this to acts of violence, or its relationship to regular or irregular violence at a local level.

The weak states mechanism, meanwhile, is arguably applicable to the majority of wars. As a mechanism linking the opportunity to capture resources to the onset or duration of a war, a weak state is particularly salient in the DRC given the peculiarly long duration of the conflict. However, I can even go further and suggest that the mechanism through which a weak state facilitates the onset and duration of conflict for the purpose of the exploitation of opportunities is variant.

The sparse networks mechanism, which arguably should be a variant of the weak states mechanism, is one that takes a traditional view of economics and applies it to contexts of conflict. Framed by Humphreys as the absence of dense, internal trading networks (2005:6), the obvious empirical limitation of the hypothesis would be endogeneity concerns, since formulating the sparse networks mechanism as a testable hypothesis will place the absence of trade as a cause of conflict, rather than an outcome. For example, in the case introduced in the chapter of the failed credit cooperative, the lack of efficient cooperation between cooperative branches is likely due to poor road infrastructure and electricity limitations imposed by poor investment due to the conflict, and is more of an outcome than a cause. At the same time, staff were able to bankrupt the reserves of the cooperative due to the same phenomenon, representing a micro-representation of the macro hypothesis that opportunities facilitate conflict through the prominence of sparse networks in the DRC.

Testing a selective theory of individual utility maximization against the historical background presented, then, I will consider the existence of sparse networks as the paramount mechanism for the characterization of local-level violence. The advantage of this approach is that it allows us to categorically characterize the activities of both rebels and civilians in terms conforming with mainstream economics, and allows for the assumption that the lack of opportunities for capital accumulation through well-integrated production can create conflict. Special attention to the reverse correlation of the same family of characteristics, or that conflict can create a dearth of opportunities for civilians through the disintegration of the manufacturing sector- is a defining logic followed throughout the thesis, and the adjudication between the two causal directions is expected to highlight a cyclical and compounding process.

2.6 Conclusions

Two distinct theoretical approaches. greed vs. grievance, and mechanism specification, have been examined in light of the conflict in the Democratic Republic of the Congo, shaping an understanding of the links between the conflict, resources, and opportunities and weaknesses of the country context. The account given of the encroachment of Rwandan origin and

Ugandan origin militias serves to answer to the motivations and background of the conflict experienced, and their transformation over time from destabilizing political risks, to less powerful, quotidian aggressors whose incendiary massacres continue to evade elimination.

Civilian coping, as a by-product and consequence of the conflict, has different manifestations depending on the individuals' original status of power or wealth. For those with capital to work with, it has generally led to a decrease in value added goods, an avoidance of capital intensive production, and a preference to trade in goods across routes that are less likely to invite banditry. For those without capital, distress migration- to mining sites and other countries as discussed- has redefined family networks, as well as paving the way for the increasing market for imports through said networks. And for those left without capital and unwilling to migrate, problems of capital accumulation, limited oversight, and poor investor confidence, confounded by not only the armed conflict but the global economic recession, have delivered the occasional catastrophic blow to efforts of capital accumulation, and encouraged even more people than normal to reconsider saving in the first place.

With so many processes at play, it is not clear how processes meant to address one mechanism, such as elections to combat the weak state, will be a panacea. In fact, stronger states, denser networks, and effective protection against greedy outsiders may be a more appropriate response to the ongoing insecurity in the Kivus. In the meantime, business as usual- by which I mean risk minimization, de-monetization, and military commercialism, remains the order of the day.

Chapter 3

A Patchwork of Financial Coping Mechanisms

3.1 Introduction

In the previous chapter, a narrative of the studied conflict has been constructed, and sparse networks suggested as a mechanism through which conflict is facilitated. In such an environment, the solution to sparse networks would be the appropriate integration and regulation of such networks; and the provision of adequate resources to ensure the operations and overhead for such networks. And indeed, the international community's involvement has acted as an injection of capital in the eastern region since the Goma peace accords. But despite some positive efforts in building civil society by organizations such as International Alert, the Search for Common Ground, and UN Civil Affairs, the literature has suggested (Severine Autesserre; 2010) that the international community- at least in terms of its peacekeeping operations- has overemphasized elections, state authority, and other centralized power structures in a top-down approach. This chapter extends the narrative of network fragmentation, informalization, and civilian responses into the realm of economic organizations. As Kate Meagher (2010:171) points out,

> The problem of network failure lies less in the primordial dysfunction of African social institutions than in the disadvantageous way in which these social arrangements have been embedded in formal political and economic structures…explaining the problem

> of network failure in Africa demands a clear assessment of the organizational imitations as well as the organizational strengths of indigenous economic networks

This chapter thus seeks to provide exactly such an assessment. In the following chapter, the discussion is focused on the point of view of institutional stewards- managers, bookkeepers, and accountants that work hard to provide financial services, often at great risk. The chapter provides some insight on the prevailing attitude and reach of the state in these aspects, before introducing a series of typologies and case studies. It introduces and begins to analyse a survey that was conducted of financial service providers in two Eastern towns, spanning three field visits from 2013-2015, in order to understand both the scope and nature of informal economic organizations present in the area studied, and the nature with which the government an international community have engaged with such organizations. The goal is to emphasize the imperfect decisions made by some institutions, the motivations behind the operations of some institutions, and most importantly, to try to group the opinions and views expressed by the institutions along various axes of traditional interpretations of performance, before conflict is introduced as an independent variable in chapters 4-6.

The analysis indicates that such an assessment of institutions is not only possible, but the quantification of responses is in fact necessary. In providing one, I disentangle competing accounts of the performance of different types of providers to provide a better understanding of their impact relative to each other. In doing so, I contribute to the research aims presented at the beginning of this thesis (Oversimplification misses opportunities to copy innovative successes) and hypothesis 1, related to the relative performance of the informal and formal sector.

3.2 Red Tape and its Consequences

Currently, regulatory policies in the financial sector are better known for attracting predatory government oversight than providing pathways to prosperity. Current programming strategies, in addition, do little to reinforce state reach, tacitly acknowledging, instead, that the state could at best develop partnerships with some of its more far-flung regions. The project documents for UNDP and UNCDF's multi-year programme (UNCDF, 2011[37]), for example, state the following five objectives:

> 1. Create the best legal and financial conditions for the implementation of the process of decentralization;
> 2. Develop, disseminate, and sustain participatory local planning instruments and management tools;
> 3. Strengthen the dialogue between government and the technical and financial partners for the implementation of decentralization and local development;
> 4. Provide opportunities for investment and capacity building at all areas in two provinces of the DRC;
> 5. Develop the citizens' participation in the management of local affairs.

While these objectives do address key issues, they notably devolve authority away from the state to citizen actors, mimicking the already large reliance on social capital in "the management of

[37] Unofficial translation

local affairs". Situational realities may do much to explain why. The central bank currently requires a range of preconditions for the licensing of microfinance providers, and institutions requesting to take savings deposits are required to have at least $250,000 in equity (set to further increase to $350,000 by 2017). The issue here, and not found to be addressed by the UNDP programme strategy, is that in many regions, technical and financial partners would be happy to receive equity investments, but have difficulty securing the confidence of private investors, let alone the limited attention of any federal financial institution. In short, available funds usually go to the few licensed institutions, leaving unlicensed institutions participants in a capital scarce environment fulfilling the majority of needs (with a minority of resources).

Indeed, overemphasis by the international community on the role the central government could play seems optimistic. In another publication, the World Bank acknowledges the critical role of national authorities, and basically calls for increased attention to investing in infrastructure: "World Bank estimates confirm that the support strategy for investments in large-scale infrastructure projects, led by the authorities, could significantly drive growth, provided that priority is accorded to high-return projects (transport, electricity) (World Bank, 2016)". Yet, the selected pictures below illustrate the scale of the challenges facing the transportation and electricity infrastructure in Butembo as of 2015:

Figure 6 Chukwudu and drivers near the central market

Figure 7 Neighbours' homemade electric wire from generators

(de Heredia, 2013)

So while the current policies and programmes constructive may be meant to be effective for the protection of people and their interests, and contributory towards macroeconomic health, they could also be implicated as catch-all policies which further shift the burden of good financial management to those least equipped to provide it. Dominique Pestre, a historian at the School for Advances Studies in the Social Sciences in France, has actually partnered with Franco Moretti of the Stanford Literary Lab to run a computer analysis of the reporting available through the World Bank. The researchers found, through analysing 65 years of the World Bank's annual reports, a "sharp decline in factual precision, replaced by... management discourse, a bureaucratic gobbledygook whose meaning is hard to decipher (as quoted by Cohen, 2016)". This includes verbs turning into nouns, the use of temporal adverbs like "now" and "later" disappearing, and superlatives increasing. Pestre notes that most international organisations involved in business conform to the trend, using language that is intentionally meant to obscure or be ambiguous.

Given the proliferation of informal finance, its current competition with formal finance, and the presence of a vibrant NGO network, striking an appropriate balance between centralization and delegation in 'contemporary post-conflict global governance' (Ohanyan, 2008: 19) as recommended has been far from realized in Eastern Congo's financial markets.

This is no exception in microfinance regulation. In trying to approximate the nature and outreach of financial service providers, savings patterns indicate a range of uncaptured, unregistered providers. 2013 observations observed a range of informal financial service providers not registered with the central bank, with 32% of surveyed financial cooperative clients participating in more than one unregistered informal financial savings associations. This underscores a combination of evasion and opportunism by these actors. An executive director of an organisation told me about one experience with registration:

> In Kinshasa, I met with …. the Director of RIFIDEC (A platform of MFIs and Financial Cooperatives in DRC), … the Manager of COODEFI Kinshasa a local financial cooperative. I also met Mr … who works at The BCC (Central Bank of Congo) in the department that analyses the applications of new MFIs and Financial Cooperatives. I also talked to Mr. …. on the phone who is the Manager of CECREAM a financial Cooperative based in Goma….. All of these Microfinance practitioners recommended that we register [our savings and credit programme] in DRC as a financial cooperative rather than an MFI. Among the major reasons is the fact that in DRC MFIs are considered like Mini Banks thus have to comply to all the rules and regulations of Commercial Banks including a decree signed by the president. Else, if we register as an

> NGO, we won't be allowed to conduct such activities of financial nature. (Kavyavu, personal communication, October 7 2010).[38]

Here, one can even see representatives of the central government pushing for the type of structures that require less oversight, possibly intensifying the divide between informal and formal- and acknowledging the cumbersome bureaucracy of the processes intended to promote good financial management.

In an illustrative example, one cooperative, started when the capital requirement was USD 100,000, had been waiting for the review of materials since 2014. Yet, by the time their documents were reviewed in 2016, the capital requirement had increased to USD 350,000. Not being able to raise the additional 250,000 in a three-month turnaround time provided by the central bank, the cooperative requested an extension to raise funds from investors.

Instead, the central bank representatives chose to reject the request for an extension and the original license, and have reportedly begun visiting the location of the cooperative to extract bribes, knowing the position of vulnerability caused by operating without a license. Here, again, there is an intensifying divide between the formal and the informal sectors, creating a situation where the regulatory frameworks intended to promote good governance have, ironically, been used for exclusion, followed by exploitation.

For the majority of the population in Eastern Congo, and in the words of Anastase Nzeza Bilakila (2004:23), "poverty is psychologically transformed into despair solidarity". Inventive

[38] Financial cooperatives are not allowed to hold savings deposits

supply strategies, changes in coping strategies, and cooperative associations mirror the popular "debroille-vous" philosophy used by numerous anthropologists to describe Kinshasa-specific coping mechanisms (De Boeck 1996, Mac Gaffey 1986, 1991a, Marysse and De Herdte 1996, as quoted by Bilakila, 2004)[39]. The state is still seen by civilians as a constraint, rather than facilitator of trade (Tollens, 2005:53), and the majority of public entitlements in all sectors of the country are foreign funded.

Resistance to state authority, explored by Iniguez de Heredia (2011), is widely practiced in the Kivus, a symptom of the unsuitability of such policies or in retaliation to the attitude noted above. According to Heredia, Eastern Congolese widely practice direct forms of resisting governance reform, such as tax evasion, and more indirectly, reciprocity and solidarity-based forms of resistance, such as wasting time at the workplace or "borrowing" items from the workplace. As Heredia puts it (p28):

> Survival strategies in the DRC, which are generally undertaken following relations of proximity and based on an ethic of reciprocity, not only provide ways to mitigate poverty and the deteriorating conditions of a militarised context, they simultaneously enact alternative forms of social organisation and political authority.

Foreign aid, more so than federal allocations, have been key in substituting resources normally provided by a government. In the words of Gerard Prunier (2009),

[39] Described by Anastase Nzeza Bilakila as including "corruption, theft, extortion, collusion, embellishment, fraud, counterfeiting and prostitution"

> With an insufficient tax base and a negative balance of trade, public finances still rely heavily (over 40%) on aid. Whatever is not in the peasant self-produced and nearly nonmonetary sector of the country is under direct foreign perfusion. The only services available to the people are foreign created, foreign run, and foreign financed. The UN and NGOs together spend $3 billion a year running hospitals, providing transport, paying the army, and supporting the school system.

Apart from foreign-funded services, it is largely local and social organizations that provide the remaining services that citizens require, such as financial ones. The DRC is not unique in this aspect. Otto Hospes has documented how women's differential use of Rotating Savings and Credit Associations (ROSCA's) in Indonesia reflect changes in the local economy and society (In Burman and Ardener, 1995:143). And Shirley Ardneer has documented how ROSCAs developed in Ethiopia in the devastation following war with Italy in response to the pressing reconstruction needs facing families (1995:5). Ernest Aryeetey and Ellen Boortei-Doku, meanwhile, have conducted a study of rotating susu (a type of ROSCA) clubs in Accra and Kadjebi, Ghana, noting that:

> Essentially the clubs are simple organisations directly tailored to the skills and resources of the members. As they set the short-term goal of completing one rotation at a time, members are free to join or leave the clubs whenever they are no longer able to join in the next rotation. Founding members are motivated by a need to overcome frequent shortage of cash in their business activities and in crisis situations. They team up with others whom they have observed to have similar problems (in Burman and Ardener, 1995, 81-82).

But the presentations of these member-owned or member-run organisations in the Democratic Republic of the Congo are varied. A current, cursory look at the eastern Congolese informal economy in the context of state collapse, uncovers the proliferation of a variety of formations that meet the financial needs of citizens. In fact, financial services, both formal and informal, can be divided into four major categories (1. Banque Lamberts or moneylenders; 2. Bwakisa Cartes and Likelimbas 3. Savings and Credit Cooperatives and 4. Banks), whose impact and efficiency are not linearly related. In what follows, I present a narrative description of each, followed by at attempt to point out some of the relative strong points of each.

A total of 21 institutions/providers were visited and surveyed, although participants were allowed to provide as many null answers as they wished, creating some limitations for aggregation.

Type of Institution	Number	Beni	Butembo
Banque Lambert	3	1	2
Bwakisa Carte, Likelimba, or Unregistered Cooperative	5	3	2
Registered Savings and Credit Cooperative	8	4	4
Microfinance Society or Bank	5	3	2

TABLE 7 DISTRIBUTION OF INSTITUTIONS AMONG THE SAMPLE

- The Banque Lambert/ Moneylenders: refers to a variety of high-interest, informal credit providers. The defining aspect of Banque Lambert loans are that they are from unofficial channels with exorbitant (i.e. 6% per month, which would reach 72% APR) interest rates. These include shop owners, known in their communities to have substantial business capital; or co-workers, employers, or well-known businessmen. Being the hardest to identify, Banque

Lambert respondents to this research included a cellphone credit vender, a shop owner, and a small payday loan business.

- The Bwakisa Carte (Daily Card Savings): This type of programme is characterized by the daily collection or deposit of a small amount of cash with a collector or treasurer. A box on a small cardboard marking sheet is ticked for each daily payment made to the daily card and at the end of the month the participant can request the sum total to be returned to them or they can start a new card/month. In return for the service of safeguarding the participant's savings, the card collector (or the institution they work for) keeps one of the monthly payments for themselves. Several formal savings and credit cooperatives, it should be mentioned, are adopting this as one of their programmes, intended to promote the opening of savings accounts of clients who cannot leave their workplace on a daily basis. Bwakisa carte collectors hired by formal savings and credit cooperatives split the commission fee they gain from the one payment a month with the financial institution, and thus are obliged to seek a high volume of participants in order to cover their wages. Ironically, savers are actually paying money for the service, but report that "We don't make a lot. So, it's important to guard what we do make well. So we really appreciate the ability to manage our earnings. (confidential, personal communication, March 10 2015)"

- Likilimbas/mutualities: identified in the financial literature as Rotating Savings and Credit Associations, are usually organized by neighbourhood level associations, such as churches or professional associations. Deposits are made daily or weekly. Deposits are the same size as all members of the likilimba. At the end of the month, one member of the likilimba can receive the group sum. After their turn, the participants continue to make their deposits for the rest of the time period. Many community based organisations also incorporate elements of likilimbas into their activities, without much formalization. For example, the group Union Tuyiwatikanaye, a solidarity group formed by the parent organisation Center for Training and Animating Inclusive Development (CEFADES), says that part of their groups purpose is to "look after the recovery of the rural lending system by controlling credit repayments", while another solidarity group, the Butembo Consortium of Urban Agriculture (AUB), echoes these goals by claiming to promote: "sustainable development of the population by granting microcredits". However, when I pressed for more details, the Butembo Consortium of Urban Agriculture's representative I talked to admitted that the loan fund had dwindled, and they were no longer making loans (they are not included in the discussed sample).

- Savings and Credit Cooperatives (Coopecs): are run similarly to likilimbas, except that members can choose how much to receive when, as well as how much to consistently put in. There is no end to the savings period. Coopecs tend to be larger and therefore have several officers in charge of making decisions on the disbursement of credit and tracking payments[40]. In Beni and Butembo, some of the more well-known savings and credit cooperatives include MECRECO and COODEFI, in addition to others. Here, the language of cooperatives can become confusing, as some are registered at the level of the Central Bank of Congo, whereas others prefer to operate without official status, although this distinction can even be a point of sensitivity as a researcher. Two unregistered cooperatives were interviewed, in strict confidentiality, and it was decided to group them with the mutuality/likelimba category for aggregation purposes given their lack of rigidity. The remainder of the savings and credit

[40] This section borrows heavily from Smith's 2010 paper, "Use the Head and the Body Will Not Suffer", as the nature and structure of some schemes observed in Kivu were similar to those practiced in Liberia

cooperative visited were, it seemed, the main financial services used by citizens, and constituted by shareholders who saw themselves as part owners.

- Banks: In Butembo and Beni, a number of Congolese as well as international banks manage corporate, retail, and small and medium enterprise business banking. Trust Merchant bank, Raw bank, and the International Bank of Africa (BIAC), for instance, are present in both Beni and Butembo, although all three are headquartered (at the country level) in Kinshasa. A mentionable feature of these accounts is that formal bank accounts charge up to five dollars a month in order to maintain an account open, which arguably discourages those with less wages from saving in such an account (relative to savings and credit cooperatives which typically charge an approximately dollars, one time, account opening fee). However, one bank has found a competitive advantage in, ironically, peddling Islamic compliant savings account to non-Muslims, which they market as Le Compte d'epargne TAWFIR. Their accountant, himself a Muslim, explained that: "People know that it's a privileged account and they can't be charged interest. Normally the other accounts charge $5 a month. But with the Islamic account, you also can't take a loan. So, if you're not a businessman, and don't want your money taken by [our bank], you can open an Islamic account. (confidential, personal communication, 26 March 2015)".

3.3 Typologies of Financial Institutions

In addition to the five-cell typology presented above (Banque Lambert, Bwakisa Carte, Likelimba, Savings and Credit Cooperative, and Banks), other financial typologies can be introduced in a study of financial institution adaptation: Efficient institutions and impactful institutions.

Efficient Institutions

An efficient institution, it is argued, would be achieved by assigning values to two dimensions of financial institutions: operating costs, such as administrative costs, and transaction amounts, such as the number of clients served in a defined period. By situating both dimensions related to efficiency in a property space, four institution types are indicated:

A) Impermanent institutions are those institutions, or perhaps individuals, who are not constantly in business, but offer services when needed and incur little to no costs. Impermanent institutions include, for instance, Banque Lambert services and Bwakisa Carte programmes, and may use existing infrastructure for their financial operations without investing in any further resources.

B) Efficient institutions manage a consistent, high level of transactions and also incur less costs, relative to other financial services. High performing savings and credit cooperatives, for example, should be efficient institutions.

C) Uneconomical institutions are those which run high costs with little profitably activity. They may be experiencing a temporary decline, or may be practicing poor management, bolstered only by external financial support.

D) Bustling institutions, finally, have high fixed costs and manage many (or few, but the few that are managed are profitable) transactions. A commercial bank, for instance, would be a likely example of a bustling institution.

The basic importance of these trends and typologies is reflected in the testing of the first hypothesis of the thesis:

Hypothesis 1: While informal institutions may be more efficient, resilient, or effective in conflict-affected contexts in the short run (), formal financial institutions are, ultimately, more efficient and impactful in the long run.

Transactions		Low Costs	High Costs
	High	Efficient Institutions	Bustling Institutions
	Low	Impermanent Institutions	Uneconomical Institutions

TABLE 8 EFFICIENT INSTITUTION TYPES

A snapshot look at costs and transactions in Butembo and Beni during the period of surveying reveals the following image (no bank shared their administrative expenses with me, unfortunately). Institutions who responded to questions of costs and transactions are represented by circles, whose size is determined by the magnitude of an average loan of the institution, in an effort to demonstrate their share of the market.

The spatial distribution of costs versus transactions shows that while less formal structures like moneylenders incur less costs, their relatively lower rates of lending do not necessarily make them highly efficient either. In fact, it is the registered savings and credit cooperatives, which I have previously denominated as "formal institutions" that dominate both the "efficient" and "uneconomical" quadrants of the model.

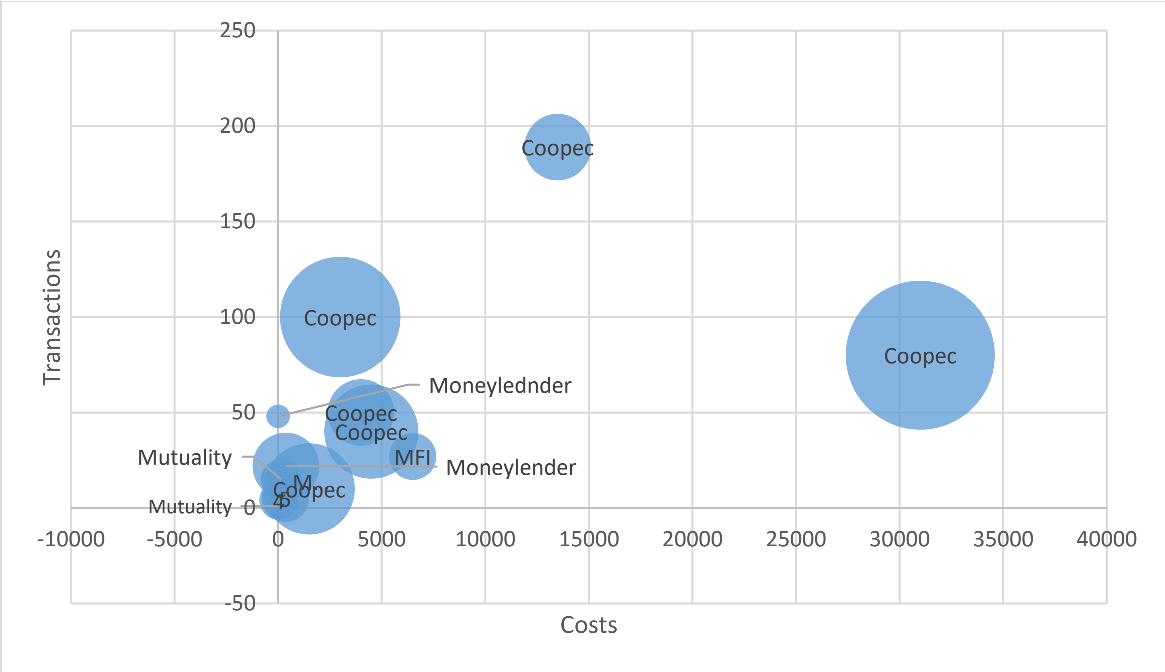

FIGURE 8 EFFICIENT INSTITUTIONS

Impactful Institutions

The Impactful institutions model, presented in Figure 9, is constituted, meanwhile, by approximating two levels of impact to the dimensions of operations practiced by financial institutions (low impact or high impact). For example, the level to which the institution is accessible, can provide credit when asked, and can provide the size of loans needed by users, will necessarily be reflected by the number of members they have reached, in addition to the size of loans made. With the arrangement of these two continuums in a similar property space as efficient institutions, four additional typologies can be identified.

A). Limited impact institutions are manifested in many of the temporary institutions discussed earlier, or in institutions experiencing a decline in usage due to lack of accessibility.

B.) Charitable institutions, meanwhile, may espouse the view that they exist for the wellbeing of their users, yet offer little in terms of sizeable financial help, or charge interest considered usurious in other contexts.

C). Commercial institutions may exist for profit-driven incentives, yet provide higher loan amounts, better quality services, or quicker turnaround times.

D). Impactful Institutions are those which consider their mission and values aligned with their activities, and offer a high quality of services.

The relevance of this model is the illustration of the multi-dimensionality of microfinance's impact, separate from efficiency. And in fact, these categories are not mutually exclusive. In the following section, aggregates by type of institution are provided which highlight these nuances.

Depth	**High**	Commercial Institutions	High-Impact Institutions
	Low	Limited Impact Institutions	Charitable Institutions
		Low	High
		Breadth	

FIGURE 9 IMPACTFUL INSTITUTION TYPES

To map the data from my sample against this model required choosing a suitable proxy for breadth- I chose to proxy this with the number of members of a financial institution, and for depth, I took the value of the average size of one loan. Again, institutions are represented by circles- the circles size, meanwhile, is determined by the average number of borrowers per month.

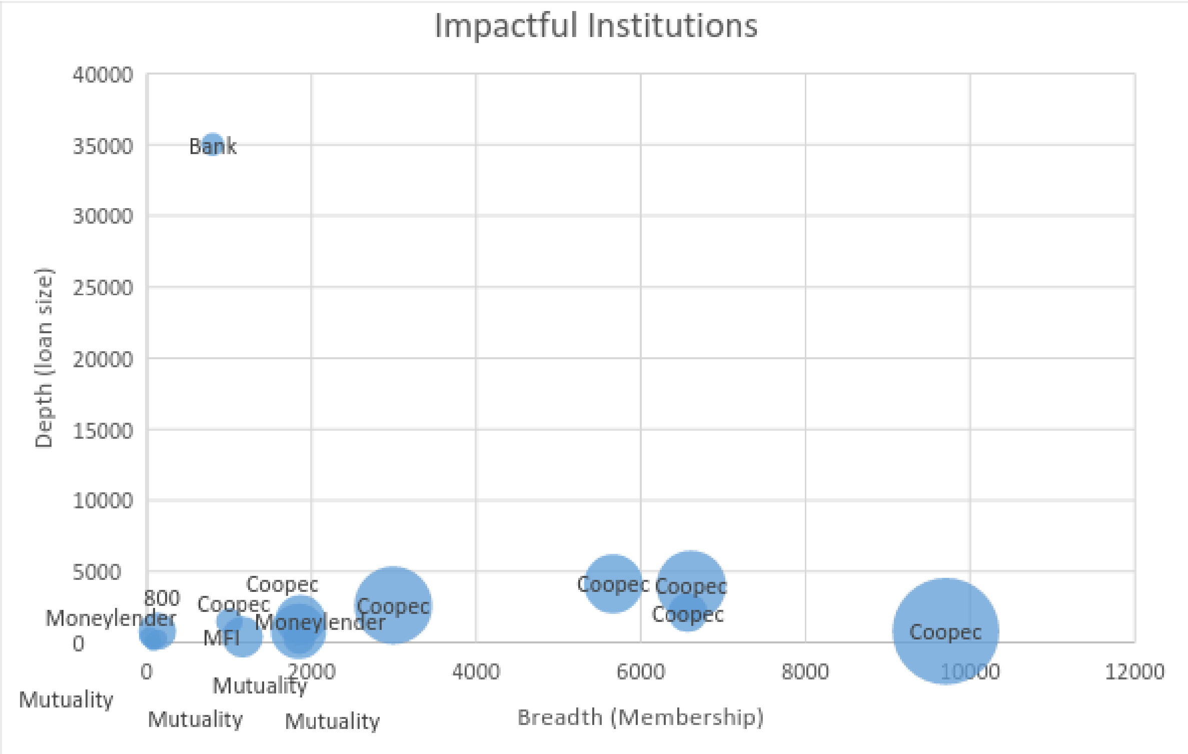

FIGURE 10 IMPACTFUL INSTITUTIONS

The main pattern that emerges from a comparison of the two models is that, despite wide variance, it can be seen that moneylenders and mutualities, the most informal categories, do not map into quadrants associated with high efficiency or high impact, compared with savings and credit cooperatives. In fact, in the sample, no single type of financial institution qualified as a high impact institution (having both a large membership base and providing large loans). Banks demonstrated the most depth of outreach, while registered savings and credit cooperative demonstrated the most breadth of outreach.

The data suggest the following patterns across the four dimensions of efficiency and impact. First, there may be an inherent contradiction in the mission and values espoused by likelimbas/mutualities and their actual capacity, since they see themselves as providing key emotional and financial support to their members, yet clearly fall short when measured against performance indicators relative to other institutional formats.

Second, there is not a linearly independent relationship between the dimensions, apart from a clustering of informal providers on the lower end of captured performance indicators. Registered savings and credit cooperatives qualified as efficient institutions, according to the proposed definition, yet also qualified as uneconomical institutions in another case with the same criteria, making it difficult to qualify all registered savings and credit cooperatives as efficient. Thus, it is erroneous to say that greater membership levels will necessarily enable larger loans, for instance, or that more transactions will translate directly into higher administrative expenses. In contrast, with an even distribution of providers across most of the quadrants in both models, it is safe to assume different operating priorities across the sector, with divergence, for instance, in the processes pursued by banks and cooperatives in outreach activities.

3.4 Methods, Practices, and Processes: Research by Observation

Given the concerns about gatekeeper reliability mentioned in the introduction, I leveraged my integration into one cooperative for further research as an observer. Researching through observation allowed not only to see key factors contributing to the discrepancies between sectors mentioned in the preceding parts of this chapter, but also to see the distinction between practices which were due to cultural/tribal/network related causes, and those potentially caused by or aggravated by the ongoing political conflict. These observations were codified, following the pilot period, as a series of questions interspersed with the original questions used as surveying tools, and thus allowed for the systematic verification of practices within the sample of institutions in this study.

Research through observation found, across both conflict and non-conflict affected institutions, stronger performance in more formalized institutions, better outcomes, and quicker corrective actions taken. For example, there was a strong positive correlation between the formalization of a financial organisation and the depth of the cash-flow analysis completed prior to approving a loan disbursement. Neither an unregulated cooperative, a mutuality (likilimba), not a moneylender conducted any sort of cash flow analysis, for example. Instead of questions related to income and capacity, these organizations chose instead to rely on the strength of either a moral (in the mutuality's case) or financial guarantees offered by clients before entering into loan agreements. However, some older, registered and formalized cooperatives were found to be conducting quantifiable assessments of client's cash flow capacities (yet these were, notably, a small minority).

Collateral collected, on the other hand, was almost uniform in their collection, yet disproportionate in their relevance. For instance, one credit cooperative collected an original property deed for any loan exceeding the value of 100 USD. This is ironic, since property costs from 12,000 to 15,000 USD per plot in the area. One can see how this would severely restrict the ability of a financial institution to apply pressure in case of a late credit. It would be seen as morally unjust to force someone to forfeit a property worth 12,000 USD in order to repay a 200 USD loan. However, in many instances, this was precisely the situation facing the cooperative, and contributing to a high Portfolio at Risk (a ratio of loans that are late in at least one payment to the total amount in loans). Motorbikes, televisions, and cars- items which may have been more proportionately appropriate to record as collateral- were deemed as inappropriate due to their depreciative values. Fixed value assets were thus considered a gold-standard by all agencies- although hardly ever forcefully collected. Another explanation for this practice, explained by one cooperative manager (confidential, personal communication, September 6 2013) that it prevented borrowers from engaging in multiple loan contracts at the same time- after all, if each source of credit requires an original mortgage, the borrower will only be able to apply the mortgage as collateral against one loan.

After a period of time all financial institutions, even a moneylender, conceded that a judicial tribunal is the last option for late credit settlements. However, even though this was listed as a procedure, it was rarely followed, if ever. One respondent clarified, saying, "Here, everyone knows each other. If you go to the tribunal and make a person sell his property or home after he can't repay credit, you'll be known as the man who sold that other man's house" (confidential, personal communication August 15 2014). Another respondent echoed a similar sentiment reflecting low faith in the judicial proceedings, saying:

> The tribunals here follow where the money is. If you show up to prosecute someone for not repaying a credit, they will say "oh, this person lends money, so they must have some'; and in the end the tribunal makes the organisation pay something to them and the person who's late gets off (confidential, personal communication August 18 2014).

Finally, and most tellingly, the more informal the institution, the less likely they were to provision for loan losses- that is, to consider it their responsibility to cover poor lending decisions as a loss in profits. Loans made since 2011, in some cases, appeared as pending loans for repayment years later, rather than being cancelled as per national guidelines. Indicatively, in some cases delayed credit accumulated interest for each month in delay as well as providing, as one moneylender reported, his subsistence income from clients. In other cases, institutions chose to do nothing with expired credit, simply assured that by continuing to hold the mortgage document of indebted clients, the credit was still recoverable. "We have hundreds of mortgage documents in our filing cabinets", as said one director of a cooperative-proudly- to me (confidential, personal communication, September 10 2013), to my great consternation.

3.5 Aggregate Findings

As a result of the above observed trends, portfolio at risk was calculated (without writing off old loans) and averaged significantly higher for informal financial institutions than formal.

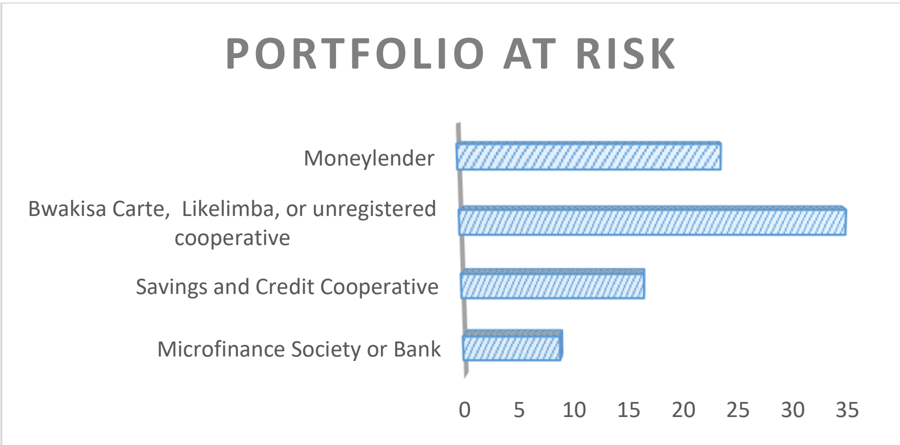

FIGURE 11 PORTFOLIO AT RISK BY TYPE

Several cooperatives were even identified to have closed their doors due to having a high portfolio at risk, leading to the disappearance of their clients' savings altogether. One respondent recalled "I remember when one cooperative folded. Myself and other teachers all had their savings there. I lost approximately 300 USD. It made people lose trust in cooperatives and believe that they're going to steal their money (confidential, personal communication August 25 2013)".

With such a high risk for bankruptcy, inefficient practices, and inordinately high demands for collateral, it is sometimes a wonder than anyone uses the more informal sources of credit or unregistered cooperatives at all. Institutions were asked what their interest rates were, in the hopes that this would explain some of the distribution in usage. Below, averages for the response to this question contradict expected incentive structures- informal structures conformed, in fact, to the theoretical prediction that interest rates would be higher.

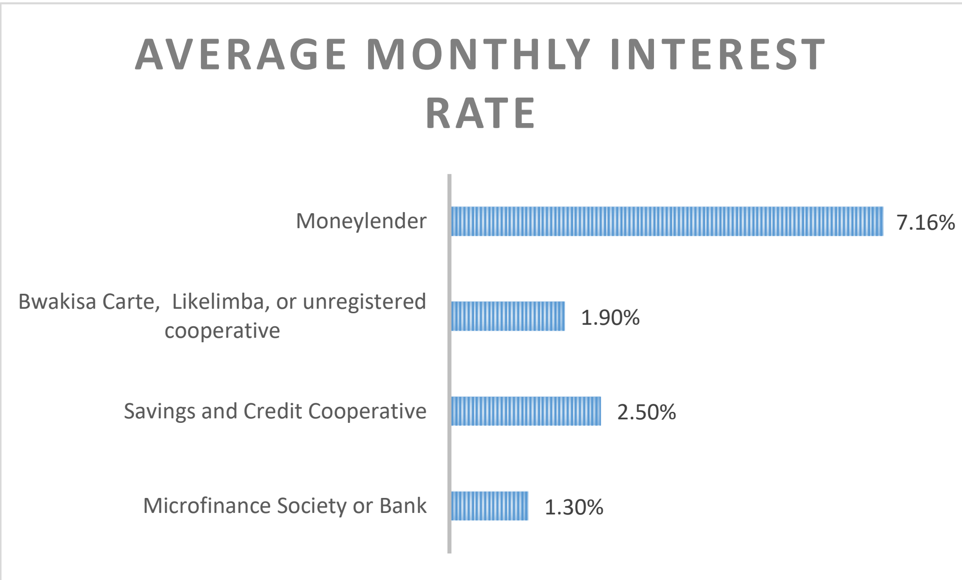

FIGURE 12

AVERAGE MONTHLY INTEREST RATE BY TYPE

However, it was noted that interest rates were also most flexible – a metric difficult to capture- in the informal sector. For example, a moneylender shared how:

> The interest rate also depends on the relationship with the person. If it's a close friend, or someone I know, it can be without interest, but it can also depend on the length and

> I can charge 5% or 10%. So if it's for one month, it can be like 10% (confidential, personal communication, March 18 2015).

High rates of informal sources be some providers overshadowed the very lack of interest other informal sources prided themselves on. The president of one mutuality told me that:

> [No, we] don't do a cash flow analysis, we have the objective to help people, we don't have a need to ask those kind of questions. We don't ask for interest. We use the biblical principle that says, if you borrow 20 you repay 20.
> (confidential, personal communication, April 22 2015).

However, instances of no required interest were rare. It was also found that the above cooperative paid a monthly stipend, albeit a small one, to five different members of their organisation, frequently gave charitable sums, and had recently withdrawn 600 USD from member savings to invest in a parcel of land- indicating a more entrepreneurial than custodial approach to their members' contributions than they initially presented.

Yet participation in these mutualities often represents more than a desire for financial efficiency or personal capital accumulation, serving as in the case of the above as a kind of informal insurance. Raj Mohini Sethi notes how, in India, "Apart from their economic value, ROSCAs are often socially relevant… urbanites have developed new support structures based more on neighbourhood and friendship than on kinship… solidarity is manifested in the moral, monetary or other support mutually given by members. (Ardener and Bureman, 1995; 175-176)". Mandeep Kaur, meanwhile, points to how 65% of ROSCA subscribers not only established new social networks through their ROSCAs, but became engaged in other social and cultural occasions pertaining to their ROSCA members (Ardener and Burman, 1995; 175).

In chapter 6, the research will return to push and pull factors that may be influencing individual level behaviours. From the institutional side, however, widely disparate differences in operating protocol emphasised severe shortcomings in, particularly, more informal institutions, which make me question if overconfidence in these practices were creating more "bubbles" than they were helping clients.

3.6 Conclusions

This chapter has provided an original contribution to the understanding of informal financial practices through the recorded description of a series of financial service providers in the research. It has also situated these against the current operating environment for financial service institutions in the DRC, in addition to creating typologies across institutions types related to concepts of effectiveness and efficiency. In light of the information gathered from the gatekeepers of financial information during the course of Part 1 of fieldwork, various patterns were found in the practices performed by institutions regardless of geographic location.

First of all, formalization was important, and significant, in terms of the number of members reached, the size of loans, and the number of loans provided. Interest rates actually fell as the source of a loan became more formal, and portfolio at risk decreased in the more formal financial sector. The reasons for this divergence included poor cash flow analysis, excessive collateral requirements, a lack of faith in the judicial system as a tool for loan recollection, and, in one observed case, poor bookkeeping which was incorrectly inflating the portfolio at risk.

As a result, returning to hypothesis 1 of the thesis, I can actually begin, using the evidence from the survey, to refute the charge that informal institutions are more efficient or effective, assuming the metrics employed in this chapter capture the dimensions hoped for. Indeed, this conforms with other sources, i.e. the GDRC (Gonzaled-Vega, n.d.), who say that "informal finance is not socially "efficient" and cannot contribute to economic growth as much as formal finance (wider in scope) could contribute if it is made available. Informal finance leaves too many opportunities to improve resource allocations untouched." However, although technically inefficient, reasons for choosing to participate in the most informal financial typologies in the sample may have more to do with social, cultural and moral aspirations than necessarily financial ones. By introducing conflict as the main independent variable of interest in the following chapters, the institutions described in this chapter will be used as a point of reference to explore financial service engagement, in a way that also includes the informal sector. In the following chapter, resilience as a multi-dimensional aspect of performance and impact will be explored, as well as why the perception- or preferences- of citizens in favour of informal institutions persist.

Chapter 4

Conflict and Financial Institution Performance: A Collective Inquiry, including the Informal Sector

4.1 Introduction

As the previous chapters have demonstrated, organisations, practitioners (Bartsch, 2004; Bruett, 2004; Doyle, 1998; Guiss, n.d.; 1999; Larson et al, 2001; Nagarajan, 1997; Nagarajan and McNulty, 2004; Kuenhast, 2001), and academics (Ohanyan, 2008; Jacobsen, 2005; Lautze, 1997; Matabisi, 2011) have deliberated on the inherent difficulties in providing financial services in conflict zones. These include dampened demand for credit (Doyle, 1998), a breakdown in social capital, the destruction of physical assets, and threats to the security of programme staff. The findings in the literature suggest a drop in performance indicators during periods of conflict, which can be empirically tested.

This chapter examines the conditions under which conflict becomes economically salient, through looking at the operations and activities of financial service providers. A subnational and comparative research design was adopted, whichcapitalizes on a natural experiment afforded by a mountain range between two culturally similar cities, Butembo and Beni, whose variance in exposure to conflict during the time of surveying was discussed in Chapter 2. While the cultural and political landscape of both cities are identical, it is argued that the impact and efficiency of financial services experienced by each city is different. I argue that this variance stems from the ongoing political violence experienced by residents of Beni and not by residents of Butembo. In Beni, continued insurgent activities limit the ability of the local population to invest, save, and repay credit.

The analysis indicates that the economic salience of intensifying conflict depends not on, for example, the presence or lack thereof of formal or informal financial service providers, but on the average age of financial institutions, the number of active members, and the level of formal integration of the financial institutions. Conflict, it will be shown, when interacted with whether institutions are formal or not, has a variant effect on formal institutions compared to informal institutions, indicating a rationale for increased scrutiny of international development objectives, particularly in terms of institutional capacity building for inclusive financial sectors.

When further examining performance indicators using monthly figures in an expanded panel data model, there is one particularly important finding: conflict has a small but significant impact on active membership, including on the taking of loans. In contrast to a hypothesis that would purport that conflict greatly decreases the demand for financial services, then, the lack of evidence to suggest such prompts me to expand the categorical groupings of my financial services, and in doing so reveals a profound shift toward the less formalized services in the conflict affected area.

The findings contribute to an explanation that conflict is transforming the citizen-level engagement with financial services, and not the actual services themselves. But given the evidence in the preceding chapter that informal institutions are neither as efficient nor impactful as more formal financial institutions, increased reliance on these structures may have consequences for economic growth and recovery. This chapter tests the hypothesis 2, as set out in the introduction, that: The decline in microfinance demand noted by the literature during and after conflict will be due to portfolio diversion to more liquid and private asset choices, including informal finance. This is due in part to the increase in depreciation due to insecure property rights, the documented attractiveness of liquid assets during civil war (Collier, 1998; Dixit and Pindyck, 1994), low levels of trust, and hyperbolic discounting.

Ultimately, the increased active membership and supply of loans identified indicate a broader shift by citizens into the more informal sector of the financial market, and that financial market microstructures remain virtually intact even given the imposition of costly violence, which can affect clients in a location such as Beni. The chapter uses the dataset described in Part 1 of the methodology, laid out at the onset of the thesis, "Groundwork, institutional data collection, and comparison: A collective inquiry into comparative efficiency". In doing so, the research explores several important themes- including the comparability of diverse informal coping mechanisms, the suitability of western terminology to create a framework for operational efficiency, and perhaps most importantly, the relevance of the original motivation behind financial services as both an operational strength and weakness.

4.2 A Natural Experiment?

As a finding of the fieldwork, banks, savings and credit cooperatives, and informal financial service providers are quick to acknowledge the negative impact of surrounding conflicts if directly asked, yet they will usually only refer to the difficulties encountered by their clients- as one of many factors in their increasing difficulty to enforce loan nonrepayment measures. This presents, for research purposes, the unanswered question of: what indirect consequences does conflict have for financial operations? That is, is it possible to isolate the causal underpinnings of the current performance across a wide range of institutions, and would this be more or less affected by conflict than directly reported?

To answer the question, the chapter takes the "natural experiment" written up by Posner (2004) as a framework in the construction of a model aimed at the scientific explanation, which as Lijphart (1971) explains consists of two elements:

1. The establishment of general empirical relationships among two or more variables, while
2. All other variables are controlled, that is, held constant.

By natural experiment, I mean a study where the exposure of individual to experimental and control conditions are determined by nature, or factors considered outside the control of the investigators. Posner (2004:530) takes advantage of the Zambia-Malawi boundary created by the watershed of a set of low hills, artificially created for administrative purposes and delineating a partition where none would normally exist. Following the work of Asiwaju (1985,) Laitin (1986), Miles (1994), and Miles and Rochefort (1991), Posner departs from previous work in that the national boundary is used not to study how members of the same community react to various social and political variances, but rather looks at the variance of inter-group relations on each side of the border. This chapter adapts this method of examining how members of the same community react to variances in political development. The study hence draws on new data to answer the research question, attempting to untangle the causal mechanisms behind conflict and poor institutional performance in conflict zones.

4.3 Beni and Butembo: Data Collection

Beni and Butembo, both major trading hubs of approximately 600,000 (Province du Nord Kivu, 2014; AFP and M&G Africa Reporter, 2014) majority (80-90%) Banande Congolese, lie only approximately 50 kilometres apart. Yet, separated by the treacherous and poorly maintained mountain road, travel between the two cities can take anywhere from an hour and a half to two days, depending on road conditions.

FIGURE 13 MAP OF BENI AND BUTEMBO (GOOGLE MAPS, 2016)

The choice of Beni and Butembo was motivated by design concerns, specifically point two of Lipjhart's recommendation, that all other variables are held constant[41], and in line with a "most

[41] A third city, Bunia, was visited during piloting, but eventually categorized as less relevant for the research aims. Bunia is ethnically heterogeneous, and has experienced significant levels of violence during the war, and it was felt that the multiplicity of variables would create regression dilution.

similar" case selection strategy. This allows us to develop some intuitive regressions from very few cases. As Neilson (2014:5-6) justifies,

> The paired cases serve as mutual counterfactuals, answering the question "what might have happened under different circumstances?" By comparing very similar cases, qualitative methodologists have argued that they can approximate the logic of a randomized experiment (Tarrow, 2010; Lieberman 2003, 8). Assuming that plausible 'natural experiments' can be identified, the resulting similarity between cases "controls" for potential confounding of the relationship of theoretical interest. Any remaining correlation between a variable of interest and the outcome is causal.

Conveniently, Beni and Butembo are equidistant from the Ugandan border, a main factor that would probably bear significance in regression design given the dynamics of conflict; yet Butembo has been spared the greater impact of recent spikes in armed conflict due to its position on the other side of a major river (the Semliki, one source of the Nile). Running its course through and around Butembo, to the best of my knowledge the only way to get to Butembo from Uganda (apart from going to Beni, and from Beni to Butembo) is to cross the river on a ferry made of several towboats tied together, which act as a raft for around half a dozen cars and up to 20 passengers at a time (both docks for this ferry are heavily guarded). This natural barrier has buffered the city against the encroachment by ADF that has occurred in Beni. It has also made it harder for them to prey on the local population- providing the geographical determination of a control group highly similar in other aspects. The same river, it should be noted, is not used for business or transportation purposes, nor does it provide any kind of lifeline to Butembo in terms of access to markets.

In other ways, the two cities are referred to interchangeably in literature, even (and perhaps especially) in literature with an economic focus. Janet MacGaffey, for instance, writes in The Real Economy of Zaire that:

> Charges levied, according to current practice in the area, are, for example, 1 million zaires at the border post for a trailor truck loaded with goods from East Africa. On arrival in Beni or Butembo, as it unloads, it is again subject to dues levied by unit by the local [government] office. p56

Blomme, Piet van Asten, and Bernard Vanlauwe (2013) also refer to the similar economic landscape in passing with this sentence (p49): "The average price of a 30 kg bunch of plantains in 2011 in Beni, Butembo and Mutwanga was US $6.00. In contrast, the average price of a 30 kg bunch of AAA-EA cooking bananas was US 3.00 in 2011, while the price for a 30kg bunch of AAA-EA brewing bananas was only US $1.50." These scattered mentions in the area studies from the region are the main, to the best of my knowledge, account of the economies of both towns. They both indicate an interchangeable economic landscape and indicative profit margins for business. However, as both accounts could be considered out of date, at the same time this research constructed its own indices of profit margins and employment to further ensure comparability, discussed in the next section.

Empirical strategy

Sekhon and Titiunik (2012) have pointed out what they view as the main inferential and conceptual problems that can arise in natural experiments, including that either comparable groups may be difficult to find, or that the comparison may estimate another causal effect than the one hoped for.

Additional issues in estimating the impact of conflict on financial services include issues of conditional confoundedness, endogeneity in conflict variance, and omission. These become especially salient, if, for example, inherently riskier financial service users are more likely to reside in a riskier business environment (conditional confoundedness), which is quite possible. In addition, the research needs to consider whether the environmental conditions (low lying and accessible terrain extremely close to Uganda) attracting conflict to Beni, and drive any of the aspects of the financial landscape and credit culture (endogeneity in conflict variance). Finally, it should consider if, for instance, the close of the financial year might be driving divergent financial service strategies, or the targeting of Beni is based on some attractive prospect or other overlooked factor (omission).

Therefore, the survey specifically collected data in regards to the savings level of respondents, as well as each respondent's average monthly income from primary and secondary income-generating activities, expenditures, and household consumption. These indicators, typically judged on a loan application, are likely to lead to a loan application's success or rejection. While all these possibilities are considered, evidence suggests that no effects are significant enough to undermine the validity of the results. The survey found little difference in conditional mean differences at a significant level between Beni and Butembo samples, indicating that there was no a-priori significant difference between the two sample groups in terms of borrowing potential. Furthermore, while the accessibility of Uganda to Beni may attract more tradespersons to the Beni sample, this was corrected for in the balancing of the sample according to the breakdown of the cooperative's membership. Below, summary statistics with conditional means are provided.

Summary Statistics and Tests of Balance				
	Assigned Control		Assigned Treatment-Control	
	Mean (1)	SD (2)	Coefficient (3)	p-value (4)
Household composition				
Number of members	7.85	3.218	.329	.491
Number of Adults (≥ 18 years old)	3.8	4.19	-.599	.313
Number of children (<18 years old)	3.64	2.202	.475	.204
Income Generating Activities				
Revenue/month from primary business	199.41	892.299	47.47	.619
Revenue/month from secondary business	61.19	84.912	-101.101	.033**
Employment (employees)	2.38	5.847	-1.016	.390

Notes: Data from 2013 and 2015 survey. Sample size is n= 208, of which 103 are assigned to the control and 105 are assigned to the treatment sample. Columns 1 and 2 report statistics for households in the control area, Butembo. Column 3 shows the difference between the mean for households in areas assigned to the treatment sample (based in Beni). Column 4 shows p-values for Satterthwaite-corrected t-tests for equality of means. Levels of statistical significance are indicated by asterisks: * 90 percent, ** 95 percent, *** 99 percent

TABLE 9 DESCRIPTIVE STATISTICS OF USER SAMPLE FROM BOTH CITIES

Exogenous treatment

Finally, the selection of Beni as a target for the ADF could potentially be biased if the targeting is based on strategic location-specific prospects, such as mineral deposits, which are non-random and also bear on the economy and financial sector of a town. Yet Butembo and Beni share comparable levels of economic development. The presence of formal and informal credit operators is on par in each city (most cooperatives that have a branch in Beni have one in

Butembo, for instance, including PAIDEK, MECRECO, BDG, and COOEDFI, to name a few), and the risks and rewards of starting a business, for each town, are approximately the same as seen by the balance in revenues. These factors are not sufficiently varied between the two towns to merit one at greater risk for targeted attacks. With such high levels of similarity, attacks cannot be said to be targeted based on variance in economic capture values, or the perceived difference in monetary gains from attacking Butembo as Beni.

The actions of the ADF, in fact, are "designed to traumatize the local population so that a nascent new rebellion could emerge and style itself as a liberation force (Vircoulon, as quoted by Bangre, 2014)". They have been most consistent in one striking aspect alone, which is a terrifying level of unpredictability-and deadliness. ADF are not active, for instance, compared with groups like FDLR and M23, in the extraction of mineral resources, and have not been implicated in the conflict mineral scandals associated with the country. As Thierry Vircoulon, ICG's central African director, attests "ADF has always been very brutal and non-communicative. Previously, they used to establish a security perimeter around their area by terror, including killing villagers who did not respect the perimeter, and displaying their bodies on the roads. (Bangre, 2014)" Whatever territorial intentions they do have, their preference for ostentatious, brute force, rather than on a sustainable relationship with local populations in order to control, tax (or trade "security" for bribes) in resource-rich areas distinctly characterizes the ADF. This in turn suggests that any rural area is just as vulnerable as any other.

As Sekhon and Titiunuk (2012) point out, another challenge arises in natural experiment design due to the fact that the naturally occurring intervention generates some subjects who receive treatment and other subjects who do not, creating, possibly, a number of different treatment and control groups from the same intervention, only some of whom are similar and thus valid to compare. They therefore urge researchers to consider two additional questions (p23):

(1) Is the proposed treatment-control comparison guaranteed to be valid by the assumed randomization?
(2) If not, what is the comparison that is guaranteed by the randomization, and how does this comparison relate to the comparison the researcher wishes to make?

Question (1): Is the comparison of Butembo's institutions and Beni's institutions guaranteed to be valid if we assume that the city of Beni is targeted for violence randomly? It is simple to show that across categories, they may not be, since a neighbourhood moneylender in Beni cannot be compared validly with the International Bank of Africa's branch office in Butembo. This leads naturally to Question (2): What is the comparison that is guaranteed to be valid if it is assumed that the violence that is surrounding Beni is random? As the discussion of typologies in the previous chapter demonstrated, in our instance is becomes clear that only matching cases are really comparable, and that it is necessary to compare, for example, informal institutions in Butembo with informal institutions in Beni, and formal institutions in Butembo with formal institutions in Beni.

4.4 Research collection

Constructing the indices needed to answer the key research questions related to efficiency, impact, and performance required an assemblage of primary source data. Research was initiated by visiting local representatives, where possible, of the national government. This included, in Butembo, the representative of the Central Bank of Congo, who gave verbal approval of the research project. Secondly, visits were made to financial institutions in order to introduce the scope and nature of the research being conducted, using an Ordre de Mission, an official letter from the University of York describing my status as a PhD student. I began my search for cooperatives and mutualities using a list of approximately 25 "peasant associations" found as an appendix at the end of a Graben University library paper, while my search for more formal financial institutions used a snowballing approach.

Once approved by the manager, surveys were conducted either with the manager or their designated staff member (s). This lengthy process of formality required, in most cases, a minimum of three visits- and in some cases, up to seven visits in order to seek follow-up information and missing figures. At the time, the process used critical amounts of time on securing permission and authorizations for the release of information- this investment of time, however, proved essential for the full or partial completion of most questions.

In total, 59 questions were asked to a total of 27 financial service providers, from 21 financial institutions - in order to determine, for each provider, the indicators elaborated in the introduction of this thesis. These were namely age, number of borrowers per month, total loan portfolio outstanding, portfolio at risk, write-off ratio, average loan balance, depth of outreach, administrative expenses, average staff salary, staff productivity, and cost per borrower.

In addition to the lengthy, open-ended questionnaire, which provided a rich amount of qualitative as well as quantitative data, a collection of time-series for several highly significant indicators was taken from each institution, where possible. These time series charted the comparative levels of the indicators over a six-month period, during which Beni experienced spikes in violent incidents. These indicators include savings, members or number of accounts, non-active members, loan demands per month, loans given per month, loan portfolio size and portfolio at risk.

4.5 The model of the conflict/efficiency nexus

In the case of financial services, measurement of the portfolio quality, the efficiency, productivity, and formal integration of service providers is fairly quantifiable (the last of these, for the purpose of the dataset, is a dummy variable). On the basis of the data collected, an OLS regression model for a conflict/efficiency model can be estimated, conditional on the average figures for each institution.

Data is available for September 2014 to February 2015, for most institutions, with some institutions providing trimestral rather than monthly figures.

A composite variable for efficiency was computed, adding together the standardized values of the above performance indicators (and reversing the rank, where necessary, of the factor variables).

Efficiency= ZMembers+ZBorrowers+ZSavings+ZLoan Portfolio+ZPortfolio at Risk+ZLoan Size+ZDepth of Outreach+ZAdministrative Expenses+ZCost per Borrower + ZStaff salary + Zproductivity

This results in a composite variable with a low n, of 11 cases, which is worth highlighting here to emphasize the exploratory nature of the following models- and the use of a lower threshold for significance readings (.1). In the first model, in column 1, the OLS regression is used to regress the composite variable, efficiency on the independent variable, conflict. Here, conflict is a dummy variable taken from the setup of the natural experiment, where location in the control city (Butembo)=0 and location in the treatment city (Beni)=1.

As the robustness of the model does not suggest an overall relationship between the conflict exposure vis-a-vis the location of the institution and the performance of the institution, a series of covariates was introduced. In the second column, there is a control for a dummy variable of whether the institution is informal or not, based on the discussion in the introduction (registered with the Central Bank of Congo= 1, unregistered with the Central Bank of Congo=0). In the third column, the addition of the age of the institution results in an estimation of a significant difference in efficiency outcomes for institutions that are, first, older, and also, registered. Finally, in the fourth column, an interaction term for the dummy coded variables conflict and formality is added, which will be referred to as a Formalization Index. This index allows us to examine whether the comparison between informal and formal institutions is different when conflict is present.

	Dependent Variable: Institutional Efficiency as a Composite Indicator			
	(1)	(2)	(3)	(4)
Conflict exposure	-2.444 [4.043]	-.841 [3.909]	2.679 [2.201]	3.539 [3.251]
Formality		6.013 [3.909]	4.918** [2.080]	5.734
Age			.051*** [.011]	.051*** [.012]

Conflict*Formalization				-1.700 [4.445]
Adj. R^2	-.068	.073	.741	.705
N	11	11	11	11
F	.366	1.394	10.531	6.971

Notes: Robust standard errors reported in parentheses. Levels of statistical significance indicated by asterisks: * 90 percent, ** 95 percent, *** 99 percent

TABLE 10 INSTITUTIONAL EFFICIENCY AS A FUNCTION OF CONFLICT EXPOSURE

Controlling for the age and level of formalization, conflict does not have a high confidence level, yet the three variables combined have, at highest in the model in column 3, an adjusted r2 of 74%. Taken together, in summation, the diagnostic statistics suggest that the regression is statistically robust, if merely due to the addition of considerations of age and formalization. But if conflict is not statistically significant for a composite variable of institutional efficiency, is it statistically significant for any aspect of performance? For this question, factor analysis is called for to break down the individual components of the composite variable, "efficiency".

4.6 Violence in Institutions

Here, the comparison of the aggregate means allows us to examine the interrelationship between conflict and formal and informal institutions, by examining conflict as an independent variable for a series of the factors of efficiency. Conveniently, taking a closer look at each factor also increases the sample size to, in most cases, 21.

Results are displayed in tables 11 and 12. In table 11, column 1, simple aggregate averages of the values reported by both informal and formal institutions in Butembo are tabulated and shown. The raw data was used instead of standardized values since the categories are now distinct enough to compare between cities. In column 2, the contrasting aggregate averages of the values reported by informal and formal financial institutions in Beni are shown.

Table 12 presents regression coefficients for each performance indicator, when regressed on the institution's exposure to conflict, with added covariates for age and formalization (not reported), and the interaction term for conflict and formalization. The dependent variables in these regressions are the individual raw values for each institution, and robustness checks were run with standardized values.

Performance Indicator Aggregates by Comparison Unit			
		(1) Control	(2) Treatment
(a) Total value of savings portfolio	Informal Institutions Mean	$1,6035	$498
	Formal Institutions Mean	$1,467,632	$671,526.25
(b) Current active accounts	Informal Institutions Mean	415	91.6
	Formal Institutions Mean	3021	4031
(c) Loans per month	Informal Institutions Mean	4.6	18.5
	Formal Institutions Mean	39.6	53.57
(d) Cumulative value of loans in circulation	Informal Institutions Mean	54331	16942
	Formal Institutions Mean	948294	296747
(e) Portfolio at Risk	Informal Institutions Mean	38	22
	Formal Institutions Mean	14	26
(f) Cost Per Borrower	Informal Institutions Mean	$117	$5.5
	Formal Institutions Mean	$160	$40
(g) Loan Officer Productivity	Informal Institutions Mean	2	6.3

	Formal Institutions Mean	2.4	15

Notes:
Levels of statistical significance indicated by asterisks: * 90 percent, ** 95 percent, *** 99 percent
Sample sizes reported in Table 12

TABLE 11 PERFORMANCE AGGREGATES BY INDICATOR

	Effect of Treatment						
	(a)	(b)	(c)	(d)	(e)	(f)	(g)
	Savings	Members	Loans Given	Total Portfolio Size	PAR	Cost per Borrower	Loan Officer Productivity
Coefficient for Conflict	739875	32.45	18.388	244734.92	-17.27	-87.249	11.853
Conflict* formalization	-880392	1431.060	.494***	- 650024.65	27.646*	-23.680	-9.580
Sample Size	17	18	20	19	18	15	17

Notes: Coefficient for conflict controls for age, formalization, and a formalization index
Levels of statistical significance indicated by asterisks: * 90 percent, ** 95 percent, *** 99 percent

TABLE 12 EFFECT OF TREATMENT ON PERFORMANCE AGGREGATES

(a) Liquidity as savings on hand

In the comparison of means table for average savings deposits on hand, Butembo institutions have roughly triple the amount of available liquidity on hand than Beni institutions, in both the formal and informal sector. However, it is difficult to say that conflict would be the cause of this difference. Running the related regression controlling for age and regulation, age and regulation are statistically significant factors, yet conflict is not. This indicates that, over time, and through integration into a formal economy, institutions accumulate capital, which is not significantly affected by conflict over the time period observed. The predominance of these savings being clustered in Butembo point to the larger size and age, on average, of institutions in Butembo, an important caveat to keep in mind when considering the remaining data.

(b) Average Number of Users of all services

Indeed, there are only 22% as many users for Beni's informal financial services as for Butembo's services. This indicator captures active members who may only have a savings account, for instance, and not their borrowing activity. The similarity between this and the smaller portfolio of savings in Beni compared to Butembo explain why the average wealth of respondents is still comparable.

In the formal financial sector, however, service uptake is fairly equal, with 133% the member base for formal financial services in Beni. Here, again, the institution's status as an unregulated or a regulated institution, as well as its age, demonstrates a higher significance in explaining the variance in the dependent variable "members", compared to exposure to conflict. This allows us some cautious confidence in claiming that the grouping of cases is comparable across cities.

(c) Average Number of Borrowers per month

However, relative demands for loans sees a spike in our conflict-affected zone. In both sectors, which is of particular interest for the informal sector due to the lower on average membership in the conflict-affected area, loan demands and loans granted per month, shown below, are higher- indicating increasing reliance on credit-funded activities. Here, the interaction term becomes significant, and slightly positive- indicating that, in the presence of conflict, formal institutions may actually be lending an additional number of times per month on average (a net affect of .4 times, which, although not high, is certainly not indicative of a drop). With this finding, I can start to question critically the finding of Karen Doyle (1998), who claims that qualitative data indicates that conflict decreases demand for credit.

(d) Average loan portfolio

Considering the high volume of loans, significantly smaller loan portfolios in both the informal and formal sector of Beni, compared to Butembo, indicates that loan sizes themselves may be smaller in Beni. The overall trend of greater financial capacity in Butembo, with equal if not more actual loans being made in Beni, however, begs a question of whether the greater loan portfolios in Butembo could be justified by increased investor confidence due to security, or cultural differences which are difficult to quantify. Entered into regression models, conflict, however, is still not a significant determinant of the variance in loan portfolio. Hence, it should be attributed to the other factors mentioned above (the higher age on average of institutions in Butembo and greater savings on hand) rather than security concerns.

(e) Non-performing loans

Portfolio at risk (PAR) has an interesting tendency in both the formal and informal financial sectors in Beni. In the informal sector in Beni, PAR is insignificantly less than within its counterparts in Butembo (although it is still quite high, at 22% on average). However, in the formal sector, PAR rises a good 12% higher in Beni than it is in Butembo. When regressed as a dependent variable on conflict, age, formality, and the interaction of formality and conflict, the research finds something even more interesting- PAR appears to be insignificantly less in conflict affected contexts- but significantly higher when the institution is formal and located in a conflict zone.

With a current assumption that PAR should unilaterally be significantly higher in a conflict-exposed environment, the contrary findings indicate, in fact, that the informal sector is perfectly capable, if not more so, than enforcing loan repayments in a conflict-affected zone of operations. Meanwhile, the formal sector, in these two locations, is less capable of loan repayment enforcement in the conflict-exposed area- which conforms to practitioner observations (Bartsch, 2004). This begs for further- and deeper- examination of the seeming comparative advantages, of the formal sector.

(f) Average Cost per borrower

With average cost of borrower, a spike in efficiency is again seen - in favour, surprisingly, of the conflict-exposed area (with the conflict exposed institutions spending less per borrower). However, the findings are not significant. The general direction of the findings indicate, however, that disregarding other indicators of efficiency, perhaps institutions do more with less in conflict-exposed institutions. If one is to look to our list of factors for efficiency, loan officer productivity is another similar variable that could confirm and strengthen this hypothesis.

(g) Avg Loan officer ratio

And indeed, in Beni loan officers and staff have 3 to 6 times as many borrowers per individual staff member than institutions and services in Butembo. However, it does not provide any statistical significance for explaining variance. As this model indicates, then, conflict (or the location of a financial institution in a conflict-affected zone) is not a significant predictor of the risk to performance indicators, as captured by the multi-month dataset. The controls for age in months and the dummy indicating the formal registration status of my cases indicate that none of the factors compared as aggregates for the six-month period are significantly affected by conflict, except for the slight increase in loans given in the formal and conflict affected institutions, and the large increase in Portfolio at Risk experienced by the formal and conflict affected institutions.

Finally, the original model, in Table 10, suggests that, by contrast, the age of an institution is the most salient determinant in the variance in performance outcomes, followed by a dummy for whether an institution has been registered with the central bank or not.

4.7 Robustness Checks

The previous figures, as explained in the beginning of this chapter, are based on the averages of six different months. However, a look at a collection of figures for each of the six months can serve as a robustness check. Cross sectional time series data, or panel data, was collected across time as explained in the methodology introduced at the beginning of the chapter, for a number of key traceable indicators (savings, active members, loan demands and loans given, loan portfolio, and portfolio at risk). It has been acknowledged that panel data allows for individual heterogeneity and allows for the control of variables that cannot be observed or measured. This helps control for unobserved heterogeneity, when the heterogeneity is constant over time. The end model looks like this, with fixed effects for month to account for periods of high violence, and an interaction term for conflict and formality:

(1) $\text{Performance}_t = \alpha + \beta_1\text{Exposure to conflict}_{it}, + \beta_2\text{Age}_t + \beta_3\text{Formalization}_{it} + \beta_4\text{Month}_t + \beta_6\text{informal}*\beta_7\text{conflict} + \beta_6\text{formal}*\beta_7\text{conflict} + \epsilon_t$

The model differs from the previous OLS regressions, in exploiting monthly (t) variants, coupled with exposure to conflict, age, formalization, and formalization conditional on conflict to determine variance in performance outcomes. Here, Exposure to conflict $_t$ can be expanded to a categorical variable which captures the number of ACLED recorded armed conflict events at location (i) during month (t), βAge is the number of months the institution has been open at the branch at location (i), and β Formalization$_t$, is a dummy for whether an institution is registered as a bank (1) or savings and credit cooperative (0) at location (i) in month (t).

Below, a regression table of the panel data results suggests, again, weak results for the salience of conflict as a predictor of performance outcomes, paling in comparison to age and formalization again. However, in the panel model, the breakdown by months reveals a significant, positive correlation between conflict and active membership, with a slight drop in loan demands- but only an average of .3 loan demands less per month, which is not a great deal less. It is also worth looking at the index of conflict and formalization. Here, findings indicate that formal institutions in location where conflict is present do experience a significant decline in total portfolio, so whereas they tend to have around 1,700,000 USD more in loan portfolio values usually, in conflict zones, this decreases by about 186,000 USD in conflict zones, on average. Thus, the model suggests that the formal sector suffers more than the informal sector.

	Performance Indicators as a Function of Conflict and Other Factors by Month					
	(1)	(2)	(3)	(4)	(5)	(6)
	Savings	Active Members	Loan Demands	Loans Given	Total Portfolio Size	PAR
Conflict	51871.966	958.990***	-.329**	8.071	-43783.225	-.036
	[41420.4133]	[236.454]	[5.038]	[5.940]	[46496.303]	[.521]
Age	20503.375***	8.835**	.47	-.375	8833.718***	-.001
	[881.909]	[4.277]	[.088]	[.399]	[1019.099]	[.011]

Formalization	1591974.199***	-1406.229	-59.470	-114.445**	1694042.438***	-9.632**
	[324735.800]	[5100.468]	[39.049]	[45.968]	[292717.647]	[4.114]
Conflict*Formalization	20916.801	-484.160	.143	-1.154	-186154.281***	-.097
	[179184.81]	[1394.447]	[7.178]	[7.974]	[640066.481]	.762
Adj. R Sq	.916	.189	-.024	.099	.664	.128
N	53	40	42	38	52	46
F Test	57.536	1.907	.904	1.407	11.062	1.659

Notes: Coefficient for conflict controls for age and formalization. Fixed effects introduced for month and institution. Levels of statistical significance indicated by asterisks: * 90 percent, ** 95 percent, *** 99 percent

TABLE 13 PERFORMANCE AS A FUNCTION OF CONFLICT BY MONTH

4.9 Qualitative Evidence

The main pattern that emerges from a comparison of the two cities is that business must continue, and even with a high spatial concentration of armed violence affecting one city (and indeed, in a survey of users nearly half had lost a family member to the conflict in the preceding year), and an intuitive understanding that the amounts of loaned funds (Portfolio at Risk) is steadily climbing throughout the duration of hostile months. The supporting data collected from both cities, and in a number of instances, from both branches of the same financial institution, can be broken down into three dimensions.

First, the perception of conflict impacted citizens as risk averse-not willing to incur debt, invest, or take on financial commitments during period of heightened insecurity-finds little support in the models. Rather, when incorporating non-banks such as savings and credit institutions, conflict actually increased active membership in financial institutions, relative to conflict events, contrary to anecdotal reports of decreased confidence. Hence, actions spoke louder than words, and compared with a counterfactual, I did not find evidence that the poor investment climate impeded the willingness of users to engage with credit products.

Secondly, the belief that conflict would incur transaction costs due to the increased difficulties of operating in a conflict context found little support in the data. If anything, institutions spent less per borrower in a context more affected by conflict. A decline in overall loan portfolio size was observed (although statistically insignificant). This was assumed to be due to changes in profit, since this is how profits tend to be generated. At any rate, no evidence was found to substantiate an empirically significant transaction cost incurred by conflict, contrary to my prior expectations. However, physical losses were frequently noted. One international bank in Beni remarked, for instance, that "I mean our biggest problem is fraud, which is really hard to counter with a poor security situation (confidential, personal communication, September 12, 2014)". Examples of effects included the destruction and looting of assets belonging to the institution. For instance, instances of road-side robbery, fraud, and looting were frequently mentioned. In the informal sector, physical losses figured the most prominently in effects bemoaned. A registered cooperative's manager shared an anecdote from a series of looting:

> We were victims of looting because of the war. We lost 250,000 USD to bandits in Kasindi and 126,000 from our branch in Oicha. The bandits were arrested but the money was not refunded. They were strangers coming over the border from Uganda. I'm saying it's because of the war because the bandits collaborated with the soldiers. We also think they military chiefs have taken a part [of the profit] (confidential, personal communication, August 25th, 2014).

A moneylender echoed the perils of operating in border towns such as Kasindi, sharing that his personal business (not related to his moneylending activities) had suffered from the war as bandits had robbed some of his shops in Kasindi, and the eruption of the volcano in Goma in 2002 had burnt another shop(confidential, personal communication, September 19, 2014). It was generally felt that the insecurity in border towns such as Kasindi was due in part to the conflict and the resulting degradation in the rule of law in the area. Hence, scattered responses indicated a cost of conflict that was unpredictable: these events were a blow, that could be borne between multiple branches of the same institution, yet represent a risk posed by conflict that cannot be prepared for. In the context of Beni's conflict, this meant a transaction cost of conflict which is unquantifiable- much like the cost of conflict to citizens, there is no average, no index that can be constructed, and no weighted averages that can aid the modelling. Therefore, it is a random effect, much like the conflict itself, and requires a comparative analysis across several companies.

Third of all, and perhaps most surprisingly, there was a lack of evidence to suggest decreased overall efficiency due to conflict, except for the rise in Portfolio at Risk, which could be a purely temporal effect. It is possible that the survey design was not able to account for spill over effects and that Butembo experienced some of the same determinants of efficiency as Beni, yet the battery of robustness checks run suggest that Beni respondents were exposed to a much higher degree of conflict, creating the basic conditions needed for a natural experiment. Anecdotes, for instance such as the below certainly contributed to an impression that PAR would become a runaway train due to problems linked to the conflict:

> There were a lot of days where we didn't work. For example, if today if someone should pay back their loan and they're closed, they won't pay it back then, so their nonrepayment starts adding to the portfolio at risk. We had a lot of credit that we gave to groups, like solidarity groups, who are more or less in the zone, I mean the zone which is affected. So it's been a little difficult to give them the loan and also to recover the loan. And most of all, groups have the farm and then after the harvest then they can repay the loan. So, if they have no customers because of the war, they can't sell, they don't have money, and they can't come and repay the loan. We have agents who do representation at Oicha, Bulongo, and Magina, and those zones were so militarized there and they couldn't go to supervise those agents. Even to do those money transfers to agents was difficult. So a lot of things like our indicators of performance started dropping (confidential, personal communication, April 2nd, 2015).

Meanwhile, a manager of a registered cooperative also argued that there had been changing perceptions of microfinance, and that it was a struggle for individuals and institutions to manage the poor economic conditions:

> With the movement of soldiers, some people decided to go abroad as refugees with their capital and invest elsewhere where their security was insured. As our country was freshly from the war, and after the presidential elections in 2006, there was an expression. It is "lutte contre la pauvrete" This expression came out of several Congolese mouths who believed that the government would distribute money to the poor through cooperatives and microfinance societies. This has pushed several inhabitants to adhere and subscribe by their credit within the institutions without

> thinking on their mode of refund. We have realized that instead of sucking out poverty, the cooperatives and microfinance institutions allowed the poverty to take place. As many people were not educated about cooperatives, we have known cases, endless cases, of an increase in portfolio at risk linked to the non-repayment of loans. For the members begged for credit for investment, but war couldn't allow them to attend their objectives (confidential, personal communication, August 20th, 2014).

However, although conflict sometimes correlates with loan nonrepayment, there was substantial variation over institution type in the distribution of portfolio at risk between the two geographically distinct locations. In fact, it turned out that most portfolio at risk was in the informal sector in Butembo, while most portfolio at risk was in the formal sector in Beni, and the introduction of age and formalization as controls largely washed out the effect of conflict.

4.12 Time Lags

It is worth noting that several respondents felt that affects were still yet to be felt. This could have been due to the short time period within which the surveying was conducted, which could not have accounted for any possible time lag in affects. I interviewed one accountant, for instance, who had the best grasp of the financial situation of the cooperative, who shared that:

> The impact of the violence cannot be felt at [the period when it happens], it is felt a bit later. Our nonrepayment rate is going to get even worse next month, I think, because we're contacting members and their giving us red indicators. Of course it's due to those who used to use remote places, like Nobili, Eringeti, Mai-Moya as their markets. We have farmers whose farms of cacao and manioc who cannot access anymore their fields,

> and this is causing them repayment difficulties. These are peripheral villages who have borrowed and cannot go to their farms anymore. They have one member who had his farm which used to produce 1 ton of cacao each harvest, but the last production was wasted and three of his workers were killed. Till now, they're not able to ask him to pay 1,500 that he borrowed back, because they know the situation he's in. (confidential, personal communication, April 17th, 2015)

Quantitatively, another cooperative's reflection on active participation reflects a time lag as well:

> We finished the year 2014 with 3,104 active accounts. Out of 6,535 total accounts, or members, at the end of December. So 47% were active. Now, we're in March. Were talking 6,610 accounts. And now, the active accounts are 1,525 accounts, or 23%. I think that's because cultivators couldn't value the impact at the time of the massacres, but now we feel their impact. Most of those members have activities in the forests and fields and they came here as refugees. So those who have loans here are not able to pay loans, and those who used to save don't have any revenue from their fields. (confidential, personal communication, March 13th, 2015)

The structure and methodology of this research did not allow for a concentrated look at the possibility of a time lag for effects. However, the observations noted above indicate a promising direction for the continuation of this research.

4.12 Conclusions

This chapter analysed the dataset constructed in Part 1 of the methodology with three layers of analytics. Beginning with a linear, multivariate regression using a composite dependent variable, the data is then broken down into a comparison of means for each of the factors chosen used in the composite variable. Not satisfied with the robustness of the results, which posit that conflict weakly increases the demand for credit in formal, conflict affected institutions, and increases the Portfolio at Risk only in formal, conflict affected institutions, a panel data model was included with fixed effects with the 6 factors where there was time series data collected. This panel data model indicates, in turn, a positive and significant correlation between conflict and active membership, a negative and significant correlation between conflict, formal institutions, and loan portfolio size, and only a slight decrease (.3 loans less applied for per month) in demand.

Taken all together, the bricolage of data implies the substantiation of a theory of shifting user preferences, rather than shifting institutional practices, which fits within the greater research questions posed by this research. First of all, it seems that in Beni, although aggregate snapshot operations, members, savings and even lending rates may be comparable with Butembo institutions, these operations increase during periods of intense conflict (when broken into time series), and into the informal (when broken into more institutional types). That is to say, rather than citizens relying their existing resources, periods of stress call for increased reliance on financial services, even if this includes withdrawals from savings accounts.

Secondly, conflict as an independent variable has little explanatory power on most performance indicators as captured by the specific natural experiment, except in terms of Portfolio at Risk. It would appear that, in fact, that Portfolio at Risk is actually lower among informal institutions in Beni, the net effect of conflict is 26 points higher in formal institutions, resulting in a net rise in Portfolio at Risk by about 10%.

The following sections will further examine the variance here between the informal and formal sector, as this may explain the deviance from practitioner comments. What this chapter has provided is a statistical foundation for the reformation of earlier hypothesis, and a demonstrable explanation for the variance in a number of key factors related to performance efficiency across both the informal and formal financial sector. In the following chapter, the data is extended further into the informal sector- and into the grassroots, or community, to grapple with the more profound question of impact during periods of conflict.

Chapter 5

The Impact of Microfinance in the presence of Conflict: Evidence from Two Cases

51. Introduction

The thesis has so far used regression modelling and panel data to address research subquestion one: How does the presence of conflict affect the efficiency of formal and informal financial service providers? The significant finding from the data reveals an increase in the Portfolio at Risk within the formal sector institutions, and a drop in total loan portfolio, again only in the formal sector, with limited other affects when conflict is present. In the following chapter, the data is applied to the second subquestion posed in the introduction: How does the presence of conflict affect the impact of formal and informal financial service providers?

As pointed out in chapter one, positive impact cannot be taken as an assumption even in a stable context. Indeed, as Banerjee, Duflo et al state about an evaluation of a microfinance program in Hyderabad, India:

> While microcredit "succeeds" in leading some of them to expand their businesses (or start a female owned business), it does not appear to fuel an escape from poverty…One reason may be that the average business run by this target group is tiny…is not particularly profitable, and is difficult to expand…Nevertheless, microcredit does affect the structure of household consumption. We see households invest in home durable goods and restrict their consumption of temptation goods and expenditures on festivals

> and parties…It expands households' abilities to make different intertemporal choices, including business investments (Banerjee et al, 2015: 51-52).

Given the observations quoted above, in addition to other similar studies that found no "clear evidence, or even much in the way of suggestive evidence, of reductions in poverty or substantial improvements in living standards" (Banerjee et al, 2015: 13), assuming transformative results from microfinance engagement in either context (conflict affected or not) would be premature. However, it is the variance in impact between the samples taken in Beni and Butembo that, even if not transformative, could indicate divergence attributable to the specific conditions caused by conflict, and allow for an answer to the second subquestion. The subquestion is particularly important in understanding the consequences of conflict. If the impact of microcredit is compromised further than it already is in conditions where conflict is present, then the problems from conflict may well be carrying over into the financial markets in ways that affect users more than providers. It is in this sense that the sample of institutions that display problematic performance can be seen as endogenous to state failure.

Attributing socio-economic outcomes to microfinance through the use of a control group is complicated by several factors. As highlighted in Chapter One of this thesis, programmatic decisions by microfinance agencies to favour profitable-looking prospective clients, in addition to the endogeneity of programme placement in more favourable locations, have led researchers to point to significant perils in assuming the impact of microfinance on clients as conclusively causal, due to a supply side selection bias on the part of the institution (Banerjee et al, 2015: 8). Additionally, comparing clients who have chosen to participate in microfinance services to those who have chosen not to participate in a microfinance service may fail completely to capture the vast inherent differences in these groups, presenting a demand side selection bias on the part of the users (Brau and Woller, 2004; Armendariz and Murdoch, 2005, Banerjee et al, 2015: 8). In this context, Randomized Controlled Trials through two methods - individual level randomization, or randomized program placement - can capture program treatment through the random assignment of treatment, ensuring that supply side and demand side biases are consistent across the comparative samples. Even if able to establish a valid control group, however, estimating the impact of microfinance usage can pose methodological and theoretical challenges. The short time frame of most RCTs (14 months, for instance) may not be able to capture significant impacts on profits given the limited time period. Low take-up rates of loans by samples that are expected to take the loans up at higher rates pose statistical power challenges. And attrition, or lack of interest in participating in the follow up survey, can pose problems with randomization strategies. A series of impact evaluations, nonetheless, in urban slums in Hyderabad, India (Banerjee et al, 2014), Mexico (Angelucci, Karlan and Zinman, 2014), Mongolia (Attanasio et al, 2011), and Morocco (Crepon et al, 2011) have experimented with program placement randomization. Other impact evaluations have used individual level randomization to estimate the impact of increased services (Karlan and Zinman, 2010; Karlan and Zinman, 2011, Augburg et al, 2012.). As Banerjee (2015, 9) points out, however, the main downside of randomized program placement is typically the loss of statistical power, since access to microfinance programming does not correlate perfectly to take up rates, which may be less than 30% of the 'treated' population.[42]

[42] In Banerjee at al's study of a microfinance program in Hyderabad, India, for instance, only 33% of households selected for their propensity to take up microcredit actually availed themselves of the service after a three year study period. This is comparable with take-up rates in similar studies in Ethiopia (31%), Mexico (19%), and Morocco (17%) (Banerjee et al, p7)

Another option- and the one chosen to implement here for ethics-related concerns[43]- is to identify a workable control group involves comparing incoming clients with longer-serving clients, incoming clients are considered as a control group. This cross-sectional method therefore identifies two groups who have chosen to engage with microfinance services, thus reducing the problem of endogeneity in the measurement error of entrepreneurial spirit, since users would probably have similar entrepreneurial abilities in this type of study. As Karlan (2001, 2) remarks from his observations: "Such studies have risen recently in popularity…USAID, through its AIMS project, encourages this methodology with its SEEP/AIMS practitioner-oriented tools". Additionally, it can expand the timeframe of the study beyond the short timeframe of an RCT since it can study ongoing users, and is not dependent on takeup rates for statistical power.

Thus, to address the second subquestion of whether and how conflict affects the impact of microfinance services, the results of a cross-sectional cluster design evaluation are presented which compares the impact of microfinance services for members of a Beni-based institution and members of a Butembo-based institution, controlling for conflict and the length of membership. As such, incoming clients are compared with clients who have participated for a longer period of time to evaluate significant variance in household consumption, profits and working hours. The research fully incorporates the work of Dean Karlan, who pointed out that:

[43] Concerns raised by the University of York's ethics committee included the selection of respondents and the associated risks related to participating in a survey related to sensitive, personal, financial information. As such, it was approved that respondents could be suggested by managers before consent processes even took place, ensuring the trust of participants in the researcher's legitimacy. This also limited the personal risks posed by the research to the participants since they were not seen to be targeted for interviews, all interviews took place behind closed doors, and respondents didn't have their daily travel patterns interrupted.

> Although the current tools [The SEEP Network] offer do not address the problem [of dropouts], a change to the sampling technique can solve both problems. Conceptually, the two samples are not the same: the veteran group only consists of those who remain, whereas the new member group consists of members who will dropout. One can alter the veteran group to include those who dropout, or can alter the new member group to include only those expected to remain[44]

Quartile treatment effects were estimated to cluster the respondents by length of time in the cooperative, and conflict is introduced as a co-variate to investigate its significance. From the literature available, the standard families of outcomes usually studied for variance can easily be identified- entrepreneurial activity, income, consumption levels, consumption composition, and social indicators- and the few which have been documented as statistically significantly impacted by microfinance engagement, namely, entrepreneurial activity and consumption

[44] Although recommended by the SEEP/AIMS project, there are potential pitfalls of such an approach, as pointed out by Dean Karlan (2001). These include two major, untested assumptions which include firstly (1) the erroneous assumption that dropouts would have the same income and consumption profiles of those who remain in the programme (incomplete sample bias), and secondly, that (2) dropouts would not have been made worse off by participating in the programme (attrition bias). To accommodate Karlan's concerns, the research introduced a few solutions through sampling techniques. To accommodate the drop-out bias in the sample, veteran member data was compared to dropout members' data to find predictors of dropout. Karlan recommends using econometric tools to weigh the new entrant sample according to their probabilities of remaining. However, to simplify the recommendations posed by Karlan, highly probably dropouts were excluded in order to create a more balanced sample (thus some outlier new clients were removed who demonstrated exceedingly high expenditures compared to veterans' survey data).

In addition, it was decided not to randomize, since the point of randomization is to ensure representativeness, and since the decision rule was determined by the clients who felt they could safely participate in the survey, randomization would have only been as representative as the original sample was. Instead, at the end of the survey period, a series of summary statistics were compared with the overall membership statistics, which ensured that the samples collected were indeed representative of each institution's membership. In this sense, what is more important is that the original groups are comparable, save for the treatment being examined, and also reflected the reality of the population of financial service users in the area.

composition. In short, then, the testable assumptions for this chapter include that conflict would have either a positive or negative bearing on these outcomes, or somehow otherwise alter the household economic portfolios of microfinance users.

To highlight further possibilities, the research has established that risk averse borrowers - all too often, the poorest of the poor - will be less likely to borrow or engage in microfinance services, and thus less likely to see the positive benefits of microfinance services. As such, it is expected that risk aversion might be a product of conflict, and that, in the more conflict-affected location, this will have an impact on engagement with microfinance services, leading to variance in impact outcomes. Indeed, this is what the literature suggests as well, if one is to refer to practitioner comments who remark on changing (decreased) demand for credit as well as immediately following a period of conflict. Local stories should tell accounts of prioritization and decision making affected by stress and conflict, and risk aversion should corroborate prioritization away from high risk, high return activities, resulting in a negative affect to the impact, if any, of microfinance services.

Measuring Impact

Impact as a metric presents a range of empirical challenges. Notably, since impact is such an integral part of the mission of many savings and credit cooperatives, institutions have developed various definitions for internal use, which are often inconsistent for conducting cross-category comparisons. If one is to look to the SEEP project for a suitable user-level meaning of impact, it suggests that impact can be understood as the changes that occur in clients' lives, their enterprises, their families/households, and their communities, combined with the extent to which the identified changes are related to clients' participation in the microfinance programme

(Nelson et Al, 2001; 3). This interpretation of the term is also suitable for cross-categorical comparison, and as such is used without modification.

In this study, the outcome data comes from 208 detailed surveys of participating households during the period 2013-2015, which will be referred to as samples from Beni and Butembo. Each sample was gathered by interviewing approximately 100 households from each city, creating a similar sample size at one point in time for each city. Sampling was conducted in each location over a two-month period to minimize variance in accounts during the sampling period, thus the data is not separated into baseline and endline figures. Instead, incoming clients, including some whoregistered for an account but had not yet participated in services, as well as recent members, are considered a control group. This takes into account that incoming persons to the programme would be similar to existing clients in terms of key characteristics, namely, the ability to participate in a financial cooperative.

Institutional dynamics

Karlan (2001) discusses how microfinance programmes have specific strategies for entering specific communities at certain points, a bias he personally witnessed in the field and would significantly alter the new member pool from a veteran pool. As such, when choosing the institutions from these samples came, their advertising strategies were checked and materials for significantly different approaches or methods. The two institutions chosen had extremely comparable approaches, not to mention resources (savings reserves, number of staff, age in months) and performance indicators. Both institutions, although targeting women, had a majority of male members (and survey respondents). In addition, both required either a salary guarantee from an employer or a mortgage deed as collateral, and use a similar interest rate (3%

monthly digressive, and 3-4% monthly digressive). The survey is thus characterized by similar institutions with the most notable difference being their location of operation.

5.2 Study Design and Baseline Summary Statistics

The data used in this chapter was collected as two independent cross-sectional samples from two different cities in 2013 and 2015. The main focus of the survey developed for this purpose was to capture household expenditures information as well as some limited insight into profitability and working hours. Although the survey was designed in order to answer these research questions, many of the questions were based on baseline surveying used in microfinance impact evaluations and shared with managers following the surveying.

Institution A, or the Butembo Case, consists of two country-level offices in Butembo (North Kivu) and Kinshasa (South Central), Democratic Republic of Congo. Between its two main membership categories, it had 1684 current members, a reported 80 of which were inactive[45]. At the time of surveying, Institution A had a loan portfolio of 91,000 USD in loans. The portfolio is a mixed portfolio of deposits and credit products, ranging from small to medium, based on the trust established between the member and the cooperative. The institution also gives group loans, although it did not make any the year before surveying due to some repayment problems with an NGO that was supposed to guarantee a group lending programme. Although registered as a microfinance society at the provincial level in North Kivu, at the national level it is regarded as a registered savings and credit cooperative, or an association of at least 12 shareholders possessing a minimum of 20,000 USD between them in capital, who

[45] Figure estimated on 14 January, 2013

have agreed, through a set of bylaws, to run a rotating credit association independent from the central bank. It currently employs nine staff, and pays an average salary of 100/staff per month. Institution A began as a project of an NGO, and was officially incorporated as a cooperative in 2011.

Institute B, or the Beni case, has two country level offices, in Beni as well as Butembo. Its Beni office had a loan portfolio of $87,956.00 in current loans at the time of surveying, and 2,789 accounts, an estimated 762 of which were no longer in use. At the time of surveying, they had a total staff of 10, who were paid an average of $90.00 a month in wages each. Just like Institution A, Institution B also offers group loans or individual loans, and to apply for either, the individual must submit a written letter to the manager and a guarantee. Institution B is also registered as a savings and credit cooperative.

We can see from a quick visual view of Table 12 that the baseline summary statistics of both programmes users are similar. Both institutions are development oriented, with origins in the local community (all staff appear to be local Nande Congolese as well). In fact, it was these similarities in institutional dynamics that identified the two institutions as comparable cases and led to their inclusion in the research. In the rest of this chapter as well as for much of the next chapter, the focus is on how to use the data collected to formulate an estimation strategy and describe the results.

Location	Type	Age (Months)	Borrowers (per Month)	Members	Savings	Loan Portfolio	PAR	Average Loan Size
Butembo	Microfinance Society or Bank	24			729712	2229712		
	Savings and Credit Cooperative	103	50	1844	188494.6	211682	9.3	800

	Savings and Credit Cooperative	396	80	6610	7097382	3344144	6.8	4000	
	Savings and Credit Cooperative	102	56	5664	278016	206520	13.9	4130	
	Savings and Credit Cooperative	51	15	1851	104688	91000	37	300	A
	Bwakisa Carte, Likelimba, or unregistered cooperative	144	4	130	3106	2995	22	272	
	Moneylender	84	5	35	0	10000	55	400	
	Bwakisa Carte, Likelimba, or unregistered cooperative	66	5	1080	45000	150000	38		
Beni	Microfinance Society or Bank	72	27	1161	407500	280000	8.8	400	
	Savings and Credit Cooperative	66	10	1000		275000	10	1500	
	Microfinance Society or Bank	18	10					5000	
	Microfinance Society or Bank	43	5	2250		50000	40		
	Microfinance Society or Bank	168	7	800				35000	
	Savings and Credit Cooperative	103	189	9705	1320754	915953	14.9	800	
	Savings and Credit Cooperative	120	24	6572	906471	356330	17.76	2106	
	Savings and Credit Cooperative	91.2	40	1867	139497	77890	18	1597	
	Savings and Credit Cooperative	30	100	2993	319583	83465	41	2615	B
	Bwakisa Carte, Likelimba, or unregistered cooperative	72	3	75	1800	225	31	17.5	
	Bwakisa Carte, Likelimba, or unregistered cooperative	118	1	73	195	45	44	15	
	Moneylender	12	48		0	2500	12	100	
	Moneylender	12	22	127	0	65000	2.69	800	

TABLE 14 INSTITUTIONAL CHARACTERISTICS: SUMMARY FIGURES AND AVERAGES

5.3 Baseline Summary Statistics

The survey was overall successful at producing balance in a broad range of statistics across the two sample groups. Since the most interest is in the impact of microfinance as socio-economic change, as proxied through increased revenue and household expenditures, the summary statistics (previously reported in Chapter 4) capture characteristics believed to be key indicators that the sample groups are comparably similar. The focus was on variables that do not change or are unlikely to change due to treatment, such as household size.

5.4 Estimation Methodology and Results

With a lack of baseline and end line data to compare at the individual level, a model was estimated using OLS regression. A ranked ordinal variable was used that reflected the length of time the respondent had been a member (based on their member id number). This, however, only showed the length of membership relative to someone else, instead of in incremental units. Therefore, the Rank of Account was divided into four quartiles, representing the newest clients, fairly new clients, fairly old clients, and old clients. For a given outcome y, the model being estimated is thus modified from Angelucci, Karlan and Zinman(2015):

$$(1)\quad \log Y = \alpha + \beta_1 MF + \beta_2 Savings + \beta_3 Revenue + \beta_4 Location + \beta_5 V + \epsilon$$

This becomes a log-linear model due to the log-normal distribution of outcomes. Y refers to the outcome, or index of outcomes, of individuals. Y is coded so that higher values are more desirable, in the manner of Angelucci et al (2015). In the Appendices, the specific wording of all questions used to measure each outcome is detailed.

MF represents length of participation in the cooperative, expressed as a cluster based on relative membership start dates. Savings is a raw value for the amount of savings the respondent reported prior to joining the cooperative, while Revenue represents the reported profits from the respondent's primary income-generating activity. Location is a binary variable that is 1 if the respondent lives in the conflict affected clusters, and 0 if they are based in Butembo. V is an additional treatment measure. It is an interval variable that reflects the actual number of conflict-related events the respondent reported experiencing in the last year (i.e. the loss of a family member due to violence), or the ranked level of victimization personally experienced at the individual level.

The regression was also run with the two locations as separate models, but the lack of explanatory power limits the utility of this model (results in Annex 1), which led in turn to the following combined model, with conflict as a covariate. The number of loans could also have been taken as a co-variate to measure impact, however since I am following the AIMs/SEEP methodology is being followed using incoming clients as a control group compared to older clients, the impact of lending behaviour is discussed in the next chapter.

5.5 Regression Framework

A range of proxy categories was used to capture indicators of household economic well-being, including monthly expenditures on food, fuel, and recreation, and annual purchases of furniture, household repairs, household appliances, vehicles and vacations. The proxies for indicators of economic empowerment are based on a baseline survey developed in a participatory and consultative manner with local staff of the cooperative, and combining several aspects of other microfinance baseline impact assessment surveys.

Next, all responses were formatted into comparable amounts and used the manually standardized values to create an index for nondurable goods, durable goods, and temptation goods. The natural log of the individual variables was used, in order to affect a normal distribution on some of the more skewed variables, which also translates the findings into more readable results. In this logic, non-durable goods include the natural log of manually standardized values for weekly food expenditures, combined with the natural log of standardized values of expenditures on fuel. Durable goods include the natural log of manually standardized values of household wares, the natural log of manually standardized furniture purchases, and the natural log of manually standardized vehicle purchases. Temptation goods, meanwhile, included the natural log of manually standardized recreational purchases, such as alcohol and food consumed outside the home, the natural log of manually standardized new clothing purchases, and the natural log of manually standardized non-essential travel.

I also decided to regress spending on gifts and charity, as well as contributions to extended family and social events as a measure of consumption, in the manner of Angelucci et al (2015:171) who look at spending on family events. In contexts affected by conflict, I reasoned, I would see significant, positive coefficients reflecting a propensity to contribute more to extended family needs, as well as the same for members who have participated longer in microfinance services. Finally, given its right-skewed distribution and a desire for comparability, I took its natural log as well.

These composite variables were regressed individually as divergent outcomes on the rank of an individual's account number, expressed as a quartile depending on the location of the respondent. As additional covariates for the right-hand side of my model, a measure is included of the amount of savings held prior to opening an account with the cooperative (in order to control for the financial standing of members at the start of their membership) in addition to the respondent's profit from their main business (as a way to control for variances in income).

In running my regressions, the sample size varied across different analyses sets due to some item nonresponse (i.e. the amount of savings held before joining the cooperative, since respondents generally did not care highly to share details about their savings). When constructing indexes of multiple variables, where one variable had a high rate of item nonresponse, missing values were replaced with the series mean, as this was less of an assumption than attributing zero to nonresponses and necessary to compute an index. However, a dummy variable was created to indicate where this value was a series mean, and included as a co-variate to control for the addition of the series mean. In addition, where responses were zero, in order to take the natural log of skewed variables it was necessary to substitute a 1, if only in order to have other than a null result (substituting 1 resulted in a natural log of .00).

5.6 Main Results

Impact on Consumption and Savings

Table 1 displays the results of these outcomes (variance in spending on nondurable, durable, and temptation goods, as well as unforeseen urgent events) regressed on respondent's length of participation, with a range of controls. Ex ante, the prior was that controlling for conflict would increase the relative significance of microfinance on consumption expenditures, and demonstrate the consumption-smoothing possibilities of microfinance. However, comparing the stepped log-linear models for significant change between them did not show that conflict (or conflict events) significantly changes the beta coefficients or the R^2 of the original model (results not shown).

	Consumption Effects			
	Nondurable Goods (1)	Durable Goods (2)	Temptation Goods (3)	Gifts and Events (3)
Treatment (financial service participation)	-.046	-29.415	.687	-2.024
	[.101]	[29.191]	[.258]**	[5.925]
Prior Savings	.017	26.020	.375	7.900
	[.046]	[13.565]*	[.118]***	[2.688]
Revenue	.026	29.784	-.165	-19.294
	[.114]	[32.782]	[.287]	[6.591]
Conflict location	-.133	-117.242	.974	25.564
	[.272]	[77.269]	[.697]	[15.838]*
Conflict events	.428	3.058	-.104	15.942
	[.195]**	[58.038]	[.515]	[11.363]
R^2	.049	.056	.256	.165
N	143	161	161	136
F test	1.163	1.282	7.456	4.206

Notes: Levels of statistical significance are indicated by asterisks: * 90 percent, ** 95 percent, *** 99 percent

TABLE 16 CONSUMPTION OUTCOMES AS A FUNCTION OF COOPERATIVE PARTICIPATION

In column 1, the effect of treatment on nondurable consumption is small, slightly negative, and not significant. This effect becomes even smaller when controlling for being located in a conflict affected zone. However, it rises to being positive and significant at the 95 percent confidence interval if the individual has directly experienced conflict events in the last year.

Conversely, in column 2, at indicators of spending on durable goods is seen. Here, a small, positive and significant at the 99 percent confidence interval relationship between prior savings and purchases of durable goods can be seen. However, no significant correlation is found between length of treatment and durable goods purchases, and the co-variates of revenue and direct experience of conflict show no evidence of impact either. However, a large negative impact of being in Beni is found on purchases of durable goods, although it cannot be said to be statistically significant.

Next, looking at temptation goods, in column 3, significant, positive coefficients are found for the length of membership as a predictor of purchases of temptation goods, in addition to a significant and positive coefficient for savings before joining as a predictor of purchases of temptation goods. Here, conflict and exposure to conflict events were not found to be significant covariates in the model.

Finally, in column 4, a highly significant, and large beta coefficient is found for being located in a conflict-affected context as a predictor of spending on unforeseen expenses. In other words, with a 1 unit increase in the conflict, an individual is likely to spend up to 25 times as much on unforeseen expenses and in lost opportunity costs. This is not surprising, although it is noted that directly experiencing conflict is associated with a lesser, but still large and positive coefficient.

Social Impacts

Next, some other variables were considered that could have had an impact on the correlation between variables. First, it could be argued that women engage with microfinance services differently than men, having either more or less purchasing power than men based on their relative status within the household. So, a dummy variable for gender was created, where women were 1 and men were 0, and added it to the estimation as a co-variate. However, this did not enter as a significant covariate in any of the consumption index models (results not shown).

Impacts on Labour Supply

Since a number of other studies check whether leisure time has increased as a result of participating in microfinance services, I then also regressed Working Hours (only collected in the Beni survey) on the length of membership, with the same covariates. Although I collected a measure of how many in the household were workings, I did not collect information on the gender breakdown or the age of others working in the household, so I cannot estimate a measure of changes in youth labour supply or female engagement in the workforce. Working hours, termed here as Labour Supply for comparison purposes with other papers, consisted of asking participants about their two primary sources of income, how much they devote to it on a daily basis, and which days of the week they may not work. When looking at the responses from respondents, none of the responses are significant at standard levels.

Labour Supply Effects

	Hours work/week: Adults (1)
Treatment	.013
	[.326]
Prior Savings	-.026
	[.130]
Revenue	-1.194
	[.753]
Conflict events	-.417
	[.445]
R^2	.063
N	63
F test	.768

Notes: Levels of statistical significance are indicated by asterisks: * 90 percent, ** 95 percent, *** 99 percent

TABLE 17 CONSUMPTION OUTCOMES AS A FUNCTION OF COOPERATIVE PARTICIPATION

Overall, this is consistent with other studies, (Tarozzi et al, 2015;75; Crepon et al, 2015:137, and Agelucci et al, 2015:169), which find insignificant reductions in the total amount of hours worked by household members for various age ranges vis-à-vis microfinance participation. Augsburg et al (2015:197) find a significant increase for hours worked by teenagers aged 16-19 in their study, but even with adding a covariate for the age of the respondent as a robustness check, this did not allow me to reject a null hypothesis.

Impact on Self Employment and Income

Next, the analysis of impact of membership in a cooperative on households' economic activities for divergent outcomes in revenue. Given the structural inequalities in Nande Society, my prior assumption was that certain respondents would have access to higher paying jobs due to family connections over the judicious use of financial services, and microfinance service participation would not show transformative results. Nonetheless, it is conceivable that the initial savings amount used to start the account, as well as the gender of the respondent, might be able to control for some of the structural inequalities present in the society. As well, since there is interest to see any variance between the conflict affected and non-conflict affected group in terms of revenue outcomes, and as both groups were majority Nande respondents, it is worth running a regression model. As such, primary business was regressed for profit, in addition to secondary business (if any) profit, on the Rank of Account, with added covariates for gender (in Beni), initial savings, conflict by location, and conflict by exposure. A final model was also run that included a dummy variable for whether the respondent effectively ran their own business or not, as a measure of self-employment activities, since Crepon et al (2015:137) find an increase in self-employment by microfinance users is substantial, although the net effect in income is offset by a decrease in wage earnings.

	Revenue Effects			
	LogPrimary Income (1)	Secondary Income (2)	LogCombined Income (3)	Self Employment (1)
Treatment	.106	-.168	-.360	-.022
	[.095]	[.216]	[.792]	[.035]
Prior Savings	.069	.176	.268	.029
	[.043]	[.089]*	[.130]*	[.016]*
Conflict location	.206	.123	-.360	.002
	[.257]	[.507]	[.792]	[.087]
Conflict events	.172	.482	.807	-.045
	[.181]	.286*	[.416]*	[.069]
R^2	.060	.138	.18	.024
N	159	63	63	110
F test	1.912	2.330	2.526	.957

Notes: Levels of statistical significance are indicated by asterisks: * 90 percent, ** 95 percent, *** 99 percent

TABLE 18 REVENUE OUTCOMES AS A FUNCTION OF COOPERATIVE PARTICIPATION

In columns 2 and 3, having directly experienced a conflict event was positively and significantly correlated with an increase in income from both primary and secondary sources, which may say more about the viability of the respondent as a target for bandits (reverse causality) than allowing us to draw meaningful conclusions about conflict leading to higher income. In an index of combined income, both experiencing conflict personally as well as being located in the conflict area were significantly and positively associated with higher incomes. However, the length of membership in the cooperation, in addition to prior savings, did not show a statistically significant correlation with earnings. And finally, none of the covariates was seen to bear on the dummy for being a business owner or self-employed. Alternative explanations for the lack of statistical power in the findings of length of membership as a predictor in income could be attributed to the fact the lending and borrowing was not captured in the model.

However, even adding the number of loans taken in the last year, the null results on the income categories for length of membership and savings are noisy, and the confidence interval of our few significant findings are made insignificant.

Revenue Effects with Borrowing	
	Log Combined Income (1)
Treatment	-.160
	[.364]
Prior Savings	.286
	[.125]**
Number of loans	.011
	.469
Conflict location	.015
	[.807]
Conflict events	.593
	[.545]
R^2	.159
N	57
F test	1.518

Notes: Levels of statistical significance are indicated by asterisks: * 90 percent, ** 95 percent, *** 99 percent

TABLE 19 REVENUE OUTCOMES AS A FUNCTION OF COOPERATIVE PARTICIPATION

5.7 Discussion

The results suggest modest effects on borrowers, sometimes made more significant with being located in a conflict affected zone and/or personally affected by conflict, with some tentative implications for further investigating.

First of all, conflict exposure is both significantly correlated with an increase in spending on nondurable goods, and a decrease-although not statistically significant- on spending in durable goods. This is, while intuitively agreeable, probably the most interesting result from the models. If it implies that households are unable or unwilling to make lumpy investments in more fluid political situations, then it may bear significant impact for the kinds of commercial investments made as well during conflict. For instance, if the behaviour is extended to the commercial activities of an individual, it may contribute to a preference to spend loan funds on inventory, as opposed to infrastructural investments for commercial purposes.

Not being willing or able to invest in fixed assets during conflict has been studied elsewhere. At a personal, household level, however, these fluctuations reflected in consumption variance are likely to result in what Mullainathan and Shafir (2013) call "scarcity traps" in behavioural economics. As repeated purchases of fuel (one of the non-durable goods in the index), in preference to investing in a solar powered lantern (one of the durable goods included in the index), for instance, will add up, a respondent is eventually forced to spend more than what they would have if they had been able to purchase a lantern in the first place. At a commercial level, this will translate to less fixed investments, likely exacerbated by discounting the future during conflict. And at a national level, I can conjecture, the aggregate effects of these substitutions may have long-lasting consequences.

Secondly, conflict, specifically being located in a conflict-affected context, was also found to be significant in explaining variance in gifts, contributions to extended family, and expenditures on family events. With a large, positive coefficient, I can infer that microfinance participants in conflict zones spend more of their disposable funds on their social networks than in stable contexts, another intuitively agreeable finding that, through its confirmation, lends support to the hypothesis that reliance on informal sources of finance increases during conflict.

Third, variance in consumption of temptation goods, worded in our survey as spending on recreational travel among other things, actually significantly increased vis-à-vis longer participation in microfinance services, whereas the opposite has been observed in the literature (i.e. See Augsburg et al, 2015:203). I take this as an implication that the choice of treatment (participation in microfinance services, not entering into a loan contract as in other studies) and the length of the time captured (2 years) smoothed out any short term belt-tightening which has been observed in other studies. For instance, Angelucci et all (2015:171) only find a significant reduction in temptation goods consumption for the past 1 week.

And finally, the fourth inference I can draw from the data is in relation to the positive and significant correlation between revenue and personal experiences of conflict, a relationship assumed as being affected by reverse causality, and indeed goes away when controlling for the number of loans taken in the previous year. Yet the actual length of participation in the microfinance programme is not shown to be significant in explaining divergent revenue outcomes, or divergent outcomes in terms of being self-employed. Thus, I cannot reject a null hypothesis that microfinance service participation increases revenue, a finding that is echoed elsewhere in the literature.

There are additional caveats about the sample, including concerns about internal validity. First, there is not a control for spillover effects beyond the unit of clustering for conflict by location, although by their very proximity geographically one can infer that there may be indirect effects of the conflict experienced by Butembo residents as well. To account for this, of course, the covariate of individual conflict experience is included, which captures and reported any individual experiences with conflict in both Butembo and Beni, yet it still does not count for unobserved effects from conflict in the surrounding area. For example, businesspersons who may have had an import business affected by being unable to transport goods by road through Beni would not have been asked specifically about this.

Second, replacing the missing values of answers respondents chose not to engage with a series mean, is a risky assumption. The estimate assumes that recalcitrance is based on personal choices to reveal intimate information, and not due to embarrassment or the inability to provide a quantitative sum due to the insignificantly low value of the specific responses (i.e. revenue from an agricultural activity might only be a few sacks of beans and pumpkins, and although not worth 0, would also not be worth an average of other, more commercial activities). As such, results should be seen as suggestive and interpreted in a suggestive manner. At the same time, a dummy variable was introduced for all indexes where series means were used to control for whether the value had been replaced, and these were not shown to be significant in explaining variance in outcomes.

However, even with the mentioned shortcomings and their workarounds, the data has nonetheless modelled findings largely consistent with the literature on the subject- positive, small, and insignificant correlations in most cases between participation in divergent socio-economic outcomes. This chapter has contributed to the growing number of studies on microfinance impact evaluations, and taken special care to incorporate access to savings accounts as a microfinance service capable of evaluating. Due to security, ethical, and methodological considerations, an RCT design was not employed, however comparable cases were sought through dividing the samples into quartiles based on length of membership.

5.8 Conclusions

This chapter has described an experiment designed to evaluate the impact of participating in microfinance services, including savings accounts only, to comparable sample groups taken across a comparatively safe vs. a comparatively conflict affected location, with an added control for spill over effects at the individual level. The results indicate that conflict does indeed bear on the significance of microfinance services in explaining variances in socio-economic outcomes, in ways that the length of participation in the same services does not (a substitution of spending on nondurable goods, away from spending on durable goods, for instance; an increase in informal contributions to social and familial networks). In the next chapter, findings on informal borrowing support the hypothesis that conflict transforms the engagement of civilians in financial services, and attempts to answer how and why. More generally, the results from this chapter have cautioned against an assumption of microfinance as significantly transformative in either context.

Chapter 6

Violence and Myopic Decisions - Participation in Formal and Informal Credit during Contexts of Conflict

6.1 Introduction

I have so far looked at the effect of conflict on institutions, through an efficiency lens and an impact lens. The thesis has demonstrated that while conflict tends not to have a significant overall effect on efficiency, and microfinance has not had a significant impact on users in either sample, I can suggest some further findings. Specifically, where conflict is present, formal institutions experience a rise in Portfolio at Risk, and their total loan portfolio becomes smaller. Secondly, microfinance users in contexts where conflict is present experience a shift from consumption in durables to consumption in nondurables, and increased spending on gifts and social events.

This insight in particular is contrary to exactly what microfinance has been found to help with in other contexts. For example, Banerjee et al (2015), note that "In Mongolia, microcredit increases the stock of household durables…One robust finding on consumption is a decrease in discretionary spending (temptation goods, recreation/entertainment/celebrations). Five of the studies estimate treatment effects on ten such measures (13)". Thus, the introduction of conflict into this model has the effect of rejecting even some of most modest claims that microfinance studies have supported. In turn, the findings are consistent with my main argument, which is that conflict encourages hyperbolic time discounting behaviour (consuming nondurables, spending on social events) and unsustainable lending practices (increased portfolio at risk). At the same time, the research has not found evidence to support a great drop in demand for financial services following conflict, also contrary to the majority of the literature. So, then, how exactly do changing perceptions of the future and property rights alter civilian's engagement with financial services, if this is the mechanism that is supposed to explain and link together these findings? Why would conflict serve to explain differences between the samples collected and microfinance programs and their impact as normal?

The task at hand, as becomes increasingly clear, is how to econometrically differentiate between the mechanisms at hand and their effects. To this end, this chapter draws on the natural experiment conducted and the 208 interviews conducted in the North Eastern Democratic Republic of the Congo to examine the relationship between individuals' participation in, reliance on, and provision of financial services during periods of intense armed conflict. Since the natural experiment exploits exogenous variation in the targeting by armed combatants of semi-urban areas around one location of surveying, compared to another, it lends itself well to the identification of causal effects of these activities on financial outcomes.

The chapter's analysis suggests that both indirect and direct exposure to armed conflict lead to greater reliance on the informal financial sector- a nearly triple likelihood of borrowing from the informal sector, and a 29% increase in likelihood to lend to others. It is argued that this is due to hyperbolic discounting of the future- and that informal arrangements are particularly attractive for these settings, not for supply-based reasons but more likely changing preferences, or demand, for certain types of financial services.

Microfinance and Informal Finance

There are some limited indications from the literature that support the argument that conflict will encourage individuals to enter into quick return activities. Geetha Nagarajan (2005:1), for instance, notes that "In conflict settings, short-term perspectives often drive youth to engage in activities with quick returns and high risks". This viewpoint seems to validate turning to more informal activities, characterized by high risks. Yet the information required to understand the informal market in a country affected by civil war is difficult to acquire, and therefore lacking. Banerjee et al (2015) acknowledge the dearth of information on microcredit substitution between informal and formal sources: i (p.17): "Informal borrowing falls in the one site where it was prevalent at baseline (India). This…leaves unanswered the related question of whether increased formal access disrupts informal risk sharing and hence the supply of informal credit". Without understanding these relationships, however, the effect of microfinance and take-up rates will continue to be misunderstood. These questions of how informal credit and formal credit coexist and are used interchangeably become especially important in, as the research will show, extremely difficult operating conditions. This relationship can be formulated as an assumption that also rephrases Hypothesis 2: That as conflict increases, reliance on informal financial services also increases. An immediate concern, however, is the direction of the relationship - are individuals pulled into attractive informal financial contracts, or pushed away from formal financial ones?

6.2 Theory

Pull factors

First of all, it is worth returning to the concept of hyperbolic discounting, introduced in Chapter one. The concept that different versions of ourselves (at different points in time) will value current consumption differently than our future selves, is referred to as hyperbolic discounting. This is in contrast to time consistent discounting (where it is predicted that we will overvalue current consumption exactly the same amount than our future selves, proportionally). As Laibson (1997: 4) describes time consistent discounting "This discount structure sets up a conflict between today's preferences, and the preferences that will be held in the future." Time inconsistent discounting, on the other hand, pointed to the distinct and individualistic reasons that individuals may value different utility maximizing arrangements at different points in time. Rubinstein (2003:1208) remarks on the utility of hyperbolic discounting models: "Phenomena that "cannot be explained by standard discounting utility functions" appear as equilibrium outcomes once the decision maker is assumed to use hyperbolic discounting. Policy questions were freely discussed in these models even though welfare assessment is particularly tricky in the presence of time inconsistency." Typically, to test for hyperbolic discounting, questions are asked that reveal preferences in the context of intertemporal choices, where the objects of choice are of the form (x, t) where $x is received with a delay of t units of time (Rubinstein, 2003; 1210). By transitivity, one could also ask whether the delay in accessing formal credit affects the choice of loan amount and source during contexts of extreme uncertainty. In short, are borrowers willing to pay higher costs to receive credit quicker?

Secondly, another mechanism possibly affecting the decision of credit users, the slack of an informal mechanism may be attractive in its perceived leniency (compared to the formal sector) and speed. As Shirley Ardener points out, "the organizer (of a ROSCA) might lend money to a contributor unable to meet a due, or another member might help, or the defaulter might be permitted to pay late…or to borrow from a hardship or loan fund to which members have contributed (1995:4-5)". Flexibility in the informal sector has been pointed out by others (Collins et al, 2009) "Perhaps…most households…simply prefer to borrow from friends relatives or money-lenders due to the greater flexibility those sources provide, despite costs such as higher interest (from moneylenders)." A study by Tamsin Wilson for Concern Worldwide (2002) finds that informal microfinance providers are more likely to offer credit products better suited to their clients.

A third pull factor towards the informal sector, the various practices pursued by the informal sector reveal that collateral is not always required for more informal sources of credit. If they are required in principle, they may not always strictly be collected, thus invoking quick access to liquid assets. For instance, one of the likelimbas I interviewed did not collect any kind of collateral, or as they put it, "It's just a moral guarantee, based on reputation" (confidential, personal communication, September 5 2014). Other informal lenders, on the other hand, answered to one question "What do you take as collateral?" that they took the borrower's mortgage documents or property deed. However, upon further questioning related to repayment problems ("How often have you gone to the tribunal over a nonperforming loan?") they indicated that "It depends, because some people bring their bikes as a guarantee. Then, they'll evaluate according to the price of the [whichever] buyer [they can find, to purchase the collateral] (confidential, personal communication, September 14 2014)". In the same interview, when I pressed the issue again ("when do you cancel bad credit?") the respondent even admitted to certain instance without any collateral: "There are some close friends who came for a loan, and for those, I don't take a guarantee, and I can cancel the credit if they have difficulties" (Ibid). This essentially points us towards the conclusion that informal service providers are the least strict in terms of collateral requirements, a possible pull factor towards informal services despite high interest rates.

There are therefore a few possible mechanisms linking demand and informal finance, implying that reliance on informal finance during conflict may not be related solely to supply-side factors.

Push factors

As alternative mechanisms under a family of "push" factors, it is also worth considering whether the financial sector would push potential borrowers towards the informal sector through supply side dynamics. For starters, during wartime, inflation can also make credit products more expensive, in order to recover the value of money lent (Guiss, n.d.).

Additionally, as Blattman and Miguel (2010) point out, in contexts of armed conflict, standard economic assumptions- that property rights are well defined and protected, and that contracts between parties can be enforced- often do not hold. In these instances, lenders risk more than they stand to make, since judicial proceedings are so weakly enforced. Thus, poor contract enforcement may be a mechanism pushing people towards informal arrangements

Lack of faith in the formal sector without these assurances could also affect decisions. For instance, institutions will close temporarily to protect staff safety (Guiss, n.d.), or safeguard physical assets. In Beni, curfews, days set aside for the mourning of victims, and closures during heavy periods of fighting were reported by some respondents to have affected savings patterns.

And finally, although a variant of the lack of faith mechanism, rampant corruption in related sectors will also reduce trust in the financial sector. For example, in Beni, according to Chris Kasali (email, November 7 2016) "Five of the top police chiefs in charge of Beni and North Kivu were arrested by the central government on suspicion of stealing the salary of the new police force created to protect the rural populations in the affected areas". Such instances serve to undermine the faith in the local population that formal mechanisms can be trusted, and that salaried workers, who are often brought in from other regions, will perform duties in accordance with expectations. This mechanism can be termed Low levels of trust.

6.3 Empirical Strategy

Thus, there are many possible mechanisms underlying the relationship between conflict and microfinance. AsMacCartan Humphreys (2010:13) puts it, "Different mechanisms require different sorts of policy responses". In the following sections, the scope and nature of financial service usage is examined in order to differentiate between the rival causal mechanisms specified. The following analysis has been chosen to explore the question of substitution. Variations are exploited in (i) individual, and month (m) and Year (y) in the occurrence of borrowing instances ($Usage_{i,m,y}$) and armed conflict events (βConflicts) to draw causal inference on the role of conflict on the level of credit-related activity during a period of intense conflict. Essentially, the following equation is used as an estimate:

$$Usage_{imy} = \alpha_i + \beta Conflicts_{im,y} + \epsilon_{i,m,y}$$

Here, conflict is conceptualized as a dummy variable based on the city the respondent lives in, as well as whether the respondent directly experienced violence in the previous year (both results are reported). It is suggested that using variance in conflict as a predictor in credit usage allows us to sharpen the explanatory power of commitment devices in user preferences, and revisit earlier, empirical models. An initial model demonstrates that conflict does influence user preferences (in favour of the informal services). Then follows a discussion of why, finding that hyperbolic time inconsistencies may be more salient than reasons of supply or access.

6.4 Data and Measurement

To estimate the effect of armed combat on financial service usage, the formal and informal participation in financial activities is compared for the members of two similar savings and credit cooperatives, one in Beni, a conflict-affected town and another in a town considered politically stable, Butembo. Quantitative and qualitative data comes from a survey conducted in 2013-2015 by the author and two translators. A total of 208 households were sampled from two savings and credit cooperatives membership.

As discussed in more detail in the previous chapter, the survey sought to identity any and all visiting members over an extended period (over approximately two months in each location), and located and interviewed an estimated 90% of these.[46] Given possible selection biases, results are compared with reported breakdowns of the cooperative's real membership by ethnicity, age and location from the cooperative's office in order to approximate a balanced sample. This served to create a sample that was essentially ¾ male and ¼ female, almost exclusively Nande (94.8% of reported tribal identities), and primarily tradespersons- a breakdown that was, reportedly according to the cooperative's managers, representative of the membership of both cooperatives[47].

Measuring financial service participation

The survey included several measures for activities revolving around financial service usage. First, prior to questions related to financial strategies, the survey captured baseline indicators on

[46] Approximately one in ten approached members declined to participate.

[47] It can be noted that we are not seeking a random sample, but more a random treatment

the individual such as tribe, age, sector of work, a dummy related to whether the respondent was a business owner, and several indicators of business size such as number of employees and average monthly profit.

The survey also measured loan history questions related to the previous 12 months, and savings and savings strategy questions related to the last 12 months. This included self-reported measures of participation in informal savings schemes (other savings accounts), as well as the self-reported sources of all loans taken and applied for. The survey constructed a household consumption index based on a series of consumption-related questions. In addition to standard baseline household asset questions, questions were specifically asked that would capture predicted changes to the supra-household networks brought about by conflict, such as adopted children, semi-adopted domestic workers, and questions regarding leisure spending such as vacations and vehicle purchases.

Lastly, the survey measured a series of self-related pro-social behavioural questions such as family contributions, loans to others, and response strategies to emergencies. Finally, the survey asked directly whether the respondent had experienced any direct or indirect crime or violence in the previous year, whether the respondent had been prevented from working at least a week for any reason the previous year, and to describe such events in more detail.

Measuring exposure to armed combat

The survey was designed to capture two basic indicators of exposure to armed conflict- at the group level, the city of residence of the respondent was a useful dummy to determine general exposure to violence. I have discussed the selection of the cities in Chapter four, which follows the logic of a natural experiment by which the geographical attributes of Butembo creates an artificial separation from a sample group considered randomly exposed to violent conflict. In addition, at the individual level, certain questions related to exposure to violence were used to construct a second dummy for whether the respondent directly experienced violence, which was used as a robustness check for endogeneity concerns about the location.

To gage Beni residents' exposure to conflict, the survey asked about household emergencies, direct and indirect victimization through criminal attacks or violence, and direct or indirect consequences for the respondent based on the situation of insecurity. Self-reported incidents indicated strongly that official reports by ACLED represent a fraction of actual conflict events, a bottleneck based on limited information verification[48].

War in Beni Territory

The Allied Democratic Forces (ADF) have been located in the Beni territory since 1995, from which time they have unsuccessfully promoted the creation of an Islamist State in Central East Africa (Raeymakers, 2014).[49] Numbering from 1,500-2000, their continued presence in the Watalingi area, which encapsulates the city of Beni, has caused the displacement of thousands of rural inhabitants to the perceived safety of the city. In addition to this, daily patterns of

[48] It was also suggested by key interview informants that figures were consistently underreported on purpose in order to maintain confidence in ongoing military-political operations

[49] Their original demands included more autonomy for the Bakonzo/Banande tribe and the creation of an Islamic state in Uganda, and their activities have become increasingly brutal, giving them the reputation of a terrorist organisation and raising suspicions of linkages with Al-Shabaab in Somalia. Their tactics have reportedly become much more organized since the M23 defeat in November 2013, representing the biggest threat in Eastern Congo today after the FDLR to the armed forces of Congo (Ibid).

transport and travel have been interrupted, owing to a series of ADF-perpetrated massacres beginning in September of 2014 and reaching a peak in October and November of 2014.

The average citizen in Beni, owing to the pattern often employed by the ADF of attacking stray travelers, farmers, and village centres after sundown, now travels exclusively on main roads before sundown. In fact, in November and December the mayor of Beni declared a curfew enforcing the de-facto practice (which was subsequently used by activists to deface public monuments and enjoy total obscurity). Other conflict experiences recorded include the targeting of respondents by armed security forces for petty thefts, the frequent robbery and looting of tradespersons on major and side roads, and the kidnapping, murder, and looting of employees and immediate family members experienced by two out of five respondents in Beni. Indeed, comparing Butembo and Beni residents show that 40% of Beni residents were directly affected in the previous year by the conflict, compared with only 3%, approximately, of Butembo respondents, a more than 10-fold difference. However, to account for possible spill over effects in Butembo, a second measure of conflict exposure was included to account for the error term- the actual individualized number of direct acts of violence or crime experienced, including the loss of immediate relatives to murder or kidnapping in the last year.

6.5 Results

Assuming the exogenous targeting of Beni residents compared to Butembo residents as justified in Chapter Five, the impact of conflict on financial service utilization can be calculated using a binary logistic regression model. The results are displayed in Table 2. In column 1, the odds ratio and standard error are reported for a series of dependent variables, with Beni (coded as 1) and Butembo (coded as 0) compared. In column 2, the odds ratio and standard errors are reported for the same dependent variables, but the independent variable compares victims of direct effects of violence (coded as 1) with those reportedly unaffected by the violence (coded as 0).

To begin with, conflict cannot be found to have a significant impact on the likelihood of borrowing- although associated with a 17% lower propensity to borrow if living in a conflict-affected context, and a 23% higher propensity to borrow if the respondent themselves has been directly affected or victimized in the last year, the estimate is not statistically significant, likely due to the small sample size. However, the implication- that regular business persons will be less likely to strategically borrow in times of increased risk, whereas those directly and negatively affected may be forced to - is intuitively agreeable, and indicates the promising direction of the model.

The causal impact of conflict on having savings is also not found to be statistically significant, although again those directly affected by violent events are slightly less likely to report having savings than those not directly targeted. Repeatedly contributing to family events, emergencies and relative's needs also find little statistical significance, as does lending to others, although in both aspects, those residing in Beni indicate higher likelihoods of contributing and lending to others and those directly affected or victimized report even higher likelihood of engaging in such behaviours.

Determinants of Savings and Borrowing		
	(1)	**(2)**
Dependent Variable	Beni versus Butembo	Reportedly victimized vs non-victimized
Reported borrowing in the previous 12 months	0.833	1.233
	[.361]	[.492]

N	140	120
Reported borrowing from friend or informal source in the previous 12 months	2.905	3.607
	[.504]**	[.605]**
N	88	74
Reported having savings	1.584	.768
	[.407]	[.500]
	[.642]	[8975.383]
N	130	115
Reported lending money to others in previous 12 months	1.293	2.105
	[.377]	[.548]

Notes: Odds ratio for the predictors are reported. Standard errors in brackets. Controls were
included for respondent's monthly income
* Significant at 10%; ** Significant at 5%: ***Significant at 1%

TABLE 20 DETERMINANTS OF SAVINGS AND BORROWING

Strikingly, conflict leads to a 190% increase in borrowing from an informal source of credit in Beni, however, a finding which is significant at the 3% level. This rises to a 260% increase in propensity to borrow from an informal source of credit if the respondent has directly experienced a negative or victimizing consequence of the conflict, also significant at the 3% level.

6.6 Qualitative Evidence

The data here suggests that a clear preference for informal services may be contributing to the elevation of their importance post-conflict- and that those directly affected or victimized by conflict participate with an even greater magnitude in informal services than those only affected by their location of habitation. Surprisingly, the research has not established a significant correlation between exposure to conflict and changes in overall savings and likelihood to utilize credit. I have, admittedly, a small sample size in a limited number of locations. However, since the survey is unique in taking special measures to capture involvement in informal and traditional structures, and it is shown that dependence shifts to this sector in times of conflict, this shift may be comparable to the reported "dampening" of demand often reported by the formal sector related to conflict. Indeed, this pattern holds if I further examine qualitative interviews with users and providers, and add confidence to our supposition that conflict increases supra-household reliance. In fact, it is necessary to turn to our qualitative evidence, to distinguish between the rival families of mechanisms identified at the beginning of this chapter. In the following sections, qualitative evidence highlights some of the mechanisms identified, and allow us to substantiate the theory proposed in the beginning of the thesis.

Wealthy Beni Residents

For many respondents, it was found that the general climate of corruption created cash-flow shocks from an informal source, requiring a solution from an informal source. One respondent, a 27-year-old university graduate named Patrick (confidential, personal communication, March 18 2015), had not borrowed any money in the last year, yet his lending to others demonstrated some key patterns. During the period of intense violence from October to December 2014, Patrick's profits went from being around \$100 a day to around \$40, which only let him save about \$10 a day. Additionally, during a strike in the city, he was prevented from working a little more than a week in 2014. Finally, when he travelled to Kisangani, bandits attacked his bus in Epolu park, robbing everyone on the bus, including him personally of 80 USD. Yet, with a higher than average income from his business activities, Patrick was not obliged to borrow from any source. Two of his friends, however, borrowed from him in the last year, including one who borrowed 320 USD for a business idea and has paid it back. The second friend went to visit a friend in prison and the guard accused him of trying to free the prisoner they were visiting, and took them into prison. Patrick bailed out his friend for 400 USD, the amount requested by the soldier. Finally, Patrick has supported his extended family 4 times in the last year, contribution on average $40 each to funeral costs of relatives who have been killed in attacks in the area.

In Patrick's story, one can see how the by-products of conflict, such as the creation of a militarized zone where both regular civilians (bandits) and soldiers can intimidate local populations through sheer bravado, create a context where civilians seek to ensure physical safety through any means necessary, in this case through illicit, untraceable and involuntary payments.

Another typical respondent, Jackson, (confidential, personal communication, March 27 2015) is both a primary school teacher and a trader, with a monthly income of about $250 from both lines of work. In the same month of the survey, Jackson had come to borrow 300 dollars from the formal cooperative he was a member of, even though he was also a member of a likelimba. When he joined the cooperative, he originally had $650 in savings, and today has about $1000, a fair increase for the year or so of his membership. But he said he didn't save during the period of massacres in Beni. He also suffered a hit to his savings when his wife gave birth, and was forced to stop his trading work for about a week due to taxes. But perhaps the biggest hit to his savings was due to the kidnapping of his brother. Without the identity of his kidnapper known, the family (it is assumed Jackson's extended family, not necessarily his nuclear one) paid a ransom sum of 7,000 USD. Jackson has continued to extend a helping hand even given his own troubles, however; he loaned 340 to a friend shortly before the massacres began happening (in June 2014), and lent 30 USD again in February to another friend.

In Patrick's case, his higher than average income meant that his savings balance remained positive, but it can easily be seen how, without his initial savings, the costs incurred by avoiding bodily harm would have driven him to borrow (into the negative), and in Jackson's case, this had indeed happened (Although his savings were still negative, he felt the need to borrow). However, these were fairly successful businessmen, who preferred the reliability and capacity of their savings and credit cooperative to informal financial mechanisms. (For instance, Patrick had another savings account, but this was with a formal institution, a competitor savings and credit cooperative). Yet both of these wealthy respondents had become lenders, informally, due to the mechanisms highlighted earlier, quick access to liquid assets.

Less Wealthy Beni Residents

This research did not target the ultra-poor, since participation in a savings and credit cooperative indicates meeting the basic threshold of affording an account opening fee. However, the research can categorize some respondents as lesser in income than others, and since Patrick and Jackson may be atypically successful, it is worth examining a few respondents who reported lower incomes.

Muisa, (confidential, personal communication, April 9 2015) a 28-year-old high school graduate, for instance, may be more typical of rural Congolese. A timber salesman with a side business in agriculture, he only saves in one financial cooperative, and estimates his monthly income to be 50 USD. During October to December 2014, he failed to save money. He also reports not working since the poor security in the forest made it impossible to resell wood, losing him an estimated 200 USD in profits. One day, he shared with us, coming from the forest near Eiringeti [where there is an ADF camp reportedly in the forest], he met unidentified bandits who took his cell phone. All of these things he said, caused him to borrow 100 USD from a family member, who charged him 10% interest on the informal loan. He invested the loan into his business, and was able to pay it back without delay. He says he has also been approached by multiple people for loans, and says that "I lent 2 people 100 USD each. They told me they wanted to do the wood selling business but they still haven't paid me back. Their plans didn't work because of the insecurity in the forest".

Another respondent, David, is a 26 year old shoe seller, who also cultivates cacao. He says that, (confidential, personal communication, April 19 2015) in the period of the massacres, the military prevented him from going to his field, losing him some income from his cacao cultivation. This may have been in his best interests, however, since on another occasion when he was at his field, the ADF started attacking his workers and killed several people. He was unharmed, but his bike was stolen. David applied to a formal cooperative for a loan but he says "they had a meeting about me, but then I kept returning and returning and they didn't make a decision and I got tired". In the meantime, David applied for and was successfully given a loan of 150 from a likileimba, with a 10% interest rate, which he says he repaid on time.

Returning to the third hypothesis introduced at the onset of the thesis:

Citizens are well-aware of the levels of risk tolerated by formal and informal institutions, and intuitively understand their comparative efficiency. Therefore, citizens act accordingly in order to maximize individual utility from financial service usage. In periods of violent conflict, citizens will sacrifice efficiency in financial services in favour of services which are more risk tolerant, even if it costs a premium.

The data appears to suggest that the hypothesis is supported. Even with high rates of interest such as 10% digressive, as found in this anecdotal evidence, increased borrowing from the informal sector reflects a preference for accessible, quick, and less formally documented financial transactions- inferences that are anecdotally supported by the research, and point to the quick access to liquid assets mechanism, in addition to hyperbolic discounting. There is some limited evidence, i.e. in David's case, of a push from the formal sector towards the informal sector as well, a la the low levels of trust mechanism.

In summation, the data suggests that being located in a conflict-affected context, and even more so when having been directly affected by conflict, individuals find informal sources of credit more attractive than formal sources of credit. Yet, with the high costs of these loans (see chapter three for the comparison of their relative interest rates), people will pay a cost for the easy access to this credit, although it appears this does not figure large enough to be a deterrence.

This phenomenon is not unique to the conflict affected. In fact, in Sendhil Mullainathan and Eldar Shafir's book, Scarcity: Why Having too little Means so Much (2013), they show how situations of scarcity, including in terms of personal finances (and even scarcity problem that affect the wealthy, such as a scarcity of time) cause individuals to borrow in a way that will ultimately aggravate their situation of scarcity, and demonstrate counter-intuitive preference for the highly accessible, and excessively costly payday lenders used by some of the poorest Americans to fight immediate fires, at the expense of their future financial health.

According to these behavioural economists, a scarcity trap can begin with this kind of firefighting, in combination with what the authors refer to as tunnelling, which is the result of scarcity forcing the individual to focus on meeting a specific need. Focusing on the need at hand, or tunnelling, pushes the individual to juggle commitments through a series of trade-offs, which in turn taxes their ability to pursue the most efficient course of action possible for them.

The authors only discuss shocks in terms relative to their studies conducted, which includes street vendors in India, and students at a community college in New Mexico; yet they find, if anything, increased tendencies to borrow as a result of shocks: "Instability can have such an impact…When you lack savings or a second car, and have no dinners to cancel, this becomes a serious challenge. Where will you get the money? At that moment, you tunnel. You borrow. You start a path back into a scarcity trap."

I can map these findings directly onto our samples and categorize conflict as a kind of shock that promote behaviour described by Mullainathan and Shafir. But I can also go further. Suppose I assume that conflict is creating the tendency to rely on the more informal and accessible, yet costly, mechanisms within the financial sector. Mullainathan and Shafir have explored why - people act irrationally when psychologically affected by scarcity, preferring quick fixes despite the deferred costs to their future selves - but they have not answered the next question: why does this matter? In other words, what consequences does this have, past the level of the individual? In fact, Mullainathan and Shafir seem to propose that poverty traps are a kind of scarcity trap. They go further, and aggregate from the individual level to the institutional level to illustrate how scarcity traps cause institutional inefficiencies.

But if we follow the same logic, and aggregate scarcity traps at the institutional level to the national level, perhaps we can say something about post-war reconstruction efforts. In fact, I would propose that scarcity traps at an institutional level may result in sparse networks at a national level, in what I will call a "sparse networks trap".

6.7 Network Fragmentation, through Several Variant Channels

For those respondents who have lost a family member, been assaulted, or had a family member violently assaulted in the previous year due to the ongoing political conflict, the loss of physical security combined with an impression of institutional neglect is a terrible burden, both immediate and lingering. But the fragmentation of the financial services sector into disparate enclaves, a more latent phenomenon captured by this research, may also be posing burdens not immediately realized. The mechanisms identified through the research- preference in liquid assets, hyperbolic discounting, and reduced trust in formal networks- allows me to point to a bigger picture for the theoretical implications of this research, and possible consequences of such ongoing trends.

First, in the hypothesized sparse networks trap, we will see a decline in the ability of the formal sector to mobilize savings, whether through increased reliance on informal vehicles or through the division of savings into disparate, unlinked repositories. Secondly, with the inability to mobilize savings, we will see decreased investments. And thirdly, with the lack of investments in infrastructure, there will be less jobs available (or less full time employment), leading to a variety of coping mechanisms. And finally, these coping strategies might include reliance on alternative economic activities, (i.e. war-invulnerable sectors like small-scale agriculture), reverting to sub-optimal employment such as in the extractive industries or through fighting, and, in extreme circumstances, distress migration. In establishing these aspects, it can be shown how a sparse networks trap might encourage war entrepreneurs and raise other conflict risks, in an endogenous model of a conflict-affected economy.

Diversifying the location of personal savings

The intimate nature of social networks is worth examining because people generally tend to infer quite positive things about the inherent advantages of social networks. It is generally thought, for instance, that (Germidis et al, 1991), transaction costs are low. Or that "the informal sector has a dense and effective information network at the grassroots level for close supervision and monitoring of borrower activity- particularly their cash flow- whether they are members of an informal association or not. This contributes to the efficient mobilization of savings and ensures high loan repayment rates (Ibid)". However, efficiency is questionable in a financial service sector with such limited evidence of mobilization. Participation in a diverse array of savings mechanisms, for example, is often driven by a belief that hedging bets will increase the chances of access to credit when needed. One respondent in the Beni sample, for instance, said "I have an account at this savings and credit cooperative, but I have two other savings accounts. I have one at the BCDC (the Central Bank of Congo), and also I am in a likelimba with just two other friends. At BCDC, it's like it's for big fish, but here (at the savings and credit cooperative), it's like it's for small fish, it's more flexible. (confidential, personal communication, April 4 2015)" In fact, participation in multiple savings deposit schemes were so common that, in the sample of 208 respondents surveyed, only 41% of respondents had one savings account, while other respondents had as many as 4, 5 and 6 savings accounts that they could recall when asked. Further investigating the types of accounts held confirm that North Kivu is not atypically saturated with formal banking services- of these reported other accounts, only 18, or 1% of the sample, were using a formal bank's services, which corresponds to the national statistics for Congo.

Examining if there was a significant difference between the dependence on secondary, informal savings accounts held in Beni and Butembo (counting registered savings and credit cooperatives as a formal account), I could not reject the null hypothesis that conflict had a significant bearing on the likelihood to save with an informal savings deposit scheme, compared with a 'formal' savings deposit scheme (results not reported). However, the significant variable here (at the 90% confidence interval) is that being located in a conflict zone may increase the likelihood of having additional, or multiple, savings accounts.

Effects of Conflict Exposure on Having Multiple Savings Accounts		
	Coefficient	T-ratio
Conflict Exposure by Location	.361 [.202]*	1.788
Conflict Exposure by Victimization	-.147 [.161]	-.908
Primary Income	.002 [.001]***	3.953
Adj R2	.13	
N	158	
F Test	6.657	

* Significant at 10%; ** Significant at 5%: ***Significant at 1%

TABLE 21 EFFECT OF CONFLICT EXPOSURE ON HAVING MULTIPLE SAVINGS ACCOUNTS

This echoes the portfolio substitution effect penned by Collier (1998). People may not trust that their society has real chances of peace, especially during the midst of conflict events, and so make private choices to liquidate and diversify their assets. With a history of failed cooperatives in the area, and a number of physical losses withstood by even the most formal institutions, citizens are wary of keeping all their eggs in one figurative basket. And this is significant for several reasons. For starters, the informal sector, and even the registered savings and credit cooperatives sector, does not invest, nor pool the savings it mobilizes. Thus, international companies wishing to invest in the region must depend on the loans in the formal sector, which may have limited loan funds available. A key respondent for this research explained, for instance:

> This one [International] bank in Congo really had a problem. They lent money to a company that was subcontracted by the Government in Kinsasha to provide infrastructural repairs. They had agreed on a payment for the work that would have easily covered the cost of the borrowed funds. But at the end of the day, the Government was unable to pay the subcontractor the full amount of the contract due to budgetary mismanagement, so the company was unable to repay the loan that it had taken to this international bank. So I mean this bank was really in trouble, because like 5 million dollars of its reserves was suddenly gone (confidential, personal communication, May 16 2016)

This may have explained the fact that, when the local branch of this same bank in Beni was visited in April of 2015, the accountant actually explained to me that the bank was currently not making new loans, only salary advances to Brasimba[50] factory workers. While it is hard to imagine that a 5-million-dollar project in a city 2,000 kilometres to the East of Beni would prevent an international bank from continuing its lending operations, this is actually a good representation, or illustration, of how little savings the international banks have to mobilize.

[50] A local beer

Lowered priorities for investment in local infrastructure

Another channel of network fragmentation, conflict has an impact on the propensity of microfinance to invest in durable goods. Esther Duflo and Abhijit Banerjee discuss in their book, Poor economics: a radical rethinking of the way to fight global poverty (2012), how, for example, in the lack of a strong financial infrastructure, citizens in developing countries tend to invest in property assets instead of cash savings. Property investments, even if just the addition of rooms onto existing houses, resist the vulnerabilities of wide swings in inflation rates as materials can be resold at market rates. And indeed, these proclivities are reflected in the research findings in the non-conflict affected sample.

However, when separating the answers related to the respondent's intention for saving money with their respective cooperatives, conflict was found to have an impact on citizen's intention to invest in these kinds of projects. Below, respondents in Beni were almost 3 times less likely to report intending to invest in construction.

What are you saving money for?	**Housing, Property Purchase, or Construction**
Beni	11%
Butembo	40%

TABLE 22 PURPOSE OF SAVINGS

While this may echo the disintegration of property rights observed in post-war contexts, it also provides another example of an investment in a durable good that seemingly slips from the priority list during contexts of uncertainty, for reasons above and beyond the ownership contract issues highlighted. For instance, investing in construction in Beni requires a deal of trust that the value of the property will not depreciate, the owner will have constant access to the location of the property, and the materials and workers invested in are trustworthy choices for the allocation of the allocated funds.

A tendency to diversify businesses

Thirdly, 65% of clients reported a secondary business, or a second source of income which they ran or worked for in addition to their primary profession. This ranged from being a small-scale cultivator to having a secondary retail business, or a part time job. Secondary businesses tended to reflect a time un-intensive occupation which could jointly be pursued by the respondent's relatives or otherwise taken over, as necessary. One could predict that, in Beni, the surrounding insecurity might threaten or limit the livelihoods of cultivators, and reduce the types of activities engaged in. However, in Beni the rate of having a secondary job or business spiked. 80% of respondents reported having a second income source, as opposed to 49% in Butembo.

Do you have a secondary source of income?	**Yes**
Beni	80%
Butembo	49%

TABLE 23 LIVELIHOOD DIVERSIFICATION

Here, the research sees evidence of Collier (1998)'s portfolio diversion effect[51]. I can also perhaps substantiate a portfolio substitution to war invulnerable sectors such as agriculture, since it seems the activity that accounts for the majority of the divergence observed in the sample.

What kind of secondary livelihood do you have?	**Agriculture**

[51] One might call it evidence of increased investment in business activities, but to be cautious, the majority responded "yes" to the question "were you doing the same kind of work before you joined (the cooperative)?"

Beni	36%
Butembo	11%

TABLE 24 LIVELIHOOD DIVERSIFICATION STRATEGY

Participating in informal social protection activities

Finally, it is worth examining the phenomenon noted earlier of increased support to extended social networks, another kind of informal financial flow. In another study in Liberia in 2010 (Smith, 2010), for example, a trend was documented among urban Liberians to send children to live with extended family members as a result of economic pressures, a kind of distress migration exacerbated by conflict. As such, several questions were incorporated related to changes in family structure in the individual level survey, including "Do you have any adopted children?" "Do you have any domestic workers?" "Do you pay your domestic worker, and how much?" In North Kivu, it is also traditional for distant family members, who may have more children than they can afford to raise, to send their children to the homes of more affluent family members, usually in more urban areas. These adopted children are treated in a range of manners depending on their original circumstances and proximity in familial relations[52]. Thus, it is a question if the conflict would have increased the rates of these kinds of familial-rearrangements, with so many attacks on rural populations in the area.

[52] For instance, a son of a brother, born in a neighbouring large city, may be treated just like a family's actual son, and have the fees of a good quality school paid for in addition to uniforms and spending money; whereas the son or daughter of a distant cousin, born in a rural village, may come to Beni or Butembo and end up similar to a *restavik* child in Haiti: expected to do the majority of the domestic work in the household, either sent to a lesser quality school or not sent to school at all, and given the castaway or leftover goods of the family to subsist on. However, even this is seen as immensely charitable, since even the most put-upon "domestique" has access to a better quality of life than in their home village, is allowed to attend church on Sundays, and is encouraged to eventually marry and have their own family (with the adoptive/employing family responsible for the wedding costs).

Here, the control variables “savings amount” and “primary income” are used to construct an OLS model of the likelihood to have 1 or more adopted children in the household.

Effects of Conflict Exposure on Having Adopted or Semi-Adopted Family Members		
	Coefficient	T-ratio
Conflict Exposure by Location	.280 [.445]	.628
Conflict Exposure by Victimization	.547 [.291]*	1.879
Primary Income	.002 [.001]	1.576
Amount of Savings	-2.832E-5 [.000]	-.507
Adj R2	.067	
N	155	
F Test	2.591	

* Significant at 10%; ** Significant at 5%: ***Significant at 1%

TABLE 25 CONFLICT AS A DETERMINANT OF FAMILY STRUCTURE

By choosing these control variables, we are left with the implication that personal exposure to conflict results in a higher likelihood to adopt more non-biological children. For each incidence of armed conflict or crime which was experienced by a respondent, their likelihood to absorb a new family member rises by 80%, a strong indication that my predictions are headed in the correct direction.

6.8 Conclusions

This chapter has examined the demand-side of microfinance in conflict, and determined that there is a significant shift in user preferences from the formal to the informal sector. Examining both populations located in a conflict-affected city and those directly affected by the conflict in the previous year, the likelihood to borrow from an informal sources rises from an increase in 190% likelihood to an increase in likelihood of 260%. Since the supply of microfinance has remained at a constant in the cases studied, then the shift in demand to the informal sector cannot be said to be driven by a change in supply. Rather, hyperbolic discounting and a preference for liquid assets have been identified as more significant factors influencing these decisions, in addition to reduced trust in the formal sector, which will require different policy responses. As greater reliance on the informal sector decreases reliance on the formal sector, we will see the long-term consequences of such imperfect decisions weakening the formal sector and contributing to sparse networks. This includes, in turn, disparate enclaves of production and capital, unable to adequately repair some of the damages caused by the conflict.

Chapter 7

Conclusions

7.1 Introduction

At the onset of the thesis, some of the shortcomings highlighted in the sectors identified include a limited understanding of the effect of conflict on the determinants of the impact of civil war (Costalli, Moretti, and Pischedda, 2014), such as social violence (Hoeffler and Fearon, 2014). From the more practical spectrum of the microfinance community, a dearth of knowledge about the informal sector during conflict (Nagarajan and McNulty, 2004) was also highlighted, and when and why substitution between financial service providers happens (Banerjee et al, 2015). As the research from this thesis shows, however, one key effect of conflict may be found in the informal sector, and on subsitutiton rates, and the understanding of the one partially anwers the question of the other. In other words, when substitution of formal financial services with informal ones spikes during conflict, as this research has documented happens, the dissavings effect caused by the flight of capital into the informal sector reinforces a key determinant of GDP. This is the total savings available to an economy (Solow, 1956), determining, in one way, the impact of the conflict as well as the future of the country's reconstruction efforts.

Thus, I have found that Collier's (1998) suggestion of portfolio substitution towards war invulnerable sectors has found support in my data, in terms of relying heavier on social networks thorugh informal financial service providers. In addition, the research has identified an underresearched, under-theorized, determinant of the impact of civil war- the scale to which capital flight towards the informal sector happens- and provided original documentation of the features and particularities of how, when, and why this can occur. In doing so, the demonstration of applying such a methodologically robust evaluation in such a volatile location is perhaps the aspect of this research that will have the most impact. For instance, remember that Matabisi claimed that informal finance in conflict was not possible to analyse, because "there are no objective means to reliably measure its relevance pre and post conflict as no reliable records exist" (Matabisi, 2011:42). Yet, by creating typologies that crossed institution type, and questions that used generally applicable terminology, the research was able to do so. It compared a number of informal financial services, even against formal ones, and documented the quantitative trends possible by a combination of estimation, observation, and consultation.

7.2 Theoretical Findings

This leads me to the possible theoretical contributions stemming from the research. The research uses the household economic portfolio model and Macartan Humphrey's methods of mechanism specification to theorize that such a spike can lead to a reinforcing trap. The predictions that savings will also become more difficult to mobilize, networks will become fragmented, and a resulting scarcity trap may encourage reliance on sub-optimal coping mechanisms during contexts of armed conflict has also found some support through the variables proxied to substantiate these linkages. In the remainder of this chapter, these key findings are highlighted for their ability to answer the original research questions posed at the outset of the thesis, and for their ability to indicate the direction of policies that could combat some of the effects observed.

The research question developed for the research can be re-examined in light of the empirical findings of the thesis:

How does violent conflict affect the efficiency and impact of informal and formal financial service providers, and/or change citizen engagement with financial services?

Reflecting on the research questions devised from existing accounts of conflict and development, the proposed answer from the research integrates the meso and the micro-level and predicts the likelihood of selective participation in contractual financial services:

Institutional actors, on the one hand, seek profit-maximizing arrangements, which in the case of larger (formal) institutions will translate to a preference for high-yield loans, and in the case of smaller (informal) institutions will translate to a preference for higher transaction volumes. Conflict will highlight the certainty that informal institutions will be likely to loan to individuals quicker and easier, and uncertainty will discourage the investment in high-yield loans from formal institutions, pulling individuals towards informal services.

The informal sector, as a price setter and potentially in a dominant positionof at least a sector of the credit market, will be presented the opportunity for price gouging, but will also be responsible for its lending operations in contrast to- and sometimes in direct opposition to- best banking practices. In time of conflict, then, the shift in household economic portfolios towards social network-based mechanisms can create a precarious bubble of unsustainable lending practices, at the expense of the formal financial sector, not to mention problematically disparate enclaves of production and capital. This in turn substantiates mixed results from post-war reconstruction efforts.

Kalyvas (2015:355) warns that reliance on suprahousehold networks may look solidaristic, but they are fundamentally dual in nature: conflictual and solidaristic. Returning to the Household Economic Portfolio Model introduced at the beginning of the thesis (from Cohen, Chen and Dunn, 1996), the research has shown that in non conflict-affected environments, households use inputs and expenditures to produce, consume, and invest. In turn, income and other additions to resouces reinforces the original capital, as well as feeding reciprocally into social networks.

However, there are a number of changes to household portfolios that happen during conflict, which the research allows us to finally assert with statistical confidence. First, instead of going to formal credit and debt sources, odds are that people will go first- or at higher rates- to their social networks. Secondly, a decrease in investing in durable goods is substituted with increased purchases of nondurable goods, so expenditures, at least in investments, declines. Thirdly, being situation in a conflict location and being affected by conflict increases the propensity to contribute charitably to one's extended social network, and being affected by a conflict personally increases the chances one will incorporate adopted or non-biological family members into their household, in another form of social insurance. Therefore, in conditions where conflict is present, the research has found, various forms of social insurance are actively paid to a wider social network, whose importance is aggrandized. As such, the transformation of the Household Economic Portfolio Model for a conflict-affected situation will do well to situation household flows in relation to a larger supra-household network- or increased flows in relation to the supra-household network. This variant reliance on social networks reflects a robust indication for portfolio substitution which is worth considering for its policy implications. If capital is being pooled within social networks, for instance, is there any way to regulate it in order to reduce the concurrent fragmentation of the broader economy and reduce subsequent conflict dynamics?

Each of the chapters, from chapters three to six, have contributed different parts of this answer to the research question. In the following section, the primary findings from each empirical chapter are teased forward to illustrate how the chapter has not only answered a specific research sub-question or two each, but built upon the previous chapter and literature review to advance a part of the composite picture drawn by the overall research.

7.3 Empirical Findings

In chapter three, an introduction of the typologies of financial services available in the context studied serves as an original contribution to the field. Very little is known about the informal financial arrangements introduced in the chapter, and what is known is primarily about operational practices and anecdotal. A comparison of the quantitative performance indicators between these typologies, however, reveals the wide ranging strengths of the more formal institutions, and allow us some confidence in our groupings. It also uses the research to substantiate the first hypothesis, that ultimately, formal institutions are more efficient.

In chapter four, in a sample of 21 financial service providers where I sough to isolate the effect of conflict on financial services, anecdotal evidence suggests repayment difficulties from clients, a decline in loan portfolio size, risks to physical infrastructure, and isolated instances of robbery. But by and large the performance figures collected over a six-month period for a conflict affected sample of institutions and a non-conflict sample of institutions showed few significant negative transformations due to conflict during the time period observed, except for a rise in Portfolio at Risk in the formal sector by about 10%, accompanied with a drop in total loan portfolio, at an average of 186,000 in loans. This allows for a tentative answer to research subquestion 1: How does the presence of conflict affect the efficiency of formal and informal financial service providers? Demand is not shown to significantly decrease, as loans on average requested per month were only .3 loans less overall, and active membership actually significantly increased during the time period.

In Chapter five, a series of models looked at how the impact of two comparable institutions might differ in contexts of conflict. I wanted to determine, is microfinance participation more or less significant in conflict zones in explaining variances in socio-economic differences? And how do the systemic issues recently raised in the microfinance community affect these findings? Does examination of a conflict zone shed any light on the recent findings in the microfinance community? The chapter allowed me to answer research subquestion number 2: How does the presence of conflict affect the impact of formal and informal financial service providers? It indicated, in turn, that microfinance participants in conflict zones may be less likely to invest in durable goods, as compared with microfinance participants in safer regions. However, other transformative effects based on length of participation in microfinance programs were not found.

The transformative shift, if any, can be isolated to the users of services themselves. In chapter six, in a cross-sectional impact assessment, various questions reveal an increasing trend to seek financial services from informal sources. This is not, as my institutional survey showed, due to changes in accessibility or the availability of credit from formal sources, but is more likely attributable to changes in expectations about the future, a greater emphasis on building trust through investing in forms of social protection, and a tendency to prefer liquid assets over illiquid ones. This, in turn, brings us to research subquestion 3: How does the presence of conflict affect citizen engagements with financial services? The chapter, in turn, finds that users of financial services in a conflict zone are 190% more likely to borrow from informal sources, and those personally affected by the conflict are 260% more likely to borrow from informal sources. Through an examination of qualitative evidence, reasons such as discounting the future, preferring quick access to liquid assets, and reduced trust in the formal sector emerge.

The onus of the thesis therefore becomes, then, to show how, why and where choosing informal financial services over formal ones becomes relevant. In other words, I can turn to question 4: What are the implications of solidarity-based forms of survival for post-conflict reconstruction? The thesis posits that borrowing from informal sources, saving in informal sources, and not investing in durable goods creates cyclical effects which prolong post-war reconstruction through increasingly sparse and disconnected networks. Thus, I can situate the study as one that illustrates a substitution of household economic portfolio activities into war invulnerable sectors, and suggest that through a reliance on the informal network, the formal, broader economy is weakened, in a conflict-reinforcing mechanism known as sparse networks. These linkages can be posed as testable assumptions, and are tested using the available survey data, an exercise also begun in Chapter 6. The preliminary findings situate that the assumptions are being fulfilled, and also point to the wider picture revealed.

7.4 Practical Implications

In such a context as the Congo, as Nicholas Kristoff (2016) says about South Sudan, "Big Government Looks Great When There is None". The implication from all of this, I believe, are that the next questions can be more practical in nature: i.e. How can the government, or international actors, introduce effective regulations that don't alienate the informal sector, but rather encourage it to consolidate reserves with the formal sector? If the diversification and substitution of savings accounts is really an impediment to long-term efficiency, then it is a straightforward argument to make that there should be efforts to incorporate, combine, or consolidate savings accounts. This leads to several recommendations which the central bank and related actors are currently, to the best of my knowledge, a long way from requesting.

1.) **Encourage the integration of mutualities and ROSCAs into formal networks through special allowances and reducing obstacles**

A new policy, best put forth by the Central Bank, could make an exemption in charging likelimba's or mutualities account opening or account maintenance fees. This could encourage them to open bank accounts for the safeguarding of their money, which would allow these savings to be mobilized. The Central Bank could also lower the capital requirements for financial institutions in order to encourage more unregistered operating cooperatives a realistic chance to register. Or, like in India's Self-Help group bank linkage programme started by NABARD in the 1980s, the BCC could offer matching loan funds to mutualities after six months' membership with a bank, for instance, to increase their potential depth of impact.

2.) **Provide Assistance in Quality Control for Smaller Cooperatives**

The Central Bank also already does some quality control, but it could do more. For instance, it could regularly review the loan portfolios of registered cooperatives to ensure that investors are footing the bill for loan losses, not savers. In addition, it could monitor cooperative administrative expenses as a ratio to cooperative revenue in order to protect savers from shouldering the burden of staff salaries, or other administrative expenses being "borrowed" from savings accounts.

Alternatively, one of the international agencies working on good governance in DRC could task itself with becoming more pre-occupied with this. The results of this study, for instance, could be used as a starting point to launch a larger study on credit-institution shortcomings and proposed solutions, that could be eligible for multi-donor funding opportunities such as through the UN's Stabilization unit in Goma (ISSSS). Although World Bank and IMF staff may be prohibited, security-wise, from travel in some of the most affected regions of the DRC, subcontracting these kinds of studies to independent researchers could be a starting point for a multi-year program informed by such an evaluation.

3.) Provide Assistance in Contract Compliance Measures

The Central Bank could (and this is perhaps more hypothetical) also encourage cooperation between mutuality's and local-level law enforcement representatives, such as police. Police could work around weak judicial systems and difficulty in enforcing more vague contracts during contexts of conflict, by visiting non-compliant borrowers, and encouraging loan repayment before non-repayment rates become unsustainable. The Central Bank could also designate certain courts for loan contract dispute resolution, and work with those courts towards an understanding that all cases related to loan disputes would also be reviewed by a second party (i.e. the Central Bank HQ in Kinshasa).

4.) Encourage Investment Through Low-Interest Business Loans

Finally, although this may raise questions of sustainability, it is precisely the role of a Central Bank to encourage investment, yet as has been shown, there is little being done to assure citizens that new business ventures in Beni will be worth the risk. In fact, long wait times, interest rates of up to 4% monthly (which would be 12% for a three-month loan), and the frequent use of the home as loan collateral may be contributing to some of the trends I have outlined, including a preference for "war-invulnerable" livelihoods. At the same time, other cooperatives are finding ways to promote investment that could be scaled up or copied by the Central Bank- one cooperative, for example, offers a 1% annual interest rate on school-expansion loans, in an effort to increase educational facilities (this loan fund, however, is backed by an American organization, and guaranteed in the case of losses). If the Central Bank could encourage low interest programs (i.e. 1-2% annual) for those applicants demonstrating, say, that jobs would be created as a direct result of the loan, then it may simultaneously encourage investment, while reducing the burden of those ambitious enough to put themselves forward.

5.) Promote the creation of a provider platform to provide mutual assistance within the cooperative sector

With rising credit requirements for licensing, apex funding between partnering groups of credit cooperatives could mimic the pooling of credit that happens between some banks that operatate like this. Short of creating these technical and complex risk-sharing mechanisms, networks of cooperative providers could provide the chance to encourage the exchange of experiences between financial service providers and jointly address issues such as hyperinflation, collateral fraud, and client credit history information. Such an example can be found, for instance, in Iraq already, with the USAID supported Tijara Provincial Economic Growth Program, which helped 12 Iraqi microfinance institutions hold a series of workshops, expand their product menu, reach more vulnerable populations, increase their available funds thorugh direct investments, and even helped change the Iraqi legal code in allowing the establishment of non-banking financial instututions in the private sector.

6.) Provision adequately for hyperinflation and area yield losses

At the provider level, institutions would do well to pay more attention to portfolio health, specifically in areas where hyperinflation, or lower than projected agricultural yields because of movement limitations, are expected to have a negative impact on repayment. One microfinance program visited in Butembo, for instance, hopes to avoid hyper-inflation side affects by liquidating all of its local currency through larger than standard loans, and requiring repayments in USD. Yet these requirements can be costly for users. In these instances, microfinance programs can partner with research institutes, such as the Centre for Microfinance, or the Abdul Latif Jameel Poverty Action Lab, to design conflict-specific solutions to such issues. These could include index-based crop-microinsurance products, or inflation-adjusted repayment calculations as part of loan loss provisioning.

7.) Increase trainings on numeracy and financial literacy

Finally, in the most rural and underdeveloped areas, a serious need for understanding cash flow concepts better could be bearing negatively on portfolio at risk, and even on understanding the deferred costs of resorting to informal financial service providers. Economic development NGOs and development actors should accompany programs aimed at providing access to finance with trainings for partners and beneficiaries. These trainings could demonstrate cash flow calculations, assist service users in creating stronger business proposals, and help users make better financial decisions through capacity building in calculating projected profits.

For smaller financial service providers, these trainings may even be necessary for staff. As mentioned in Chapter 3, the lack of cash-flow analysis of business proposals contributes to some of the shortcomings in the informal financial sector, and currently discourages the discussions needed to create the types of partnerships and consolidations put forth in the preceding recommendations. Only when financial service providers have a clear understanding of their assets, risks, capital, and portfolio at risk can they seriously engage in partnership talks as equals.

7.5 Methodological Implications

This research's contribution has a few features distinct apart from the findings that further the literature in the field, related to the actual data collection, which may be useful to share. First of all, the research by itself is an undertaking that illustrates that it is possible to conduct empirical research in conflict settings. Futhermore, it is an illustration that it is possible to conduct empirical research on the informal financial sector. Both of these areas are typically understudied for a number of reasons, including personal security and data unreliability, yet solutions can be found to many of these issues. Several lessons can be taken from these two points:

1.) Empirical research in conflict settings

As mentioned in the introduction, the security limitations imposed by most international NGOs operating in the area were not present in this research, which probably allowed for a closer examination of private financial data than if the research team had been accompanied by an armed escort, for example. However, researchers would do well to only follow these kinds of research techniques if they are hosted by an international organization that has security protocols, and in the absence of this, should be capable of speaking the local language, evacuating quickly if needed, and having contacts that could help in the instance of any security incidents, such as kidnapping and ransom insurance, medical evacuation insurance, or bribery and extortion insurance. These products can be purchased for individuals through groups such as AIG travelgaurd, Battleface of Lloyd’s, and Hiscock’s.

At the same time, researchers should analyze existing conflict data for trends and patterns that would help avoid direct involvement in conflict situations. For instance, if conflict tends to happen more frequently on a particular avenue, or at a particular time of day, or on a particular day of the week, there is an obvious incentive to avoid exposure to the identified trends. This applies to research subjects, as well. In the case of Beni, attacks usually happened between 8:00-10:00 pm. Thus, most surveying was done in the morning, visits to mutualities that happened outside of working hours were conducted as early as 6-7 am, and no meetings lasted past 5pm.

Finally, the remarks by Lijphart (1971) that in political science, there are moral caveats to conducting randomized controlled trials, appear to be even more salient in conflict-affected contexts. Take, for example, the traditional structure of a randomized controlled trial evaluation of a microfinance program, wherein those eligible for a microfinance program are first identified, and then the control and treatment groups are randomly assigned. The control group, in these instances, has been made aware of the program, selected, and then denied services, at least for ther period of the survey, which can be 14 months. In the context of the socio-economic behavioural changes identified in contexts of conflict, i.e. the need for quick access to liquid assets, this could mean the difference between resorting to the distress related coping mechanisms or not. Thus, creating randomized controlled trials with microfinance in conflict zones have heightened ethical implications for microfinance programs. To address this, researchers seeking to conduct empirical research in conflict settings may wish to seek alternatives to randomized controlled trials.

2.) Empirical research on the Informal Financial Sector

In addition to the methodological limitations posed by conflict, there is another set of challenges in measuring the informal financial sector. This research was made possible both by local connections but also a willingness to do a fair bit of calculations on behalf of respondents who would ordinarily not know the answer to quantitative questions. As such, it was found that recall periods for informal financial service providers can be shortened, portfolio at risk can be calculated by hand, and even number of borrowers per month can usually be taken entirely by recall by respondents. Perhaps the most painstaking part of this research, such documentation of those defined by their lack of documentation proved, as the research showed, a valuable component of piecing together a composite picture of the financial sector. In conclusion, the methodological finding from applying empirical research methods to the informal financial sector can be said to be two-fold: 1) it is best to have a consistent and clear understanding of the objectives of the research at the start, or such research risks becoming uncomparable across categories, and 2) that which demands the most explanation, reassurance, and relationship building, or that data hardest to come by, may be the very data that answers a puzzle in the literature.

7.6 Areas for Future Research

In addition to being informative for post-conflict practitioners, the implications of portfolio substitution to the informal financial sector has policy implications not necessarily limited to post-conflict practitioners and microfinance practitioners. At least in the short term, research based evaluations informed by this dissertation could identify areas where capacity building efforts by international NGOs could reach the most war-affected populations, and also appropriate activities to include rather than marginalize affected persons.

More economically minded research initiatives could follow the logical extension of this work and look at how the dissavings effect identified contributes to reduced capital and investment in periods following conflict. An analysis of how this research's findings does or does not bear on the Solow-growth model could provide an alternative or complementary narrative to the investor flight narrative told by conflict empiricists about investment as a function of savings.

In the longer term, a project to test the hypothesized sparse networks traps identified could also add depth and clarity on issues only briefly touched upon in this research. If the formal sector is being weakened by portfolio substitution to the informal sector, it would be fascinating to know if the informal sector is becoming more dense or efficient as a result of this trend. More details about the relationships between these choices and the resources made available to increasingly sparse networks promises to be a rich and engaging research subject for future researchers.

7.7 Conclusions

While reduced trust may engender informal mechanisms that are simpler, less complex, and more time intensive, they may have unintended consequences that engender closer knit-networks at a local level. Thus, along with reduced trust of non-kin members, heightened levels of trust may co-exist at the same time within communities, in ways that are both deeply validating and personal. The principal finding from this research is that choices made cannot be found to be consistent with general economic theory- and that, in order to understand the intersectionality of conflict with these choices, the deliberate untangling of personal accounts has to be done with a great deal of care, sensitivity, and affection for the research subjects. Otherwise, we will never capture the depth of the elusive secondary economy. I can only hope that this work encourages further investigations of this nature. As mentioned at the outset, the daily management of financial risks can be terrifying for those in extreme poverty, who can feel constantly one choice away from destitution. A shift in emphasis on financial regulation in the direction of user preferences- or even acknowledging these- could be a transformative one in the post- conflict development world, and a promising new area of research for the microfinance community.

Appendix 1

List of Interviews

Number of Interview	Interviewee's Location	Interviewee's Short Description
1	Beni	Truck driver
2	Beni	Accountant
3	Beni	Electrician
4	Beni	Trader
5	Beni	Fuel seller
6	Beni	Soap seller
7	Beni	Private school teacher
8	Beni	Trader
9	Beni	Service agent
10	Beni	Service agent
11	Beni	Service agent
12	Beni	Bean seller
13	Beni	Pharmacy worker
14	Beni	Gas station attendant
15	Beni	Trader
16	Beni	State teacher
17	Beni	Secretary
18	Beni	Electrician
19	Beni	Trader
20	Beni	Butcher
21	Beni	Trader
22	Beni	Trader
23	Beni	Trader
24	Beni	Windowpane cutter
25	Beni	Shoe seller
26	Beni	Service agent
27	Beni	Nurse
28	Beni	Food seller
29	Beni	Student
30	Beni	Trader

31	Beni	Farmer
32	Beni	No job description
33	Beni	Service agent
34	Beni	Cashier with a cyber café
35	Beni	Trader
36	Beni	Service agent
37	Beni	Trader
38	Beni	Service agent
39	Beni	No job description
40	Beni	Trader
41	Beni	Farmer
42	Beni	Trader
43	Beni	Service agent
44	Beni	Trader
45	Beni	Service agent
46	Beni	Trader
47	Beni	Service agent
48	Beni	Trader
49	Beni	Trader
50	Beni	Motorist
51	Beni	Trader
52	Beni	Service agent
53	Beni	Trader
54	Beni	Information Technologist
55	Beni	Service agent
56	Beni	Service agent
57	Beni	Trader
58	Beni	Fuel company representative
59	Beni	Humanitarian
60	Beni	Service agent
61	Beni	Service agent
62	Beni	Farmer
63	Beni	Trader
64	Beni	Trader
65	Beni	Trader
66	Beni	Trader
67	Beni	Trader
68	Beni	Service agent
69	Beni	Trader
70	Beni	Trader
71	Beni	Animal breeder
72	Beni	Logger
73	Beni	Shop owner

74	Beni	Service agent
75	Beni	Trader
76	Beni	Investor
77	Beni	Service agent
78	Beni	Security worker
79	Beni	Trader
80	Beni	Trader
81	Beni	Service agent
82	Beni	Trader
83	Beni	Tailor
84	Beni	Service agent
85	Beni	Service agent
86	Beni	Service agent
87	Beni	Service agent
88	Beni	Teacher
89	Beni	Pharmacy worker
90	Beni	Service agent
91	Beni	Service agent
92	Beni	Trader
93	Beni	Trader
94	Beni	Service agent
95	Beni	Trader
96	Beni	Service agent
97	Beni	Service agent
98	Beni	Trader
99	Beni	Service agent
100	Beni	Trader
101	Beni	Teacher
102	Beni	Teacher
103	Beni	Service agent
104	Beni	Trader
105	Beni	Service agent
107	Butembo	Social worker
108	Butembo	Reporter
109	Butembo	Teacher
110	Butembo	Teacher
111	Butembo	Teacher
112	Butembo	Teacher
113	Butembo	Team assistant
114	Butembo	Team assistant
115	Butembo	Salon cashier
116	Butembo	Accountant
117	Butembo	Shoe seller

118	Butembo	Businessman
119	Butembo	Teacher
120	Butembo	Professor
121	Butembo	Coordinator of an NGO
122	Butembo	Trader
123	Butembo	Food vendor
124	Butembo	Fruit vendor
125	Butembo	Businesswoman
126	Butembo	Trader
127	Butembo	Teacher
128	Butembo	Teacher
129	Butembo	Farmer
130	Butembo	Motorcycle garage owner
131	Butembo	Health products vendor
132	Butembo	Food vendor
133	Butembo	Cellphone credit vendor
134	Butembo	Trader
135	Butembo	Service agent
136	Butembo	Firewood seller
137	Butembo	Food vendor
138	Butembo	Teacher
139	Butembo	Manager
140	Butembo	Taxi driver
141	Butembo	Computer Scientist
142	Butembo	Farmer
143	Butembo	Nothing
144	Butembo	Seamstress
145	Butembo	Service agent
146	Butembo	School director
147	Butembo	Worker for an education association
148	Butembo	Car parts salesman
149	Butembo	Headmaster
150	Butembo	Teacher
151	Butembo	Car washer
152	Butembo	Lab assistant
153	Butembo	Businesswoman
154	Butembo	Businesswoman
155	Butembo	Hairdresser
156	Butembo	Trader
157	Butembo	Trader
158	Butembo	Producer of palm oil
159	Butembo	Electrician
160	Butembo	Cafeteria owner

161	Butembo	Tailor
162	Butembo	Cultivator
163	Butembo	Business
164	Butembo	Veterinarian
165	Butembo	Teacher
166	Butembo	Hardware seller
167	Butembo	Hardware seller
168	Butembo	Hardware seller
169	Butembo	Farmer
170	Butembo	Food vendor
171	Butembo	Trader
172	Butembo	Seamstress
173	Butembo	Hairdresser
174	Butembo	Teacher
175	Butembo	Trader
176	Butembo	Clothing seller
177	Butembo	Clothing seller
178	Butembo	Builder
179	Butembo	Trader
180	Butembo	Trader
181	Butembo	Personal assistant
182	Butembo	Trader
183	Butembo	Basket maker
184	Butembo	Food vendor
185	Butembo	Food vendor
186	Butembo	Manager of mental health
187	Butembo	Civil engineer
188	Butembo	Journalist
189	Butembo	Teacher
190	Butembo	Teacher
191	Butembo	Teacher
192	Butembo	Teacher
193	Butembo	Teacher
194	Butembo	Teacher
195	Butembo	Teacher
196	Butembo	Teacher
197	Butembo	Trader
198	Butembo	Teacher
199	Butembo	Teacher
200	Butembo	Farmer
201	Butembo	Nothing
202	Butembo	Secretary
203	Butembo	Factory Manager

204	Butembo	Trader
205	Butembo	Shoe seller
206	Butembo	Food vendor
207	Butembo	Welder
208	Butembo	Trader
209	Butembo	Clothes selling
210	Butembo	Cooperative accountant
211	Butembo	Cooperative manager
212	Butembo	Cooperative manager
213	Butembo	Bank manager
214	Butembo	Cooperative director
215	Butembo	Likelimba chairman
216	Butembo	Microfinance director
217	Butembo	Cooperative manager
218	Butembo	Moneylender
219	Butembo	Cooperative accountant
220	Butembo	Cooperative manager
221	Butembo	Cooperative accountant
222	Beni	Mutuality manager
223	Beni	Bank manager
224	Beni	Cooperative manager
225	Beni	Cooperative manager
226	Beni	Cooperative manager
227	Beni	Cooperative manager
228	Beni	Cooperative accountant
229	Beni	Mutuality president
230	Beni	Mutuality secretary
231	Beni	Mutuality president
232	Beni	Moneylender
233	Beni	Moneylender
234	Beni	Cooperative accountant
235	Beni	Failed cooperative manager

Appendix 2

Surveying tools

EXAMINING FINANCE IN CONFLICT

Part A1. Information Sheet for Institutional Staff

Please take time to read/listen to the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you wish to know more.

The aim of the project

The aim of the research is to evaluate some strengths of financial services, and compare formal and informal financial services in North Kivu. It also seeks to determine whether the intensity of conflict affects the operations of financial services and how. It will therefore be necessary to examine the:

Operations of formal financial service providers

Operations of informal financial service providers

Who is doing the study?

The study is managed by Julia Smith, a Ph.D. candidate at the University of York's Post-war Reconstruction and Development Unit. The research will be an important step in documenting how financial services are affected by conflict. Julia Smith is a member of the board of directors of Pro-Microfinance International (which has an office located at 5 Mikundi Avenue, Butembo) and as such has visited Butembo regularly since 2010. However, the data collected today will not be shared with other members of Pro- Microfinance, as this is an academic research project intended to collect Phd-level data.

What will I be asked to do?

If you would be willing to participate in this study, this would involve us sitting with yourself or a designated member of staff, in a private office or any other place you choose, at a date and time that would best suit you. We would like to interview you about whether your financial services and institutional operations. We would also like to discuss any effect of the conflict on operations. We expect that the interview will take about one to one and a half hours.

What are the benefits and risks in taking part in the project?

There may be no direct benefit to you by participating in the research but from the information you provide we will be able to better understand the experiences and needs of microfinance providers which will inform future microfinance programming.

Although we are taking institutional information which we understand is sensitive, alll the information you give us is confidential. We will not discuss what you have told us with anyone and we will not disclose to anyone that you are taking part. Reports from the research will not identify anyone who has taken part.

Do I have to take part?

If you decide not to take part, that's OK. If you do decide to take part and later change your mind, you can withdraw at any time. You do not have to give a reason.

What will happen to the information?

All the information you give us is confidential. We will not discuss what you have told us with anyone and we will not disclose to anyone that you are taking part. Reports from the research will not identify anyone who has taken part. When we have completed the research, we will produce a summary of the research. You will be sent a summary of the research for your comments and opinion.

This research has been approved by the University of York's Economics, Law, Management, Politics and Sociology Ethics Committee. If you have any questions please feel free to contact the Chair of the Economics, Law, Management, Politics and Sociology Ethics Committee, Celia Kitzinger, The Department of Sociology, University of York, Heslington, York, YO10 5DD. Email. Celia.kitzinger@york.ac.uk

If you would like to get in touch with the researcher, please feel free to contact Julia Smith, (email: jls515@york.ac.uk). Alternatively, you can contact the director of the Post-War Reconstruction and Development Unit, Kenneth Bush, The Post-war reconstruction and Development Unit, University of York, Heslington, York, YO10 5DD. Email. Kenneth.bush@york.ac.uk

Part B1. Informed Consent from Institutional Staff

'EXAMINING FINANCE IN CONFLICT'

Lead researcher: Julia Lynn Smith

Consent form for Institutional Staff

This form is for you to state whether or not you agree to take part in the study. Please read and answer every question. If there is anything you do not understand, or if you want more information, please ask the researcher.

Have you read and understood the information sheet about the study? Yes ❒ No ❒

Have you had an opportunity to ask questions about the study? Yes ❒ No ❒

Do you understand that the information you provide will be held in confidence by the research team? Yes ❒ No ❒

Do you understand that you may withdraw from the study at any time and for any reason, without affecting any services you receive? Yes ❒ No ❒

Do you understand that the information you provide may be used in future research? Yes ❒ No ❒

Do you agree to take part in the study? Yes ❒ No ❒

If yes, do you agree to your interviews being notated? Yes ❒ No ❒

(You may take part in the study without agreeing to this).

All data is held by the researcher in accordance with the Data Protection Act.

Your name (in BLOCK letters):____

Your signature: ____

Interviewer's name: ____

Date: ____

Part C1. Interview Guide (for Institutions)

Basic

How old is the organization?

How did it start?

What capital did it start with?

What is the total loan portfolio outstanding currently?

How many loans are made in a month (average)?

Outreach

How many accounts have been opened?

How many accounts have been opened and then not active? Is there a way to easily tell who is not active?

What tribe do most of your clients come from? Is there a way to tell the precise breakdown?

Can I see copies of the information used to raise awareness about the activities?

What outreach is being conducted?

How active is the manager in supervising and encouraging outreach?

Lending

What is the procedure for applying for a loan? Are there business visitations and what information is collected from these?

What is the procedure and criteria for deliberating on loan applications (is it quantifiable)?

Who are the decision makers?

What is the maximum amount for an individual loans?

What is the average amount of a loan?

How do people apply for an individual loan as opposed to a group loan? If you don't offer group loans, did you ever offer group loans? Why or why not?

What is the interest rate?

Collecting

What is the PaR? Can it be broken into PaR30 and PaR90?

What are the follow up mechanisms for group loans and individual loans?

What is the client to loan officer ratio?

What kind of collateral is being collected, and are these realistic to confiscate if people default on their loans?

How many times in the last year has the organization taken legal action against indebted clients? What kind of action was taken? What was the outcome? In the last three years?

What is your opinion of property rights here? Do clients ever experience violation of their property rights that affects their repayment ability?

Is there a loan loss provision?

What is the loan write-off ratio?

Which businesses tend to have the most repayment issues? Why do you think this is?

Internal Processes

What is the system used to manage the information related to clients' accounts? Who has access to these systems and the power to edit them?

What analysis is there of ongoing loans? Any regular reports generated?

Who has the power to write-off loans or reorganize the portfolio?

Who manages the income from operations? What is being done with it now?

Who keeps track of administrative expenses? What are they on average per month?

Human Resources

What is the hiring process for staff?

What are the staff salaries?

What personal growth or performance-based opportunities are offered to staff as incentives?

EXAMINING FINANCE IN CONFLICT

Part A2. Information Sheet for Financial Service Users

Please take time to read/listen to the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you wish to know more.

The aim of the project

The aim of the research is to evaluate some strengths of financial services, and compare the experiences of financial service users in in North Kivu. It also seeks to determine whether the intensity of conflict affects the impact of financial services and the experiences of its users. Through this research, we wish to see whether your financial services have been helpful and how they could be improved.

Who is doing the study?

The study is managed by Julia Smith, a Ph.D. candidate at the University of York's Post-war Reconstruction and Development Unit. The research will be an important step in documenting how financial services are affected by conflict.

Julia Smith is a member of the board of directors of Pro-Microfinance International (which has an office located at 5 Mikundi Avenue, Butembo) and as such has visited Butembo regularly since 2010. However, the data collected today will not be shared with other members of Pro- Microfinance, as this is an academic research project intended to collect Phd-level data

What will I be asked to do?

If you would be willing to participate in this study, this would involve us sitting with yourself in a private location, at a date and time that would best suit you. We would like to evaluate how useful the financial services you are receiving at the moment are and any needs you might have that are not being met by the services being received.

The aim of the interview is to collect client's information on the usefulness of the service they are receiving. We also want to discuss your household spending on a number of comparable items over certain time periods. We expect that the interview will take around a half hour to forty-five minutes. We would like to take notes during this interview.

What are the benefits and risks in taking part in the project?

There may be no direct benefit to you by participating in the research but from the information you provide we will be able to better understand the experiences and needs of microfinance users. We hope to provide a brief summary of opinions to the management of the institution including any recommendations you may wish to share anonymously.

Although we are taking personal information which we understand is sensitive, alll the information you give us is confidential. We will not discuss what you have told us with anyone and we will not disclose to anyone that you are taking part. Reports from the research will not identify anyone who has taken part.

Do I have to take part?

If you decide not to take part, that's OK. If you do decide to take part and later change your mind, you can withdraw at any time. You do not have to give a reason.

This research has been approved by the University of York's Economics, Law, Management, Politics and Sociology Ethics Committee. If you have any questions please feel free to contact the Chair of the Economics, Law, Management, Politics and Sociology Ethics Committee, Celia Kitzinger, The Department of Sociology, University of York, Heslington, York, YO10 5DD. Email. Celia.kitzinger@york.ac.uk

If you would like to get in touch with the researcher, please feel free to contact Julia Smith, (email: jls515@york.ac.uk). Alternatively, you can contact the director of the Post-War Reconstruction and Development Unit, Kenneth Bush, The Post-war reconstruction and Development Unit, University of York, Heslington, York, YO10 5DD. Email. Kenneth.bush@york.ac.uk

Part B2. Informed Consent from Financial Service Users

'EXAMINING FINANCE IN CONFLICT'

Lead researcher: Julia Lynn Smith

Consent form for Financial Service Users

This form is for you to state whether or not you agree to take part in the study. Please read and answer every question. If there is anything you do not understand, or if you want more information, please ask the researcher.

Have you read and understood the information sheet about the study?	Yes ❒ No ❒
Have you had an opportunity to ask questions about the study?	Yes ❒ No ❒
Do you understand that the information you provide will be held in confidence by the research team?	Yes ❒ No ❒
Do you understand that you may withdraw from the study at any time and for any reason, without affecting any services you receive?	Yes ❒ No ❒
Do you understand that the information you provide may be used in future research?	Yes ❒ No ❒
Do you agree to take part in the study?	Yes ❒ No ❒
If yes, do you agree to your interviews being notated? (You may take part in the study without agreeing to this).	Yes ❒ No ❒

All data is held by the researcher in accordance with the Data Protection Act.

Your name (in BLOCK letters):____

Your signature: ____

Interviewer's name: ____

Date: ____

Part C2. Questionnaire

1.1 Respondent Information

Gender:

Tribe:

Age:

Length of time with an Account:

1.3Respondent References – Please provide

1. Do You Own a Business?

Y / N

1.1 What is your MAIN BUSINESS engaged in?

MAIN BUSINESS

a) Trade

b) Services

c) Agriculture/farming

d) Production

1.2 Do you have a SECONDARY BUSINESS?

Y / N

SECONDARY BUSINESS

a) Trade

b) Services

c) Agriculture/farming

d) Production

1.3Are other members of your family working? Who earns the primary source of income for the household?

1.4 How long has the MAIN BUSINESS been in existence?

RECORD NUMBER OF YEARS AND MONTHS

______________YEARS_________________MONTHS

1.5 How long has the SECONDARY BUSINESS been in existence?

RECORD NUMBER OF YEARS AND MONTHS

______________YEARS_________________MONTHS

1.6 Is the main business registered?

YES NO

1.7 Do you have any employees in the main business?

ENTER NUMBER

1.8 Do you have any employees in the secondary business?

ENTER NUMBER

1.9 What are your working hours? How much can you usually make in profit?

Main business:

Secondary business:

1.10 Before you joined (name of COOPEC), did you have the same business(es)? Has there been any change in profit?

SECTION 2.

2.1 How many outstanding/current loans does your household have?

LOAN 1 .1	**LOAN 2 .2**	**LOAN 3 .3**

2.2 Who provided the loan?

a) Bank (SPECIFY NAME)

b) Microfinance Institution (SPECIFY NAME)

c) Other Non-Banking Financial Institution

d) Relative

e) Friend

f) Pawnbroker

g) Other (SPECIFY)

h) Don't Know

2.3 IF "OTHER" ENTER SOURCE OF DEBT/LOAN

2.4 What is the amount of the loan?

2.5 What is the monthly payment amount?

2.6 What did you use the loan for?

2.7 When was the loan received? __ __ / __ __ __ __ __ __ / __ __ __ __ __ __ / __ __ __

ENTER MONTH AND YEAR
(MM/YYYY)

2.8 What is the repayment period on this loan?

2.9 How much is left to be repaid?

2.10 Before coming to the COOPEC, did you try to borrow the money from any other source? Y / N

2.11 From how many places did you try to borrow money?

SOURCE 1 .1	**SOURCE 2 .2**	**SOURCE .3**

2.12 From whom/Where did you try to borrow this money?

a) Bank (SPECIFY NAME)

b) Microfinance Institution (SPECIFY NAME)

c) Other Non-Banking Financial Institution

d) Relative

e) Friend

g) Other (SPECIFY)

2.13 Did they offer you a loan?	Y / N	Y / N	Y / N

Comments:

SECTION 3. HOUSEHOLD CONSUMPTION

3.1 How much money did your household spend ON FOOD to be consumed at home during the last week?

3.2How many people are staying in your household? Are any of these "adopted"?

3.3 Did your household spend money on [ITEM] during the last month?	CIRCLE ANSWER .1	Enter Value (KM) .2
	Y	**N**
3.3.1 Rent for residence		
	Y	**N**
3.3.2 Combustibles (fuel for the stove, fuel for heating, gas, petrol)		

	Y	**N**
3.3.3 Transport services (shared cars, buses, micro-buses, taxis and other forms of paid transport)		
	Y	**N**
3.3.4 Clothes and shoes		
	Y	**N**
3.3.5 Recreation (concert, cinema)		
	Y	**N**
3.3.7 Fees, Insurance		
3.4 Did your household spend money on [ITEM] during the last year?	CIRCLE ANSWER .1	Enter Value (KM) .2
	Y	**N**
3.4.1 Education expenses (transport, books, fees etc. excluding clothes & shoes)		
	Y	**N**
3.4.2 Furniture, carpets, household textiles		
	Y	**N**
3.4.3 Repairs (home, car, etc.)		
	Y	**N**
3.4.4 Household appliances (iron, microwave)		
	Y	**N**
3.4.5 Purchase of vehicle such as car, bike, motorbike		
	Y	**N**

3.4.6 Vacation (all-inclusive trips)

4.1 Does your family (including your spouse and your children) have any money saved? This can include money saved in a bank, at home or invested in stocks or other savings methods.

Y / N / Don't know

4.2 What is the total value of these savings ?

4.3Before joining the COOPEC, did you have the same amount of savings?

4.4 What are you saving money for?

Allow for multiple response

a) for future business expense

b) education

c) medical expense

d) provide for old age

e) house repair

f) emergency events

g) secure consumption

h) bequest

i) pay for debt

j) festival expenses (wedding etc.)

k) other (SPECIFY)

5. Has anything happened in the last year that meant you couldn't work for a week?

5.1 Did you have to contribute (family emergency, etc.)? How much?

5.2. Did you have anything you would consider an emergency happen in the last year, and how did you deal with it?

5.3 Have you experienced any violent crime or indirect effect of the poor security situation in the last year? What happened and how did you deal with it?

5.4 Have you lent money to anyone in the last year? How much and what was it for?

References

Introduction

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