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Conflict Experiences and Household Expectations on Recovery:
Survey Evidence from Northern Uganda

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Conflict Experiences and Household Expectations on Recovery: Survey Evidence from Northern Uganda[1]

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Abstract: We analyse the role of mass violent conflict in influencing individual expectations. We hypothesise that individuals are likely to report negative expectations if they were exposed to conflict events in the past. We combine individual and household level data from the Northern Uganda Livelihood Survey of 2007 with a disaggregated conflict exposure index based on the Armed Conflict Locations Events Data (ACLED). We run logistic regression models to study the strength of the association between conflict and expectations. Results indicate that conflict intensity is correlated with a decrease in the probability of expecting economic recovery. The effect of conflict on general welfare however is less robust.

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1. **Introduction**

This study examines the legacy of mass violent conflict (also called war or conflict below) on expectations. Expectations are fundamental for understanding individual behaviour. These pertain to views held by individuals regarding the future state of variables (Coyne, 2009). Most progress in expectations literature largely explores its influence on a number of outcomes such as; realised income (Dominitz, 1996), mortality (Hurd and McGarry, 1997), consumption growth (Jappelli and Pistaferri, 2000), future job losses (Stephens, 2004), demand for schooling (Willis and Rosen, 1979), and choice of contraceptive methods (Delavande, 2008). Results reveal that subjective expectations play an instrumental role in influencing the direction of these outcomes. Another stream of literature (e.g. Akwara *et al.,* 2003; Delavande and Kohler, 2009; Kates 1971; Taylor *et al.,* 1988) studies the drivers of these expectations, underscoring the role of household and community-level factors. This literature overlooks the effect of mass violent conflict on expectations. A few existing studies analyse conflict from the perspective of happiness (Welch, 2008) and preferences (Voors *et al.*, 2010). Insights into the link between conflict and expectations could be important in the design of effective interventions.

The experience of violent conflict and its legacy in the post-war period may influence the way individuals perceive the environment in which they live, and also shed light on what they expect their future wellbeing to be. Civil war affects individuals differently depending on their characteristics and circumstances (Verwimp et al., 2009). Even after war ends, individual expectations may take a variety of courses. On one hand, improved security and post-conflict development aid may permit war-affected individuals to rebuild assets and livelihoods, hence catching up with non-war affected individuals. Individuals benefiting from recovery are likely to be optimistic about future welfare. On the other hand, some individuals or communities may remain engulfed in the "*conflict trap*" (Collier *et al.*, 2003), due to loss or displacement of human capital, severe damage of property and infrastructure, as well as continued insecurity. This might yield pessimistic expectations at the individual level. Overall it is likely that individuals will report varied expectations depending on their degree of exposure to conflict, even when they posses otherwise similar traits. Hence, in this paper, we posit that greater exposure to conflict adversely affects individual expectations. We draw on recent evidence from the early post-war period in Northern Uganda to test our hypothesis.

We find that individual expectations of future economic circumstances are negatively affected by past and recent conflict experiences whereas the effect of conflict on general welfare is less robust. Our contribution to literature is that we provide the first attempt to examine how conflict influences individual expectations.

The paper is structured as follows: In the next section we provide a brief account of the situation in northern Uganda. The third section highlights the data sources and empirical approach used. In section 4 we present statistical insights and econometric results of the study. We then provide a discussion of results and conclusions in sections 5 and 6 respectively.

2. The case of Northern Uganda

Northern Uganda suffered from a long civil war. The war between the Lord's Resistance Army (LRA) and government forces started in the mid 1980s and lasted until 2006. It took a heavy toll on the region resulting in the displacement of nearly 90% of the population from their homes to refugee camps between 2002 and 2003; disruption in the livelihoods of the hosting communities who have seen their land occupied by internally displaced persons; constant fear of attacks and abduction; and disruption in family and social cohesion (Baines *et al.*, 2006; IRC, 2006), to name a few effects.

Therefore, it is not surprising that the region did not register any major improvement in economic wellbeing during the 1990s even as most parts of Uganda experienced benefits of growth. The proportion of people living below poverty line fell from 72% in 1992 to 60% in 1997/98 and rose to 64% in 2000 (GoU, 2004), diverging from the stronger poverty reduction trends experienced elsewhere in Uganda. The northern region is home of 20% of the total population with an average household size of 5.2 persons. The literacy rate is about 54%, which is lower than the national average of 68%. It comprises of a high proportion of inactive working-age population, with households mainly relying on transfers from relief agencies as the main source of income (UBoS, 2006a). Participation in income generating activities is constrained by factors such as closure of active markets, difficulties in accessing credit, loss of skills, and poor access to land due to the forceful relocation of households to camps (DANIDA, 2005; UBoS 2006b). Loss of income and productive assets by over 80% of households during the war also complicated efforts to restore livelihoods (Pham *et al.*, 2007).

Even when other dimensions of wellbeing are considered, the region still performs poorly compared to the rest of the country. For instance, the infant mortality rate is 20% higher than the national average (UBoS 2006b). Service delivery remains poor as a result of closure of schools and health facilities with the cost of delivery continually on the rise. As the region emerges from a challenging period of violent conflict and deterioration of family, tradition, livelihoods, and cultural solidarity, the prospect of improved welfare in the recovery period remains uncertain.

3. Data and estimation approach

We use two unique data sources. First, the Northern Uganda Livelihood Survey(NULS) (2007) covers 5000 households in six districts (Amuru, Gulu, Kitgum, Pader, Lira and Oyam)[5]. It is the first comprehensive survey collected in the region after the end of the civil war. The data were collected using a detailed household questionnaire and a randomly selected individual questionnaire. It provides information on individual characteristics, household welfare, and individual expectations. The detailed household questionnaire was administered to the household head, the spouse, or a member of the household representing them. The individual questionnaire was administered a randomly selected individual in each household, who responded to general questions about the household situation and prospects of return to their original home. We use this dataset to obtain our dependent variables and other control variables. We focus on two dependent variables:

  i) *Do you think your economic situation will improve in the future?* For which the given answer codes were: *"Yes", "No" and "Don't know"*.
  ii) *How do you expect life to be one year from now?* for which responses were: *"Better than now", "Same quality", "Worse than now" and "Don't know"*.

We estimate Logit models in which the above variables are expressed in binary form with, *"Yes"*=1 and (*"No"* or "Don't Know")=0 for the first question and *"Better"*= 1 and (*"Same quality", "worse" or "Don't know")*=0 in the second.[6] Our model is specified as:

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[5] The survey was collected by Uganda Bureau of Statistics (UBoS) and the Norwegian FAFO Institute for Applied International Studies. Bjørkhaug et al.(2007) provide detailed description of the sample and methodology.

[6] It could be argued that individuals who provide a 'Yes'/ 'Better' response do so with greater degree of certainty. Grouping the "Don't know" with the 'No' category does not affect the probability of saying "Yes" in either regressions. We tested the robustness of our results by running a multinomial logit model for each question. The result (focusing on the probability of expecting improvement) exhibits consistent estimates with the logit regression considered here.

$$y^* = \beta_1 Conf + \beta_2 x + \varepsilon$$

where y^* is the usual latent variable in a logit-type model, x is a vector of control variables, and ε is an error term. *Conf* is a vector of conflict intensity indices for 2002 and 2006, that is, three years before the end of the war and the final year of the war, respectively.

Second, the Armed Conflict Location and Events Data-ACLED (Raleigh et al., 2009)[7] are collected from secondary information sources, primarily news reports, periodical information, books, humanitarian reports, and information collected from the Uppsala Armed Conflict Project archives. The data set codes exact locations, dates and characteristics of individual battle events. The survey provides information on 1,276 individual battle events in Uganda between 1962 and 2006, 546 of which were in the northern region. We use the data to construct a spatially and temporally disaggregated conflict intensity index that captures the intensity of war experiences for all individuals in the sample at two points in time. We begin by defining subscript i as a conflict event, our unit of observation. An event may include battles, violence to civilians, and rebel presence. It can be afflicted by any party, whether government, rebel, or militia. We also introduce c_i, a two-dimensional vector representing a coordinate of these individual events expressed in degrees (longitude and latitude). We then calculate a conflict intensity index for the location of the household (represented by vector l). This is also expressed in degrees. Aggregating events in a given year, the index for a given location (1) can be defined as:

$$C(1) = \sum_i g(d(c_i, l))$$

where d is the distance between an "event" and the location of the household at certain point in time, given as:

$$d(c_i, l) = \|c_i - l\|.$$

We parametrise g(.) as $g(x) = \exp(-\alpha x)$, which discounts an event by its distance from a given household. These events are therefore weighted depending on how close they are from the respective individuals or households.

Control variables

We construct four age categories for individuals aged 18 and above. These include 18-28, 29-39, 40-50 and above 50 years. Our intention here is to investigate how expectations might vary across individuals in different age groups, as identified in the literature (Fourati and O'Donoghue, 2009; Kleinjans and Jinkook, 2006; Tepe, 2006). We also construct an "experience" variable indicating the number of income generating skills an individual posses and when they last applied them. The more recent that an individual applied their skills, the more likely they expect an improvement in welfare. On the other hand frustration might result from having no skills or spending a long time without applying them (Guriev and Zhuravskaya, 2007; Hayo, 2006). The index of assets owned by a household is also included. Accumulation of assets can significantly impact how individuals value their future wellbeing (Zhan, 2005). We further calculate the number of services the household has access to. Presence of services such as health facilities, water points, and education in camps, or the services where the household plans to relocate during camp decongestion, may yield optimism about future welfare. Other covariates include the number of properties in the new settlement (such as houses and land), literacy, gender, household size, dependence ratio, presence of individuals with prolonged illnesses, and the gender of household head.

4. Results

Sample characteristics

The survey observations are representative for all age groups. The majority of respondents (52.5%) expect the general welfare to improve in the next year. More than 50% of the individuals are sceptical about the status of their economic situation in the future (*Table 1*). Men are more optimistic than women about their future economic status as well as general wellbeing, although the difference is not highly marked (*Table 2*). With regard to literacy, 53% of literate individuals are optimistic about improvement in their economic wellbeing with a higher proportion (57.5%) expecting general welfare to improve. In contrast, the majority of illiterate individuals expect neither their own economic wellbeing nor general welfare to improve. People 50 and older are the least optimistic when compared to other age groups.

Regression results

We three regressions using different specifications for each expectation. Specifically we include i) individual-specific and household characteristics; ii) household welfare variables; and iii) community-level variables. All specifications include district fixed effects to control for unobservable characteristics at the district level.

In *Table 3* (*Model 1*) we present results on the association between conflict and subjective economic expectations. In all specifications conflict intensity indicators are significant predictors. Whereas conflict intensity in 2002 is positively correlated with economic expectations, the relationship is negative for 2006. However, the significance of the coefficients declines with the addition of other covariates in the model, underlying its importance for individual expectations. The introduction of these factors however does not change the direction of the association between conflict and expectations.

Results further reveal a positive and significant effect for the 29-39 age group and a negative effect for those over 50 when compared to the youth 18-28. The coefficient of literacy is significant at the 1% level across all specifications. The probability of expecting a better economic situation is greater for literate individuals, compared to their counterparts. Female-headed households appear pessimistic compared to households with a male head. The association of this variable with expectations remains highly significant (1% level) regardless of the inclusion of other specifications. Results also indicate that households with more assets have a greater probability of expecting a better economic situation than those with few or no assets. The variables indicating the number of services in camps (health facilities, schools, water supply, markets) where the individual resides, as well as access to more properties (land, house, equipments and animals) where the household plans to resettle are positively correlated with economic expectations and are significant at the 1% level.

We next turn to the association between conflict and general life expectations (*Table 3, Model 2*). Consistent with the overall argument in the preceding discussion, results suggest that the probability of being less optimistic about wellbeing in future increases with exposure to conflict. The introduction of more specifications does not affect the direction of the coefficient of conflict but rather the association becomes stronger (at 5%). Focusing on the index for 2002, the signs of the coefficients are different for the two models. While it appears

positive for economic expectations, we see the reverse in the general welfare model (model 2).

Just as in model 1 we find that the probability an individual expects improvement in welfare is positively related to camp service access, expected place of relocation, and the number of assets. The coefficient for those older than 50 is consistent with the results of economic expectations, but the level of significance declines with more specifications. Whereas the coefficient for household size is not significant for *model 1*, in this model it is positive and significant (1%) across specifications. Having experience and currently practicing in more activities yields optimism. Nonetheless, the longer somebody goes without using their skills, the more pessimistic they are likely to be. Coefficients for the number of services in the camps, the number of services in the expected settlement, and the number of properties owned are also significant and positive.

5   Discussion of results

The regression results for model 1 confirm our hypothesis that recent exposure to conflict yields pessimism about future economic wellbeing. However, the positive coefficient for 2002 reveals that individuals may be able to adapt to conflict effects with time, that is, optimistic patterns can emerge with reductions in conflict intensity, even if the initial level of conflict exposure was high. We identify opposite results for the effect of conflict in the two models. A probable explanation here could be that the economic situation may improve faster than general life. General life may reflect also the prospects of peers and neighbours as well as the effects of health and psychological stress. In short, economic prospects after war alone may improve faster and also be less tied to war legacies than general prospects.

Greater optimism among individuals in their 30s, relative to the young, could be a cohort effects from war. The survey of war affected (Baines *et al*., 2006) notes that the youth basically grew up in camps, lost education opportunities, and other aspects of meaningful life. These negative experiences erode their capacity, as a cohort, to benefit from the peaceful environment and recovery programs. With over 15% of the individuals in the survey falling into this category, it poses a challenge to policy makers when it comes to designing effective all-inclusive recovery programs. Individuals older than 50 are less optimistic than the youth. This is expected, given the trauma caused by loss of property and livelihoods. Rebuilding

livelihoods takes a long time and might not be satisfactory for those who feel there is not much time left to live.

There is no doubt that literacy plays a key role in informing individual behavior and in influencing the direction of expectations. The probability of expecting a better economic situation is greater for literate individuals than the illiterate. Benefits of literacy for individuals are both direct and indirect. It is associated with sustaining opportunities that allow people to improve their livelihood capabilities and can enable them to tap from existing recovery initiatives. The role of household assets cannot be underestimated either. Results also indicate that households with more assets have a higher probability of expecting a better economic situation than those with few or no assets. The command over assets can create a wide range of positive effects beyond consumption. For instance asset accumulation may improve positive attitudes and behavior as well as enhancing future orientation (Sherraden, 1991; Zhan, 2005).

The probability of expecting better wellbeing also increases with household size and seems to matter for general expectations. This is probably because of guaranteed security on regaining control over assets during resettlement and the possibility of accessing a greater share of land belonging to the lineage or clan. On the other hand, fragmented households, mostly headed by widows and the elderly, might lose the hope of attaining a relatively decent life.

Households headed by women face a host of challenges in camp. They are economically less empowered, as access to economic resources is not guaranteed to them as opposed to male-headed households. Customary law protects them, but only to a certain point. In Acholi culture, for instance, widows have no ownership rights for land (Hertz *et al*, 2007). They also tend to face challenges accessing the labor that can aid them in both income generation and resettlement. These, among other challenges, create uncertainty about their future welfare.

Our analysis is not free of limitations. We can only analyze expectations at one point in time. Due to the absence of a panel survey, we are unable to track changes in expectations over time. Second, we do not quantify the levels of expectations. Constructing an index would provide a better picture about the nature of different levels of expectations in the face of conflict.

6   Conclusion

In this paper we study the role of recent conflict for individual expectations. Results reveal that individual conflict intensity correlates with pessimism about their future prospects. The legacy of war has a differential impact on expectations over time and on the type of expectations. Individuals may adjust to war legacies by adopting livelihood strategies or benefiting from other initiatives that enable them to cope. Reconstruction policies should help to remove constraints of individual expectations, given the importance of expectations for investment and growth in general.

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Table1. *Summary statistics of the variables used in the models*

Variable	Description	Average	Standard Deviation
Dependent Variables			
Exptn_yr11	Dummy=1 if individual expects improvement in general situation	0.525	0.499
Exp_econ1	Dummy=1 if individual expects improvement in economic situation	0.448	0.497
Conflict Indicators			
Conflict index 2002	Conflict intensity index for 2002(ranges from 0.0005 to 6.2815)	2.007	1.318
Conflict index 2006	Conflict intensity index for 2006(ranges from 0.0024 to 4.8244)	1.716	1.219
Individual and household characteristics			
Age category 1(agecat1)	Dummy=1if individual aged 18-28	0.405	0.491
Age category 2(agecat2)	Dummy=1 if individual aged 29-39	0.264	0.441
Age category 3(agecat3)	Dummy=1 if individual aged 40-50	0.167	0.373
Age category 4(agecat4)	Dummy=1 if individual aged >50	0.168	0.374
Male	Dummy=1 if individual is male	0.486	0.500
Femalehead	Dummy=1 if head of household is female	0.148	0.356
Household size	Household size	6.484	2.902
Depencency ratio	Dependency ratio	1.296	0.976
Literacy	Dummy=1 if individual can read or write	0.493	0.500
Illness1	Dummy=1 if household has member chronically ill.	0.137	0.344
Household economy variables			
Assetnum	Asset index	5.489	2.750
Experience; current	No.of skills an individual currently applies	2.409	2.119
ExperienceWithin last year	No.of skills an individual applied within last year	1.120	1.634
Experience; not last year	No.of skills an individual not applied last year	0.857	1.561
No experience	No.of skills an individual never applied	9.312	3.129
In- camp and out-of camp situation			
Number of camp services	No. of services accessible in the camp	0.337	1.006
No.svces in planned	No. of services accessible in the location where household plans to settle.	0.409	0.999
No.properties in planned ressetlement	No. of assets a houshold posseses in the location where the household it intends to settle.	0.394	0.748
Location			
Amuru	Amuru District	0.195	0.396
Gulu	Gulu District	0.183	0.387
Kitgum	Kitgum District	0.173	0.378
Pader	Pader District	0.195	0.396
Lira	Lira District	0.12	0.325
Oyam	Oyam District	0.134	0.341

Table 2. Summary statistics for proportion of the sample reporting different types of expectations

Variable		Population share (%)	%expecting improvement in economic situation	%expecting improvement in general life
Gender	Male	48.7	48.4	55.4
	Female	51.2	45.8	54.5
Assets	Have Assets	93.7	47.5	55.2
	No Assets	6.3	12.2	31.8
Literacy	Literate	50.2	53.3	57.5
	Iliterate	49.8	40.8	52.5
Age Category	18-28	15.9	50.4	56.6
	29-39	10.4	50.8	57.5
	40-50	6.6	54.7	54.8
	>50	8.3	32.1	46.5
Location	Amuru	16.2	45	54.2
	Gulu	16	44.6	56
	Pader	19	46.2	49.6
	Lira	16.4	51.1	60.6
	Kitgum	14.4	42.7	52.7
	Oyam	18	51.8	56.5

Table 3. *Logit estimates for determinants of individual expectations*

Variables	Model 1: Expectations of economic situation			Model 2: Expectations of General life situation		
	(i)	*(ii)*	*(iii)*	*(i)*	*(ii)*	*(iii)*
Conflict indicators						
Conflict index 2002	0.023	0.017	0.017	-0.010	-0.014	-0.018
	[0.007]***	[0.007]**	[0.007]**	[0.008]	[0.008]*	[0.008]**
Conflict index 2006	-0.018	-0.015	-0.013	0.008	0.008	0.011
	[0.007]**	[0.008]*	[0.008]*	[0.009]	[0.009]	[0.009]
Individual and household charactersitics						
Agecat2[8]	0.027	0.039	0.040	0.001	0.011	0.012
	[0.017]	[0.018]**	[0.018]**	[0.021]	[0.021]	[0.021]
Agecat3	-0.009	0.013	0.013	-0.022	-0.004	-0.003
	[0.021]	[0.022]	[0.022]	[0.025]	[0.026]	[0.026]
Agecat4	-0.110	-0.064	-0.062	-0.069	-0.048	-0.043
	[0.022]***	[0.023]***	[0.023]***	[0.026]***	[0.027]*	[0.027]
Male	-0.034	-0.016	-0.015	-0.014	0.009	0.009
	[0.015]**	[0.016]	[0.016]	[0.018]	[0.019]	[0.020]
Head is female	-0.150	-0.110	-0.102	-0.075	-0.056	-0.045
	[0.022]***	[0.023]***	[0.023]***	[0.025]***	[0.026]**	[0.026]*
Household size	0.026	-0.009	0.001	0.138	0.116	0.122
	[0.019]	[0.020]	[0.020]	[0.022]***	[0.023]***	[0.023]***
Dependency ratio	-0.010	-0.001	-0.005	-0.015	-0.013	-0.015
	[0.007]	[0.008]	[0.008]	[0.009]*	[0.009]	[0.009]*
Literate	0.102	0.059	0.057	0.027	0.006	0.001
	[0.015]***	[0.016]***	[0.016]***	[0.018]	[0.019]	[0.019]
Prolonged illness	-0.032	-0.027	-0.033	0.011	0.015	0.011
	[0.021]	[0.022]	[0.023]	[0.025]	[0.025]	[0.026]
Household welfare variables						
number of assets		0.054	0.054		0.022	0.020
		[0.003]***	[0.003]***		[0.003]***	[0.003]***
Experience;current		0.048	0.041		0.043	0.038
		[0.014]***	[0.015]***		[0.016]***	[0.016]**
Experience; within last year		-0.016	-0.013		-0.083	-0.080
		[0.013]	[0.013]		[0.014]***	[0.015]***
Experience; not last year		-0.019	-0.019		-0.035	-0.039
		[0.013]	[0.013]		[0.016]**	[0.016]**
No experience		0.019	0.018		-0.042	-0.046
		[0.021]	[0.021]		[0.022]*	[0.022]**
Community-level variables						
Number of camp services			0.022			0.016
			[0.007]***			[0.008]**
No.svces in planned resettlement			-0.007			0.033
			[0.009]			[0.009]***
No.properties in planned resettlement			0.061			0.045
			[0.013]***			[0.013]***
District fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5700	5568	5568	3935	3840	3840

Standard errors in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

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[8] Refference category: agecat1 (18-28)