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Childhood aspirations, occupational outcomes and exposure to violence: Evidence from Burundi

Lionel Jeusette[*] and Philip Verwimp[†]

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Abstract:

Recent evidence points at the importance of childhood aspirations for our understanding of poverty and development. But how are these affected by the exposure to violence? This paper employs a logistic framework to study this question for Burundi, a conflict-affected, fragile state. Using data from a new nationwide survey with a panel component we distinguish between four types of armed violence and find that (i) Children exposed to armed violence aspire more to work outside the agricultural sector; (ii) but these same children have a lower probability to realise their aspirations; (iii) We find evidence that exposure to armed violence increases the internal locus of control and the belief in occupational happiness.

Key words: aspirations, outcomes, armed violence, occupational choice, aspirations failures

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[*] University of Luxembourg

[†] Corresponding author: ECARES, Centre Emile Bernheim, Solvay Brussels School of Economics and Management, Université Libre de Bruxelles. philip.verwimp@ulb.ac.be

1 Introduction

In his speech on 11 April, 2017 in London, World Bank president Jim Yong Kim focused on the effect of global interconnectedness on the formation of aspirations. He called upon the global development community to allow people in developing countries to realise their aspirations and he is worried that, if we fail to do that, we would see more frustration and violent conflict. This recent statement echoes the increasing popularity of studying aspirations in the scientific community in the past few years. To be precise, an aspiration is defined as a hope or a wish to achieve something[1], such as an occupation, obtaining a degree or reaching a certain salary. The expected benefits of realising the aspiration are sometime in the future, whereas the efforts required to attain it have to be exercised beforehand, over a longer period of time. To quote Bernard and Taffesse (2012), "aspirations combine or summarize the preferences maintained, the beliefs held, and possibly the constraints acknowledged by an individual about aspects of the future". As a result, researchers have linked aspirations to poverty. Appadurai (2004) for example believes that the poor have a lower capacity to aspire and are thus trapped in poverty. The idea is that young individuals from a poor community who aspire to improve their wellbeing stand more chance to escape from poverty compared to adolescents with low aspirations. If the goal is to foster the development of a country, it is thus crucial to understand how aspirations are formed, how events in the lives of the individuals can alter them and finally, what determines the coincidence of outcomes in adulthood with aspirations. Studying the formation of aspirations is an important first step as there are no achievements without aspirations, as Tafere (2014) reminds us, saying that "As people cannot usually achieve what they have not aspired to, aspirations are important inputs for achievements and eventual better outcomes". Nevertheless, forming aspirations is only the tip of the iceberg, since the difficult part for the individual, but also the most important one for the development of a country, is to realise these aspirations.

In this paper we want to contribute to the understanding of aspirations and adult outcomes, by shedding light on a new factor - exposure to armed violence - which, as we will see, can shape aspirations and outcomes. The relationship between aspirations, exposure to violence and adult outcomes has, to the best of our knowledge, not yet been studied. We will analyse the childhood occupational aspirations and the adulthood outcomes of individuals in Burundi, a country ravaged by a decade-long civil war.

Our findings suggest that individuals who have been exposed to armed violence aspire more to occupations outside of agriculture. It is interesting to note that the data was collected in a predominantly rural environment with a large majority farmers. Individuals exposed to violence also have a lower probability to realise their aspirations. This is a sobering result, as children first suffer from exposure to violence and then from aspirations that are not realised. Additionally, we find evidence that children in richer households aspire to categories outside of agriculture and also have a higher probability of realising their aspirations. We identify two possible channels that can help us understand our results: First we find that an exposure to violence increases internal locus of control and second we find it increases the belief in occupational happiness.

After surveying the literature on aspirations, outcomes and violence in the second section, we briefly present Burundi's recent history in the third section. We then present a theoretical framework before describing the data and the variables in

[1]Source: Cambridge online dictionary. Retrieved from: http://dictionary.cambridge.org. Consulted on the 25th of July 2016.

the fifth section. In the sixth section we present the estimation strategy and the discussion of potential threats. Our results are presented and discussed in the last section and the paper ends with a brief conclusion.

2 Literature on aspirations and violence

Research on aspirations, in particular in relation to poverty and development, is blossoming. There is however, to the best of our knowledge, no research conducted on aspirations and exposure to armed violence. We review the literature on civil war and other forms of violence in order to understand the psychological impacts of violence. Our review of the literature is divided into three parts. In the first one we present the theoretical foundations of aspirations, in the second one its applications in practice and in the last part we review the literature on exposure to violence.

Aspirations in theory: The work of Appadurai (2004) and Ray (2006), who both have written extensively on aspirations, can be regarded as foundational for the modern literature on this subject. Appadurai (2004) starts his essay on the capacity to aspire by observing that culture is most often associated with traditions, heritage and habits, meaning a cultural actor is a person of the past as opposed to an economic actor, who is a person of the future interested in needs, expectations, calculations and development. Appadurai wishes to bring back the future in the cultural models using the concept of aspirations as a cultural capacity. In order to do so, he reminds us that first, aspirations are closely linked to wants, preferences, choices and calculations which are future-oriented economics terminology, and second, that aspirations are formed in "interaction and in the thick of social life" and thus are related to the cultural norms of the society. Aspirations about a good life or a good job exist in every society, but each are different and based on the "map of local ideas and beliefs" present in the local societies. The author then analyses the links between aspirations and poverty. He argues that the poor have a smaller capacity to aspire because they have less knowledge of the relationship between aspirations and their outcomes as they have less possibilities to explore and try different paths. Every project that has as a goal to ameliorate the situation of the poor should in his eyes prioritise the capacity to aspire for the poor. Inspired by the work of Appadurai, Ray (2006) builds up on his theory and defines three important concepts, the aspirations window, the aspirations gap and the aspirations failure. The window can be seen as the group of similar or attainable individuals who are in the individual's environment. The concept of aspirations window is that individuals form their aspirations based on the people in their window, i.e their situation regarding wealth, occupation, ideals etc. As Bernard and Taffesse (2012) put it, the aspirations window is constructed by "the individual's observation of his or her peers to form comparisons, as well as of the information and economic opportunities of the local environment". Ray (2006) defines the aspirations gap as the difference between the standard of living that is aspired to and the standard of living that one already has. He argues that individuals who have a small aspirations gap will not have enough incentive to invest in their future, as the expected benefit is too small. Similarly individuals who have a very large aspirations gap will not have an incentive to fill it either, since they believe their goal is unattainable. Taking the argument further, he states that the window must be widened if the goal is to increase self-betterment but the window cannot be to large in order to avoid frustrated aspirations. Ray analyses the effect of aspirations on poverty in a polarised society in which there are poor and rich individuals. He concludes that either the rich are in the poor individuals aspirations window but the gap is too large leading to frustration and envy, or the rich are simply not in the window of the poor, which leads to fatalism and a self-sustaining poverty trap. More recently Dalton, Ghosal and Mani (2016) developed a theoretical model on poverty and

aspirations. They show that, based on their model, poorer individuals have lower aspirations, lower achievements, but that the presence of a role model can help an individual achieve his aspiration and climb out of poverty.

Aspirations in practice: Risso Brandon and Pasquier-Doumer (2015) apply the theoretical framework of Ray (2006) to *Young Lives* data in Peru, in order to find out if aspirations failures explain the existing poverty trap of the indigenous people of Peru. Their findings suggest that the aspirations of indigenous and non-indigenous are similar, but the gap is much larger for the former. As children grow up, the disincentive to fill the gap becomes larger and their efforts at school decrease. The authors find that children with low educated and poor parents lower their aspirations, whatever their age and the effect is even larger as children grow older, since they may become more aware of the efforts needed to fill the gap. Oketch, Mutisya and Sagwe (2012) have a similar result for Kenya, but for parental aspirations for their children. They find that the educational aspirations of the parents for their children are lower in poorer areas, but that, even in poor areas, parents have higher educational aspirations for their children than their own attained level of education. Bernard and Taffesse (2012) analyse aspirations failures, fatalism and poverty traps in Ethiopia, using the framework provided by Ray (2006). They remind us, that the poor often make choices that are not coinciding with rational economic thinking. While there are sometimes very high returns to some investments, the poor do not make them, which can be explained by market constraints, government taxation but also by social constraints, as Ethiopians often have to share the return of their investment within their community. They define fatalism as the absence of investment in order to improve one's well-being and using survey questions on locus of control related to destiny and luck, find evidence of fatalistic beliefs in Ethiopia. The authors find that a narrow aspirations gap and external locus of control explain the fatalism present in Ethiopia.

Research suggests that low aspirations can be raised, for example by widening the aspirations window. Bernard *et al.* (2014) find that fatalism in Ethiopia can easily be altered: when subjecting poor Ethiopians to a documentary on the success story of individuals with the same background, the savings, credits, school enrollment and education spending of these individuals increases. The parental aspirations for their children can also be raised, a result found by Chiapa, Garrido and Prina (2012) for the case of Mexico. The findings suggest that the parents taking part in a Mexican antipoverty program PROGRESA raise their educational aspirations for their children. Additionally they find a positive correlation between parental aspirations for their children and the actual educational outcome of the children in later life. One of the suggested channels the authors present is the amount of exposure the parents have with educated professionals generated by their participation in the antipoverty program, which is closely linked to the concept of aspirations window developed by Ray (2006). Wydick *et al.* (2013) find that the international child sponsorship known as the Compassion International program, which focuses among other things on raising children's self-esteem and aspirations, increases the years of completed schooling by the individuals. They suspect that the results are driven by the higher aspirations and self-esteem of the children. In a follow-up study, Glewwe *et al.* (2016) confirm that the Compassion International program effectively raises the children's hopes, but also their self-efficacy and happiness, by analysing self-portraits drawn by the children.

There is not a lot of literature analysing the determinants of aspirations coinciding with actual outcomes. Tafere (2014) does a qualitative and quantitative analysis on Ethiopia using *Young Lives* data and finds that young Ethiopians have high

aspirations in regard to the level of education they wish to receive. The results thus suggest rather the opposite of fatalism, result observed by Bernard and Taffesse (2012), as young Ethiopians believe that working hard leads to an improvement of their situation. According to Tafere (2014), young Ethiopians do not suffer from an aspiration deficit, but the problem is that their aspirations are not met, since the job market in Ethiopia does not demand a high amount of graduates. According to his research, some authors think that the role of the authorities in this matter is to reorient the aspirations towards more realistic ones, as a developing country like Ethiopia cannot absorb a huge amount of skilled graduates. The author thinks that lowering the aspirations of young people leads to the lowering of achievements, which is not a desirable solution. A better solution would be for the government to respond to the aspirations of the young Ethiopians and move faster in helping them fulfil their aspirations. It is important, in order to avoid lowering the aspirations of the future generations, to act fast, since frustrated graduates who are forced to return to farming are in the aspirations window of younger people. More recently, Favara (2016) analyses if aspirations coincide with educational attainments in Ethiopia and if, as she puts it, "dreams come true". Similarly to Tafere (2014), the author uses the *Young Lives* data of Ethiopia. First, she confirms Appadurai's theory that people living in poverty have lower capacities to aspire: children as well as their parents aspire to a lower level of education, if they come from poorer households. The author observes positive correlations between the aspirations of children and their educational attainment. As the author points out, citing psychological studies, children and parents believe their aspirations are rigid, but in fact they are constantly adjusted by the changing environment and events shaping their lives. Previewing the next paragraphs, such events could be the exposure to civil war and other forms of violence which, we believe, affect the aspirations and their fulfilment.

Some authors have started analysing the consequences of low aspirations and unrealised ones. In her summary of the literature on poverty and aspirations, Flechtner (2014) highlights, among other things, the danger of high aspirations and high education in a country without job opportunities, which leads to frustration and unrest. According to the author, the Arab spring can be explained as the consequence of failed aspirations: the countries are characterised by a growingly educated young population with little economic perspective or opportunities. Unrealised aspirations, in the sense that the individuals cannot exercise the occupation they studied for, lead to frustration and social unrest. This notion of frustration is also taken into account by Genicot and Ray (2014), in a paper, which studies the investment and growth in an aspirations framework. They argue that aspiring to incomes which are not much higher than the current ones lead to increased investments and growth but aspirations that are too high lead to frustration and a decreased incentive to invest. Underinvestment caused by the aspirations gap has also been discussed by Mekonnen and Gerber (2016). The authors measure aspirations as an index combining several dimensions (the income, the wealth, the social status and the education of the children) and find that an aspirations gap too small or too wide is accompanied by lower levels of innovation in agriculture, confirming the theory of Ray (2006). The theory has also been confirmed by Janzen *et al.* (2017), who analyse aspirations (in terms of income and education of the children) in the case of rural Nepal and find an inverted U-shape relation between aspirations and investments, suggesting that the goals set by the individuals have to be ambitious enough without being unrealistic. Another consequence of low aspirations has been analysed by Mekonnen and Gerber (2017), who find, using an index of aspirations, that the aspirations of the head of the household are positively correlated with food security.

Violence and civil wars: Himaz (2013) analyses the effect of a parent's death on childhood outcomes, using *Young Lives* data in Ethiopia, and finds, that it can have a negative impact on school enrolment and scores, but also on the optimism towards the future. Pine *et al.* (2005) find that a lot of children affected by the war, or displaced in refugee camps, experience post-traumatic stress disorder. Akresh *et al.* (2009) find, that being exposed to the civil war in Burundi reduces the height for age z-score, a measure of the children's health. The authors explain the the result is linked to the displacement caused by the civil war, which exposes the children to water and vector-borne diseases, but also by theft and burning of crops which affects their nutrition. Several papers study the effect on education: Verwimp and Van Bavel (2013) find that being exposed to violence as a child, reduces the probability of completing primary school. For girls coming from non poor households, the authors find that the gender gap, which is important in Burundi, is reduced. Chamarbagwala and Morán (2011) have similar results in Guatemala, the authors find that the schooling of children exposed to the country's civil war is considerably reduced. The possibility to complete ones education is an important factor in achieving one's aspirations. The negative effects of violence on education can reduce the chance of having one's aspirations coincide with one's outcomes, as certain occupations require a certain amount of education.

The effects of the Burundian civil war on psychological distress have been analysed in Familiar *et al.* (2015), in which the authors observe significant amounts of depression and anxiety symptoms, which are more accentuated during the conflict than after. Voors *et al.* (2012) attempt to understand, with a field experiment, the effect that violence can have on an individual's preferences. They argue, that contrarily to other social sciences, in which it is accepted that external shocks, like exposure to violence, can alter your outlook on life, the preferences are fixed and exogenous in the standard economic theory. However, their results support endogenous preferences, as they find that exposure to violence leads to a more altruistic behaviour, increased risk seeking and a higher preference for the present. Research by Bellows and Miguel (2009) shows that the higher the exposure of a household to the civil war of Sierra Leone, the higher the later involvement in the community. The authors find that exposed households will be more engaged into local political life, attend more community meetings and even participate in road maintenance. The effect of the Nepalese civil war also proved to have positive effects on political participation and community life (Gilligan, Pasquale and Samii (2014)). Similarly, Blattman (2009) finds that, for northern Uganda, exposure to violence during an abduction explains participation in politics later in life. Based on a meta-analysis, Bauer *et al.* (2016) find that exposure to violence increases pro-social behavior, participation in politics and in social groups.

Being exposed to a brutal civil war and living in a constant uncertainty and fear due to extortion, theft and violence by armed groups was the situation of many Burundian individuals. Therefore, in light of the aforementioned literature, we believe that Burundi is an interesting starting point in order to study the aspirations and the outcomes of individuals exposed to such an environment.

3 Recent history of Burundi

Burundi is a small country in eastern Africa with 11 million inhabitants and a GNI/capita as low as 270 US current dollars[2] in 2014, making it one of the poorest countries in the world. The main economic activity is subsistence agriculture. In 1965, three years after the country's independence from Belgium, a group of Hutu led an unsuccessful coup, which resulted in a complete exclusion of the Hutu from the Burundian government and army. This event marked the beginning of the domination of the Tutsi minority over the Hutu.

In 1972, following a Hutu rebellion in which many Tutsi were killed, the Burundian army retaliated and brutally killed between 80,000 and 200,000 Hutu. The army systematically killed the Hutu intellectuals and the survivors fled the country. In the eighties, Hutu uprisings killed several thousands of Tutsi and the government once again retaliated by killing around 20,000 Hutus. Pressured by the international community to reconcile the two groups and to stop the Tutsi domination, the President appointed several Hutu to the government and the first democratic elections were held in 1993 resulting in the election of a Hutu President, Melchior Ndadaye. His reformist agenda was not appreciated by the vested interests in the army. A group of Tutsi murdered the newly elected President, which resulted in a Hutu uprising and a retaliation by the army. After a few weeks the number of victims reached between 50,000 and 100,000 people, but many more fled the country in order to survive. The civil war that followed lasted from 1993 to 2005 and resulted in a cumulated decline of 30% of the GDP in a decade.

The civil war can be characterised as a low technology war in which rebels and armies rarely confronted each other but attacked the civilian population instead. Burundi is a country with a geography that makes it difficult for an army to occupy and which provides many places for rebels to hide. The young Tutsi would join the army and the young Hutu the rebels. Sabates-Wheeler and Verwimp (2014) explain the extortion mechanism put in place by the rebels in order to finance their rebellion. They would demand cash or in kind contributions but also impose forced labour, typically by stopping buses passing through their territory or by going from home to home in occupied villages. This created a constant insecurity and fear among the population for over a decade. Bundervoet (2010) explains that the rural areas in Burundi lack properly functioning financial systems, meaning farmers have to accumulate capital in form of livestock, a highly risky asset in wartime. It was not difficult for rebels to steal or destroy a farmers total savings. Akresh *et al.* (2009) point out, that the number of livestock per household fell from 2.37 before the war to 0.42 in 2001. The individuals owning livestock were not the only ones to suffer losses during the civil war, as the rebels burned crops and coffee trees in order to diminish the central governments income, constituted in a large part by the taxation of these crops. The people of Burundi thus went through repeated episodes of extreme violence, uncertainty and deprivation and we will show how these events have impacted their aspirations and outcomes.

4 A simple theoretical framework

We define the occupational aspiration as the occupation a young individual wishes or hopes to exercise as an adult. Inspired by Ray (2006), we built a simple framework to explain the mechanisms through which exposure to violence may impact occupational aspirations and their realisation. This framework is based on some key concepts such as the aspirations

[2]Source: The World Bank, World Development Indicators. Retrieved from: http://www.worldbank.org. Consulted on the 25th of July 2016.

window, the current state and the aspirations gap.

The *aspirations window* of the individual is defined as the range of occupations of a group of similar (attainable) peers he or she can relate and compare him/herself to (i.e. occupations range of the raw models). The window sets a bound to the possible occupations one can aspire to since the aspiration to an occupation is only possible if someone in the young individual's aspirations window exercises this occupation. The aspirations window is determined by network characteristics, such as the geographic location (a young individual living in a remote area will have a different aspirations window than one growing up in a city) and social groups. Occupational aspirations are further affected by the *current state* of the individuals, which is a vector of elements defining where the individual is currently positioned in relation to his aspired occupation, such as, the resume (education, skills, ...), ability, health, motivation, self-esteem, internal locus of control, ambition, optimism, preference for the present and parental household characteristics. This simple framework is consistent with the literature highlighting different aspirations for the poor, who adapt their aspirations to what they believe is more realistic or attainable for them, given their current situation. It is also consistent with the literature's findings that the aspirations can be easily adapted (for example by subjecting individuals to movies about success stories of their compatriots) by widening the aspirations window and by increasing their belief that it is feasible (for example by increasing optimism and internal locus of control).

A second concept developed by Ray (2006) is the aspirations gap, defined as the distance between the current state and the aspiration one wishes to reach in the future. It measures how far one wants to go. If we aspire to a higher standard of living, then the aspirations gap is the difference between the aspired standard of living and the current one. For our analysis we define the aspirations gap as the difference between the required state necessary to exercise the aspired occupation (the education, skills, motivation, ...) and the current state of the individual. To give an example, we can think of an individual aspiring to become a journalist, which would, for simplicity, solely require to complete secondary school. If our individual only has his primary school diploma (which would be his or her current state for that occupation in this simplified context), then the aspirations gap would be the six missing years of schooling. As Ray (2006) suggests, an aspirations gap that is too large can demotivate the individual to invest in his future. To summarise: a young individual forms his occupational aspiration based on his current state and his aspirations window, then he decides how and how much to invest in his future based on the level of the aspirations gap he faces.

In this paper, we push forward the idea that exposure to armed violence has the ability to alter the current state of the individual, thereby influencing the occupational aspiration and the aspirations gap. Existing literature reviewed in Section 2 finds that an exposure to violence has an impact on the optimism towards the future, on the health, it increases anxiety and depression symptoms, it increases altruism, risk seeking behaviours, preference for the present and promotes pro-social behaviour. Additionally, research finds that exposure to the civil war reduces the years of schooling. It is thus plausible to believe that an exposure to violence directly affects the current state of the young individuals, which, based on this framework, would translate into adapted aspirations. Using Thompson *et al.* (2015), we formalise the above setting to account for armed violence as a key determinant of occupational aspirations.

Consider an individual who has K different occupations he can aspire to. A_{it}^{k} is the aspiration that a young individual i assigns to the occupation k at a given point in time t. As we have said previously, the aspiration is a function of the

aspirations window $W_{it}^k(N_{it})$, which is based on a vector of network characteristics N_{it}, and the individual's current state for that occupation, S_{it}^k. The current state is in relation to an occupation since the aspects of the current state that matter depend on the occupation.[3]

We believe the current state can be altered by an exposure to violence V at a time a in the past. The following equation summaries these relations:

$$A_{it}^k = f(W_{it}^k(N_{it}), S_{it}^k(V_{a<t}))$$

Under the assumption of separability of the function f in $W_{it}^k(N_{it})$ and $S_{it}^k(V_{a<t})$, the effect of violence on occupational aspirations is simply the derivative of the function in respect to violence:

$$\frac{\partial A}{\partial V_{a<t}} = \frac{\partial f}{\partial S_{it}^k(V_{a<t})} \frac{\partial S_{it}^k(V_{a<t})}{\partial V_{a<t}}$$

The first term is positively signed for any occupation, since an increase in the current state for an occupation is linked to a higher probability of aspiring to that occupation. Then, the sign of the effect of violence on aspirations is determined by the sign of the second term. Interestingly, an exposure to violence affects some characteristics of the current state positively and some negatively. We can give two opposing examples. Exposure to violence negatively affects the years of schooling, it thus negatively affects the current state for the occupation "doctor", in turn decreasing the probability of aspiring to that occupation. Exposure to violence positively affects altruism an pro-social behavior, leading to positive effects on the current state for occupations as social workers, thus increasing the probability of aspiring to these categories. These observations lead us to formulate the first hypothesis we wish to test empirically:

- *H1 : Exposure to violence has an impact on occupational aspirations.*

The second aspect that we wish to analyse is the ex-post realisation of the occupational aspirations. As we have explained, this is closely linked to the concept of the aspirations gap. We define the aspirations gap G_{it}^k of individual i for the occupation k at time t as the difference between the required state to exercise the aspired occupation RS^k and the current state S_{it}^k, without being negative.

$$G_{it}^k = g(RS^k, S_{it}^k(V_{a<t})) = max(\frac{RS^k - S_{it}^k(V_{a<t})}{RS^k}, 0)$$

Exposure to violence will have an impact on the aspirations gap since it alters the current state $S_{it}^k(V_{a<t})$. It can either reduce the gap or increase the gap, depending on how exposure to violence impacts the current state. The aspirations gap is crucial for understanding why some individuals will realise their aspirations while others will not, since a gap that is too large will discourage investment. Therefore, the second hypothesis we wish to test is:

- *H2 : Exposure to violence alters the probability to realise the occupational aspiration.*

[3]For example, one of the aspects that matter to wish to become a doctor is education.

5 Description of the data

5.1 Origin

For the present study, we will use the two waves of a panel survey, in which households in Burundi were interviewed in 2005 and in 2014. The first and main part of the analysis uses the CARENT (from care-parents) questionnaire that was fielded in the second wave. This has been conducted thanks to a partnership between UNICEF and the Université Libre de Bruxelles (ULB). In total, 2,050 households were interviewed. Of these, 628 are split-off households, meaning they are newly founded households between 2005 and 2014 by members of the 2005 households. The focus of the CARENT questionnaire lies on the attitudes and practices parents have regarding their children. The main questions that will be used in this paper are the ones regarding aspirations, occupations and exposure to different types of armed violence.

In a second part of our analysis we include the first wave of the data, the Multiple Indicator Cluster Survey (MICS), collected in 2005. The MICS contains additional important background information on the situation of the households in 2005. In order to analyse the influence of parental wealth and education on our variables of interest, we will only use the 2005 data on the subset of split-off households, which answered the survey questions of 2014 on aspirations, outcomes and violence and were still living in their parental household in 2005.

Of the 2,050 households that were interviewed, not all can be used in this paper. For about 400 households we are not able to link the survey answers on aspirations and violence to a unique individual's background information, such as the occupation or the gender, hence we have to drop them from the analysis. In section 8, we further discuss the final sample and perform t-tests on the means to verify if these households are similar to the ones used in our analysis. From here on, we work on a subset of the data for which we can merge the survey answers to the individual characteristics. This subset is composed of 1,657 individuals, of which 504 come from split-off households. Of these 504 individuals, 491 could be merged with their parental household in 2005 and 13 could not be matched. (In section 8.3 we add a note on the final sample)

5.2 Occupational aspirations and outcomes

The interviewed individuals were asked the following question: *When you were a child, did you have any expectations regarding your future occupation? If yes, which occupation did you want to do?*[4]. Only 801 individuals answered the first part of the question [5]. These people were given 13 categories to choose from[6]. The answers to this question is what we refer to as occupational aspirations. We understand occupational aspirations as the occupation the child wishes or hopes to exercise as an adult.

By looking at the distribution of the individuals inside the categories, it was clear that the categories could be summed up into fewer ones, which we show in Table 1. Agriculture is divided into two categories, the first one includes producers of crops that are exported, such as coffee or cotton, and the second one does not produce any crops for export. Public and para-public jobs are summed up into one category and both agricultural and non agricultural private sector employees as well.

[4] Author's translation from the french questionnaire, questions 10.6.Q1 and 10.6.Q2a.
[5] We discuss this final sample in the section 8.
[6] For more information on the initial categories and distribution of the individuals see, Table 13 in the annex.

The category "Other" includes the remaining categories. We have information on the occupational outcome variable for 1,545 individuals out of the 1,657. A first result of is that 92% of the individuals end up in the agricultural sectors, whereas only 37% aspired to them. The most aspired category is composed of the public and para-public sectors, with 35% of aspirations but with only 1,50% of outcomes. We believe that the public sector is the most popular category, because, in theory, it should lead to higher and more stable wages in comparison to agriculture. Other categories cannot be neglected, since almost 60% of the individuals wanted a different future than agriculture.

From the two variables aspirations and outcomes, we constructed a binary variable equal to one if the aspirations coincide with the outcomes, based on the seven categories. This variable, measuring if aspirations are realised, will be the dependent variable used in order to test our second hypothesis. There are 748 observations for which we have both information: the aspirations and the adulthood outcomes. From the Table 2, which summarises all the variables, we see that the mean is 0.32, suggesting that for most individuals their aspirations are not realised.

Table 3 shows the row frequencies of the childhood aspirations and their occupational outcomes. This simple table allows us to see one of the most important results on aspirations coinciding with outcomes in Burundi of the present paper: A given cell x_{ij} tells us how many individuals have the occupational outcome of the column j, knowing they had the aspiration of the row i. We can see, for example, that 50% of the individuals who wanted to work in agriculture with an export crop (cat.1), actually end up in that category. The diagonal of the table shows the percentage of individuals for whom the aspirations coincide with the occupational outcomes. We can see that wanting to work in agriculture without an export crop, leads, with a probability of 84%, to work there. Only 5% of the 259 individuals wanting to work in the public sector (the highly aspired cat.4), work there as adults. The main result of this analysis is that if you do not wish to work in agriculture, there is a high probability that it will lead to unrealised aspirations.

5.3 Exposure to armed violence

The interviewed individuals were asked several questions concerning their exposure before the age of 18 to violence at home, at school and to armed forces. They were also asked if they had participated in violence themselves. We focus here on exposure to armed violence as this type of violence is plausibly exogenous to the formation of aspirations. The following bullet points summarises the different questions of the survey that were used for the different dimensions of armed violence[7]. For each of the statements the individuals answered if they had lived the experience "One time", "A few times", "Many times" or "Never" in the first 18 years of their lives.

- *Armed Violence:*
  - You had to move because of a conflict/war. (Armed Violence 1)
  - You assisted to the destruction of your house. (Armed Violence 2)
  - You were the object of violence by soldiers, militia, the police or other armed groups. (Armed Violence 3)

[7] Author's translation from the french questionnaire, the original questions can be found in the survey questions 10.2.3 and 10.2.4.

– You have lost a family member because of violence perpetrated by soldiers, militia, the police or other armed groups. (Armed Violence 4)

Figure 1 shows the distribution of answers to the above questions. Having to move because of a conflict or a war is very present and more or less 400 individuals reported that they had to move "Many times". The distribution of the fourth armed violence question is also rather impressive, as over 200 individuals claim to have lost family members to armed groups "Many times", which comes as a reminder of the long lasting and brutal civil war that ravaged Burundi, in which civilians were the main victims. Due to the highly skewed distribution of the answers, we chose to construct binary variables for each question equal to one if the individual was exposed at least once, and equal to zero else. These binary variables are summarised in Table 2.

Since it is also of interest to capture the effect of the intensity of violence an individual has been exposed to, we build an armed violence score. The methodology is the following: for each question we modify the ordering of the questions to have 0 = "Never", 1 = "One Time", 2 = "A few times" and 3 = "Many times". To build the armed violence score, we add the four questions on that matter, which gives us a score ranging from 0 (no exposure) to 12 (maximum exposure for each question). These new variables give us the possibility to control for each question of armed violence at once, without losing information on the intensity of violence. The histogram is reported in the Figure 2. The mean of the armed violence score is 2.95 and almost 3% of the sample reaches the maximum score on all the armed violence questions.

5.4 Two potential channels

To further our understanding of how violence can impact aspirations, we analyse the effect of armed violence on two potential channels, internal locus of control and occupational happiness. Below is a description of the two variables we will use in our analysis.

Internal locus of control Inspired by the work of Bernard and Taffesse (2012) on fatalism in Ethiopia, we use a similar question present in our questionnaire: Internal locus of control is a binary variable equal to one if the individual agrees or strongly agrees with the following statement: *My professional life has been largely determined by my own acts.*[8] In Table 2 we observe that 70% of the individuals in our sample report having an internal locus of control, meaning 30% of the individuals do not believe that their own actions affect their professional outcome. This result can be compared to the one of Bernard and Taffesse (2012), who also found that 30% of their sample showed strong evidence of external locus of control[9].

Importance of occupational happiness A final variable that we will analyse is based on attitudes towards working. The individuals were asked to choose between the four categories "Very important", "Important", "Of little importance" or "Not important" [10], for the following questions: *Do you think it is important to have a job you like?*. The answers are highly skewed and we therefore created a dummy variable equal to one if the individuals answered "Very important", and equal to zero if not. We have 1,612 observations for this question and 78% of the individuals think it is very important to have a job that

[8] Author's translation from the french questionnaire, question 10.6.Q6.

[9] Bernard and Taffesse (2012) derived their results from different survey questions, which were: "To be successful one needs to be lucky" and "To be successful is a matter of ones destiny".

[10] Author's translation from the french questionnaire, question 10.6.Q3.

they like. We will use this variable in order to have a broader understanding of the psychological effects and the shaping of the attitudes towards working, when individuals grow up in a violent context.

5.5 Parental household - Wealth and level of education

In order to control for additional variables, we conduct a separate analysis on the split-off households, using the MICS data of 2005. These households, which are newly formed households between the 2005 and the 2014 wave, can be merged with their parental household of 2005, as we have explained in Section 5.1. To measure the wealth of the parental household, we use a wealth score variable which ranges from -0.59 to 5.80. To control for the education of the parental household, we use a variable summing up the education of the head of the household into four categories: "No Education", "Unofficial Program", "Primary", and "Secondary". The unofficial program is an adult literacy program called "Yagamukama", organised by churches in Burundi (two days per week). We see from the Table 2 that over a third of the parents in this subsample do not have any education, another third have primary education and only 14 individuals completed secondary school. 29% of the individuals took part in the adult literacy program.

5.6 Satellite data on night lights

As we have seen in the literature, aspirations are shaped by the environment the individuals grow up in. The theoretical framework suggests that individuals form their aspirations based on the people in their aspirations window. But the kind of people that are in your aspirations window is influenced by many things. Take for instance a child born in a poor commune in which the majority of people are farmers and the access to radios and televisions is limited or non existent, in such a case it is probable that the individuals inside the aspirations window of the child are also farmers. The way we take this into account is to include the increasingly popular night light intensity in our models, as a proxy for economic development of the communes. This data has been constructed using the National Oceanic and Atmospheric Administration (NOAA) data averaged at the commune level using QGis[11]. We construct two different variables based on the night light data, the first one is the night light in 1992 - which captures differences in development of the communes before the start of the civil war - and the second one is the average night light during the adolescent years of our individuals (12 to 18). The second one is less preferred and used as a robustness check, as it restricts the sample size given that night light data is not available before 1992.

6 Methodology

Before going into the details of the methodology used for our econometric regressions, we will present some preliminary results in relation to aspirations and armed violence. In this study, we avoid making a prediction about the direction of the effect of violence on aspirations as it is - to the best of our knowledge - the first study on exposure to violence and occupational aspirations, meaning that we do not have any precedent to guide our predictions.

[11] We follow the framework provided by Henderson *et al.* (2012), "Measuring Economic Growth from Outer Space". Any additional information on the data can be found in their paper.

6.1 Difference of means - t-tests

In Table 4 we show the difference of means for all the dependent variables that will be used for each type of exposure to armed violence. These preliminary findings suggest that individuals exposed to violence tend to aspire to categories outside of agriculture (but not to the public sector) and that their aspirations have a lower probability of being realised. Additionally we find evidence that exposure to violence increases internal locus of control and the belief in the importance of occupational happiness.

6.2 Logistic analysis

The testing of our two main hypotheses is based on the following simple logit model:

$$Pr(Y = 1|ArmedViolence, C, \lambda) = F(\alpha + \beta ArmedViolence + \mu C + \lambda)$$

With Y being the binary dependent variable, which is equal to one if the latent variable $y^* = \alpha + \beta ArmedViolence + \mu C + \lambda + \varepsilon$ is above zero, F is the logistic function, $ArmedViolence$ is the armed violence variable, C the set of control variables and finally, λ the province fixed effects and ε the error of the model. The standard errors are clustered at the sampling level. For each dependent variable Y we will run five regressions, each one with a different armed violence variable: The four binary variables, Armed Violence 1 - 4, and the armed violence score, both presented in the previous section. For each regression we control for the age of the individual, the gender and the night light intensity of the commune in which the individual is living. The dependent variables used are presented in the following paragraphs.

6.2.1 H1: Exposure to violence and occupational aspirations

In order to test our first hypothesis, which states that exposure to violence has an impact on occupational aspirations, we create three binary variables that will be our dependent variables (Y) for the first part of the analysis. The summary statistics are shown in Table 2.

- Aspiration : Agriculture, is a binary variable equal to 1 if the individual wished to work in the two categories of farming.
- Aspiration : Public, is a binary variable equal to 1 if the individual wished to work in the public or para-public sector.
- Aspiration : Other, is a binary variable equal to 1 if the individual wished to work in any other sector (private, commercial, artisanal)

Since only 801 individuals answered the question on occupational aspirations, we could not do a separate analysis for each occupation, we thus decided to focus on the three main categories. The regressions have 799 observations, which correspond to the 801 individuals who answered the aspirations question minus two for who we do not observe the age. We decided not to add the occupation cattle farm with the two categories of subsistence agriculture, as it is a rather different form of agriculture. Since it does not necessarily fit in "other categories" either, we decided to leave that category out of the analysis.[12]

[12]The results are almost identical when including the cattle farm category in "Other". These results are available upon request.

6.2.2 H2: Exposure to violence and realised aspirations

We apply the same model to test our second hypothesis, which is that exposure to violence has an impact on aspirations being realised. The dependent variable is a binary equal to one if the occupational aspirations match the effective outcomes of the individuals, based on the seven categories defined in Section 5.2. The regressions have 746 observations, which correspond to the 801 individuals who answered the aspirations question minus 53 for who we do not observe the outcomes and two, for who we do not know the age.

6.2.3 Channels : Internal locus of control and occupational happiness

We further analyse two potential channels that could help explain the results. The first one is the effect of armed violence on the internal locus of control, which is a binary equal to one if the individuals believe that their professional lives have largely been determined by their own acts. The regressions have 1,539 observations, corresponding to the 1,548 individuals who answered the question on internal locus of control minus nine individuals for who we do not observe the age. The second potential channel is the belief that it is important to have an occupation one likes. For these regressions we have 1,602 observations, which correspond to the 1,612 individuals who answered the question on occupational happiness, minus ten individuals for who we do not have information on the age.

6.2.4 Income and education of the parents

As explained earlier, we separately analyse the subset of split-off households, since for these individuals we have information on the aspirations, outcomes and violence variables and additionally, we know that they were still living in their parental household back in 2005. This allows us to merge them back to their parental household and extract data an parental household characteristics using the MICS 2005 data. The idea is to control for two important variables which should explain our dependent variables, namely the wealth and the level of education in the parental household. Unfortunately, we have an additional constraint, which is the small number of observations. As we have stated earlier, we have 491 split-off households that could be merged with their parental households and of these, 254 answered the aspirations question. There has been some debate in the literature about the minimal amount of observations required for a logistic regression. Peduzzi *et al.* (1996) use Monte Carlo simulations to analyse how the number of events per variable (EPV)[13] impacts the accuracy of the estimation of the coefficients. They find, that as the EPV gets smaller, in particular from 10 downwards, there is an increasing probability to have inaccurate estimations of the coefficients. If we take as a rule of thumb a minimum of 10 events per variable, we can verify, using the following formula, if we have a sufficient amount of observations to perform logistic regressions: $N = 10 * \frac{k}{p}$ with k being the number of covariates and p the smallest proportion of either positive (1) or negative (0) observations of the dependent variable[14]. For the different dependent variables that we use, the smallest p is 0.25 in the subsample of split-off households and the number of covariates ranges from four to 20 once we control for the provinces. The range of observations necessary using this formula would be between 160 (no fixed effects) and 800 (fixed effects), meaning we will present the results without province fixed effects[15].

[13]The EPV is defined as the smallest number of positive or negative events of the dependent variable divided by the number of covariates: $\frac{n_0}{k}$.

[14]This formula can be derived from the EPV definition: $\frac{n_0 N/N}{k} = 10 \iff \frac{pN}{k} = 10$.

[15]For the regressions in the first part of the analysis, all regressions fulfill this rule of thumb requirement, except the regressions on the aspirations to category "other", for which we still have over nine events per variable.

This being said, we use the same framework as the one presented in the previous section, but focus solely on the armed violence score. For starters, we perform the regressions without including the wealth or the education on the subset of split-off households, in order to find out if the previous results still hold in this subset. We then perform two regressions for each dependent variable, one adding the wealth score of the parental household and one adding the education level of the head of the parental household. There are four binary variables identifying the level of education of the head of household. We include "Unofficial Program", "Primary" and "Secondary" and compare it to "No Education". The number of observations for the regressions range from 241 to 253.

6.3 Potential threats to the analysis

We are aware of several potential threats to our analysis. First, we start by outlining why we believe in the exogeneity of armed violence towards childhood aspirations. Voors *et al.* (2012), have extensively documented the near-exogeneity of armed violence towards household characteristics and local economic conditions in Burundi's civil war. In their quantitative work, no systematic correlation appears between, on the one hand, violence exposure during the civil war and, on the other hand, the socioeconomic characteristics of households and their localities. As Voors *et al.* (2012) infer the effect of armed conflict on a set of behavioral outcomes such as risk aversion, social behavior and time preferences, a domain of research that is close to our own work on aspirations, we feel on safe ground to argue for the same near-exogeneity of armed violence and aspirations. Hence, the risk that the estimated effects will be driven by the non-randomness of violence or 'selection into violence' is low. A formal test suggested by Oster (2013) is presented in the robustness analysis in section 8.

A second threat to our model is a possible omitted variable bias. For our main model, we do not include parental characteristics that could explain aspirations, since these variables are only available for the small subset of split-off households in our sample. To control for this potential threat we perform a second set of regressions on the split-off households in which control for the income and the education, as we discuss in the following section. However, even if we had additional covariates at the parental level for which we could control for, we face the constraint of a lower number of observations in our split-of sample, which sets a constraint on the number of covariates one can introduce in the analysis, a problem (and our approach to it) that we describe in detail in section 6.2.4.

Another threat could arise from the recall of aspirations held in childhood by our adult respondents. The recall problem, or more precisely the problem of selective memory, would only pose a threat in the event that exposure to violence in childhood would systematically affect the recall of the aspiration held as a child. If that would be the case, the aspirations stated to the interviewer would have a violence-exposure bias and the researcher would erroneously believe that the aspirations expressed during the interview are a correct representation of the person's real aspirations. While we cannot exclude this possibility completely we have no indication that this issue affects our data. In particular, we have no evidence that respondents exposed to violence in childhood 'lied' to the interviewer (intentionally or not) while the non-exposed did not. A problem related to the recall is that children can go through several different phases of occupational aspirations that can change during childhood.

Again, to the extent that there is no systematic bias in reporting between exposed and non-exposed respondents, the issue should not affect our results. For exposed as well as non-exposed, we believe this is not an issue of concern because we only have seven broad categories of occupations. It is thus highly likely that the expressed aspiration applies to a category of occupations rather than one specific occupation (e.g.'teacher' could also be 'journalist'). Hence, changes over time within a category should not matter. This is particularly the case for the analysis on aspirations since there are only three categories, agriculture, public sector and other.

A related issue to this last point is the recall questions for both violence and aspirations questions, disabling us from knowing which happened first. The first reaction would be that we could only infer causality if violence happened before the formation of aspirations. But as we have said in the previous paragraph and seen in the literature, there is no such thing as definitive or rigid aspirations. Aspirations evolve constantly and are shaped by the events in the lives of the individuals. This means that if a child has an idea of what he wants to do in his life at age 12, and, at age 13, he or she is exposed to a form of armed violence, occupational aspirations can still be adapted as a response to the shock. Taking this into account we argue that it does not matter that we do not know at which moment in time the individuals were exposed to violence in their youth since an adaption of the aspirations is always possible after the shock. For this reason we feel confident about inferring causality between an exogenous armed violence exposure and occupational aspirations.

7 Results and discussion

H1 : Exposure to violence and occupational aspirations

We begin the analysis by applying our framework to our first set of dependent variables, which are three binary variables identifying the three most aspired categories. As we have said earlier, we would have liked to include all occupations in the analysis, but a consequence of our limited observations is that some categories contain few individuals. For this reason, we decide to compare the two main categories (agriculture and public sector) with all other occupations (other). Table 5 contains all regressions and we start by focusing on the first three dependent variables. All 15 regressions control for age, gender and night light data at the commune level. The results suggest that individuals exposed to armed violence aspire less to working in agriculture. There does not seem to be an important difference between the different armed violence variables in terms of magnitude and significance, except that the first one (having to move because of a war) is not significant. Individuals exposed to armed violence are not more or less attracted to the public or para-public sectors. We find that exposure to violence increases aspirations to our last category (other), which consists mainly of the private sector, commercial and sales occupations. Girls, as well as older generations, aspired more to the agricultural categories and less to other categories. Unfortunately this type of analysis does not permit us to determine which category these individuals want to work in. The main result is thus that individuals exposed to violence have a lower probability to wish to work in agriculture.

H2 : Aspirations are realised

In order to test our second hypothesis, which is that exposure to violence has an effect on aspirations coinciding with later outcomes, we apply our model to the binary dependent variable equal to one if aspirations and outcomes match, based on the 7 categories defined in the previous section. In Table 5 the results are shown in the fourth row. All armed violence variables,

except the first one (having to move because of a war) are significant and negative. The results suggest that individuals exposed to armed violence have a lower probability to realise their aspirations. Girls have a higher probability of realising them, as do older people and individuals living in more developed areas, defined by higher night light intensity.

Potential channels

This last set of regressions is done in order to analyse potential channels that can help explain our results. The framework is the same and is first applied to the dependent variable Internal Locus of Control, which is equal to one if the individual agrees or strongly agrees that his professional life has been largely determined by his own acts, and second to the dependent variable Occupational Happiness, which is a binary variable equal to one if the individual strongly agrees that it is important to have an occupation one likes. The results, shown in the last two rows of Table 5, suggest that exposure to violence has some effect on increasing internal locus of control, but only the armed violence question 3 is significant at the 1% level (the individual has been a victim of violence by armed forces (police, army or militia)). The results also suggest that exposure to armed violence increases the probability of believing that it is important to work in an occupation one likes.

Wealth and education of the parents

We begin by analysing the main regressions of the previous part, when applied to the subset of split-off households. The results are presented in Table 6. Armed violence is negative and significant for aspiring to work in the public sector and it increases the probability to aspire for other categories. The previous results for aspiring to work in agriculture and on the realisation of aspirations do not hold, which can be caused by our reduced number of observations as well as not controlling for province fixed effects, both leading to less precise estimations, or, it could be that individuals in newly created households are not impacted by violence in the same way as the older generations were. In Table 7, we see that including the wealth score does not affect these results. Having richer parents is linked to aspiring to work in categories other than agriculture and the public sector. It also leads to a higher probability of realising aspirations. Finally, in Table 8, we show the results when we include the level of education of the head of the household. The category "no education" is not included in the regression. Apart from primary education explaining aspiration to agricultural occupations there is no evidence of parental education playing a role in our setting. Secondary school is omitted from the first regression as it perfectly predicts the outcome: all six individuals with parents having secondary education aspire to occupations different from agriculture.

Discussion

One of the main results we find is that armed violence, plausibly exogenous to aspirations, leads to different occupational aspirations. Our findings suggest that exposed individuals aspire less to agriculture and more to categories other than the public sector and agriculture. This is an important result in the sense that our sample is mainly rural, meaning a large majority of our surveyed individuals grew up in an agricultural context. Aspiring to a job outside of agriculture could be seen as wishing for a different (better?) situation. Our regressions on the two potential channels can help explain why aspirations are altered: First, we find evidence of increased locus of control, meaning the belief that our actions matter, in individuals exposed to armed violence. Aspiring to a different situation is only possible in individuals who actually believe that they have the power to achieve this different situation. Second, our regressions on occupational happiness show that individuals exposed

to armed violence have a higher probability of believing in the importance of enjoying one's occupation, which can also be seen as an additional incentive to pursue a wanted career path.

Unfortunately, these changed aspirations do not seem to be realised in adulthood. We find that an exposure to armed violence decreases the probability of realised aspirations. From the descriptive statistics we also find that most individuals end up in agricultural categories in adulthood, in spite of having different aspirations. Based on our regressions on potential channels we don't believe this is linked to reduced locus of control or in a general negative state of mind, it would rather be linked to other adverse effects of armed violence: based on the literature, we know that being exposed to violence and to civil war leads to psychological distress, post traumatic stress disorder, but also to a modification of the preferences regarding risk and discount rates and finally, also to a reduced health and schooling level. All these factors put together, can certainly explain unrealised aspirations. Increased preference for the present could mean reduced incentives to invest in efforts to reduce the aspirations gap. Individuals who could not achieve their desired level of education due to the civil war, should have a limited access to professions outside of agriculture. Having enough education, as well as a good health, both mental and physical, are important factors that should help individuals pursue their aspirations.

It could also be that, in Burundi, as suggested by Bernard and Taffesse (2012) for Ethiopia, individuals have to share the returns of a better paying job with the family and the community, which decreases the return on the investment and the incentive to realise their aspirations, which subsequently leads to unrealised aspirations. As in Tafere (2014), an explanation for this phenomenon could be that there is simply not enough room for the excess of individuals who wish to leave agriculture. This would mean that individuals would like to pursue a different career path and are ready to provide the necessary efforts, but the job market in Burundi cannot absorb them. Similarly, it could also be that, in Burundi, the individuals are *not* ready to provide the necessary efforts to realise their aspirations, as they know that there is a limited demand for jobs in non agricultural sectors.

From the Table 5, showing the regressions in their complete form, additional observations can be made. The night light intensity variable is positive and significant in predicting the realisation of aspirations. Individuals growing up in areas with higher economic activity have a higher probability to realise their aspirations. These individuals also have a higher probability to believe that they should enjoy their occupation. It is interesting to note that in general, girls aspire more to agriculture, less to other occupations, have a lower internal locus of control and have a higher probability of realising their aspirations. We argue that their aspirations are realised more often since agricultural occupations are, we believe, easier to realise than working in the public sector / other categories. The findings of Tafere (2014) in Ethiopia suggest that aspirations regarding the desired education seem to be the same for boys and girls. Risso Brandon and Pasquier-Doumer (2015) do not find any indication that girls have lower aspirations in Peru. Nevertheless, they recall the psychological literature, which indicates that girls often have a smaller range of occupations judged to be appropriate for women. From Verwimp and Van Bavel (2013), we also know that there is an important gender gap in Burundi regarding the number of years of education achieved. We can imagine, that if jobs outside of agriculture require a certain level of education and since girls are aware that they will have a lower amount of education, based on the women in their aspirations window, they will adapt their aspirations accordingly. An additional information from this table is that the older generations aspired more to agricultural occupations and less to the other two types, had a

higher probability of realising their aspirations, have a lower internal locus of control and believe less in occupational happiness.

As we have seen in the literature, Appadurai (2004), Ray (2006) as well as Favara (2016), argue that the poor have a lower capacity to aspire. Based on our data we cannot necessarily confirm this claim, nevertheless we do find evidence that children growing up in the richer households will aspire to occupations outside of agriculture. If we would argue that aspiring outside of agriculture is "better" than aspiring to work in agriculture, then the poor do have "lower" aspirations in our sample. It is worth mentioning that the richest parents were probably not simple farmers, meaning that their children had more individuals with professions outside of agriculture in their aspirations window. Children growing up in the richest households are thus probably more in contact with individuals outside of the agricultural world, making them more aware of the jobs outside of agriculture and of the path required to attain them.

8 Robustness analysis and additional notes

8.1 Unobservables

We follow the methodology suggested by Oster (2017) to create a bounding set for our coefficient of interest, in order to asses their sensitivity to unobservables. The results are obtained using the - psacalc - stata command developed by Emily Oster. The method is based on the changes in the coefficient of interest as well as the R-squared, with and without the inclusion of observables. To create a set of bounds for our coefficient of interest, we first have to set bounds for δ, the degree of proportionality between observables and unobservables. Oster (2017) considers $\delta = 1$ to be appropriate so this is the δ we will use. Second, we need bounds for the maximum R-squared (Rmax), which we also choose based on the recommendations of the author. We will compute $(\beta^*(Rmax, \delta = 1))$, which is the value of the treatment effect assuming $\delta = 1$, and setting a value for Rmax of 0.8 and 1. The suggested bounding set Δ_s for the coefficient of interest is :

$$\Delta_s = [\widetilde{\beta}, \beta^*(Rmax, \delta = 1)]$$

With $\widetilde{\beta}$, our estimated coefficient of interest when including control variables. A last note before presenting our results is that these were obtained by estimating a linear probability model instead of a logit model, since the Oster method has been developed for linear models only. While this setting is not ideal it does allow us to estimate a bounding set for our coefficients using the methodology of Oster (2017). Table 9 shows the estimated coefficients with and without controls for each dependent and independent variable. We show the bounding sets for the coefficients of the armed violence variables, once with Rmax set to 0.8 and once to 1. Zero should ideally not be in the interval since this would mean that the interpretation of our coefficients do not hold. Based on the results there does not seem to be a robustness issue for our main regressions on H1 and H2 (effect of armed violence on aspirations and on their realisation). We have to be careful with our interpretation of our results on armed violence and internal locus of control since the estimated coefficients of Oster (β^*) seem to go in a different direction than our estimations, we must therefore exercise caution with our results on internal locus of control.

8.2 Night light data average

As we mentioned earlier, we run the main regressions again using a different variable for the night light intensity. Instead of using the night light intensity for the year 1992, we construct the average night light during the adolescent years of our individuals (12 to 18). Since the data is not available before 1992, it reduced our sample size as we cannot include adolescents before 1992. For this reason we choose not to control for province fixed effects based on our discussion in the methodology. The results in Table 12 show that the new night light variable is not significant. Armed violence is positive and significant for aspiring to work in a category other than agriculture and the public sector and decreases the probability of aspirations being realised.

8.3 Notes on the final sample

The final dataset we use is the product of two separate datasets. The first contains the survey answers at the household level and has 2,054 observations. The second one contains individual level data for each household member and has around 10,500 observations. Since we wish to work with individual data, we merge each respondent of the household level survey with his or her individual level data. Unfortunately, for around 400 households, more than one individual answered the survey questions, making it impossible to merge that household to one particular individual's data. Table 10 shows t-tests on the means that we run to compare the households that could be merged with the ones that could not. We see that the ones that could be merged are slightly smaller (5.06 members compared to 5.33). The two samples are the same in relation to their average development (measured by night light intensity), average age of the household and to the amount of split-off households they contain and in terms of exposure to violence of the individual who answered these questions. In general, we are confident in saying that our final sample of 1,657 does not suffer from a major selection issue related to the 400 households that are dropped.

As we have explained, only 801 individuals out of the 1,657 answer the question related to aspirations. We perform additional t-tests in order to find out if the 856 individuals that did not answer the question on aspirations are similar to the 801 who did, in terms of exposure to violence, age, gender and development of their commune. In Table 11, we see that the individuals exposed to the fourth armed violence question (member of family died) will have a slightly higher probability to answer the occupational aspirations question. The individuals who answered the question are similar to those who do not in their exposure to all the other measures of armed violence. We find that more men and slightly younger individuals answered the aspirations question. To attenuate this last point, we control for age and gender in all our regressions.

9 Conclusion

The aim of the present paper is to contribute to the existing literature on occupational aspirations, by presenting a new channel through which they can be shaped: the exposure to violence, and particularly, armed violence. Additionally, we analyse how the exposure to violence impacts the realising of these aspirations. In order to do so, we perform an econometric analysis on a Burundian survey collected in 2014, composed of 2,050 households. Burundi's recent history, in particular its decade-long civil war, permits us to analyse how an exposure to armed violence, before the age of 18, influences the aspirations and the outcomes of young individuals. The longitudinal nature of the survey allows us to trace a subset of individuals back

to their former parental household in 2005. For this subset, we then analyse how the wealth and the level of education of the parental household affect the children's aspirations and outcomes.

We find that children in Burundi have occupational aspirations in categories other than agriculture, but that these aspirations are rarely met in later life. Around 60% of children wish to work outside of agriculture, but only 8% turn out to have an occupation outside of agriculture as adults. Our results suggest that, on the one hand, a high exposure to armed violence increases the wish for an occupation outside of agriculture, but that on the other hand, this same exposure leads to an increased probability of unrealised aspirations. We find evidence close to the theoretical predictions of Appadurai (2004) and Ray (2006), who state that children from poor households have a lower capacity to aspire and that the rich have more chances of realising their aspirations. Regardless of violence, aspirations are rarely met in Burundi. Of the individuals realising their aspirations, the majority aspired to work in agriculture. We give several possible explanations for this, among others, the possible scarcity of occupations outside of agriculture. Additionally, we find some evidence that exposure to armed violence increases internal locus of control and the belief in occupational happiness.

Appadurai (2004) states that the goal of any project wishing to ameliorate the situation of the poor, should be to raise their aspirations. We believe that focusing on raising the aspirations of the Burundians is not a good solution, as the existing aspirations are hardly ever realised as it is. Raising the aspirations of the poor would probably lead to more unrealised aspirations and generate frustrations in the country. An alternative, as suggested by Tafere (2014) for Ethiopia, is for the authorities to support or help create a demand for the excess of individuals who wish to leave agriculture. We believe that it is better to start by trying to satisfy the existing aspirations, which in general are not necessarily "low" in Burundi, before trying to increase them. Since we find an important presence of external locus of control in our sample, creating a demand for the existing aspirations is not enough, as individuals would still need to believe that their actions matter in order to achieve their aspirations, which, as Bernard *et al.* (2004) show, can be easily done. Raising awareness that one's actions and efforts are closely related to achievements is thus an important step that would help Burundians reaslise their aspirations.

Additional research would be necessary in order to highlight the micro level impacts of unrealised aspirations, for example, its effects on adulthood outcomes, such as happiness and attitudes towards the education of their children. At the macro level, further research could focus on analysing concretely, how unrealised aspirations impact the post-conflict development of a country. In light of our results, it could be that the increased unreaslised aspirations, due to the exposure to armed violence, are slowing down the development of a country after a conflict. Helping the young individuals achieve their aspirations after a conflict would thus be beneficial for the development of the country.

10 References

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Figures

Figure 1: Armed Violence - Distribution of Answers

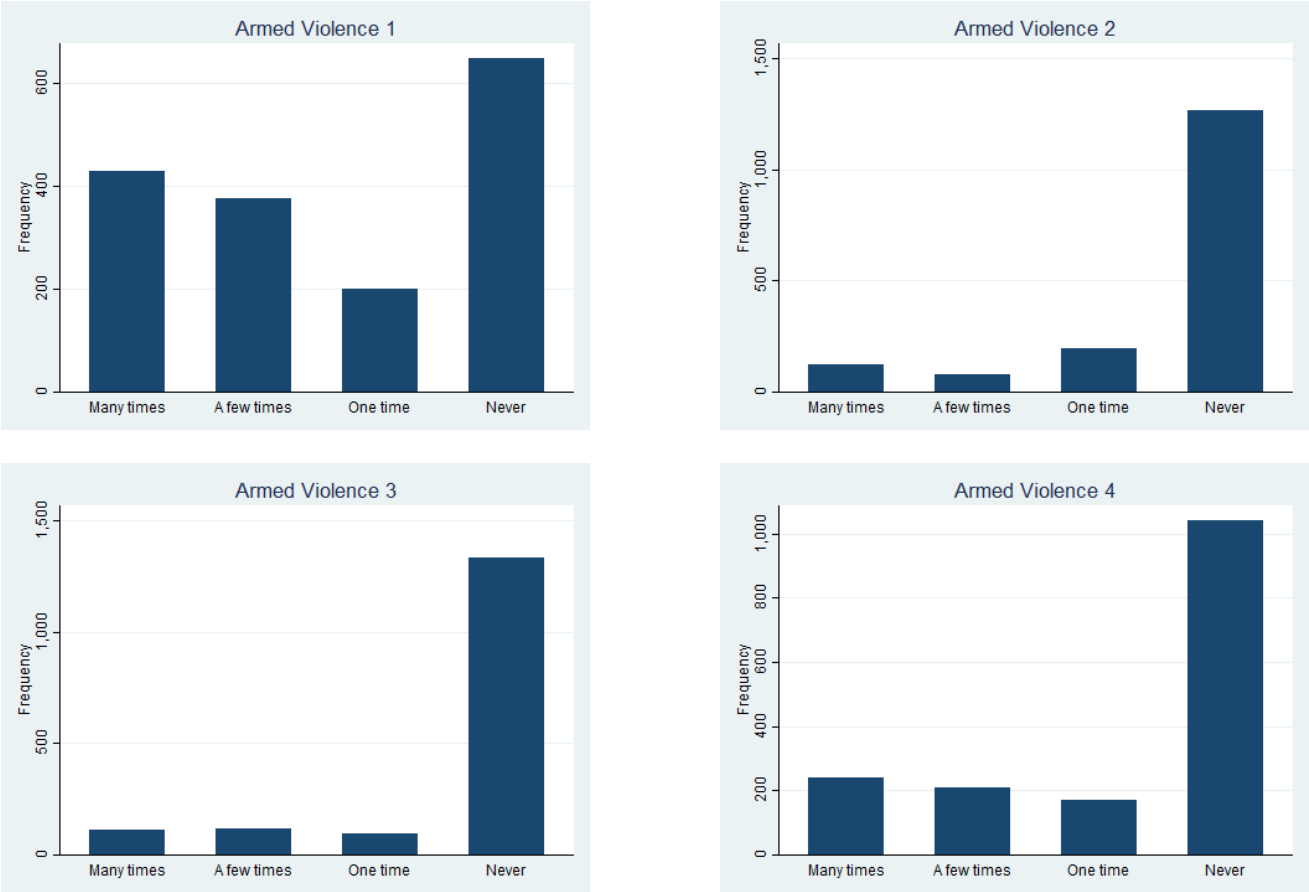
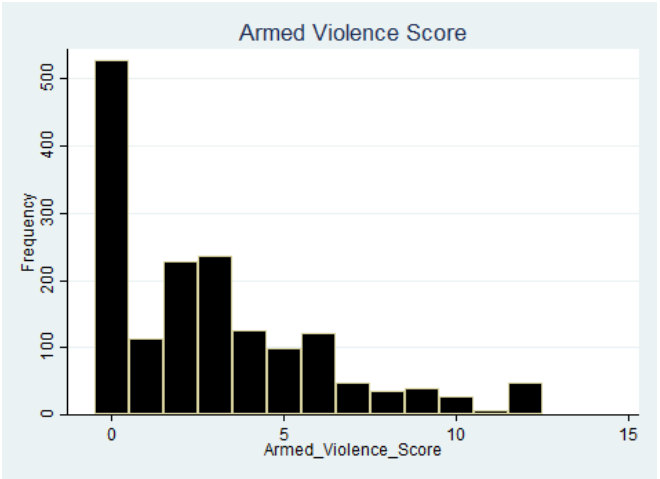


Figure 2: Armed Violence Score



Tables

Summary statistics

Table 1: Occupations and aspirations - Grouped categories

Occupation	**Aspired**		**Outcome**	
	Frequency	*Percentage*	*Frequency*	*Percentage*
1. Agriculture - Export Crops	121	15.11	418	27.06
2. Agriculture - Other Crops	194	24.22	1000	64.72
3. Cattle Farm	20	2.50	6	0.39
4. Public, Parapublic	280	34.96	23	1.49
5. Private Sector - Employee	65	8.11	46	2.98
6. Trading / Sales	75	9.36	31	2.01
7. Other	46	5.74	21	1.36
Total	**801**	**100**	**1545**	**100**

Table 2: Summary of variables

Variables	**Obs**	**Mean**	**Std. Dev.**	**Min**	**Max**
Aspirations, occupations and channels					
1. Occupation : Aspired	801	3.48	1.75	1	7
2. Occupation: Outcomes	1545	2.00	1.12	1	7
3. Aspirations are realised	748	0.32	0.47	0	1
4. Aspiration : Agriculture	801	0.39	0.49	0	1
5. Aspiration : Public	801	0.35	0.48	0	1
6. Aspiration : Other	801	0.23	0.42	0	1
7. Internal Locus of Control	1548	0.68	0.47	0	1
8. Occupational Happiness	1612	0.78	0.42	0	1
Violence variables					
9. Armed Violence 1	1656	0.61	0.49	0	1
10. Armed Violence 2	1656	0.23	0.42	0	1
11. Armed Violence 3	1656	0.19	0.40	0	1
12. Armed Violence 4	1656	0.37	0.48	0	1
13. Armed Violence Score	1656	2.96	0.08	0	12
Parental household - MICS 2005 data					
14. Wealth Score	490	-0.17	0.72	-0.59	5.80
15. No Education	489	0.36	0.48	0	1
16. Unofficial Program	489	0.29	0.45	0	1
17. Primary Education	489	0.32	0.47	0	1
18. Secondary Education	489	0.03	0.17	0	1
Other					
19. Night Light, 1992	1656	4.51	5.16	3.10	58
20. Night Light, average	692	4.10	4.48	2.48	48.67
21. Age	1650	41.00	16.32	13	103
22. Female	1657	0.64	0.48	0	1

Table 3: Aspirations and occupational outcomes, row frequencies

Aspiration	**Outcome**							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**Total**
1. Agriculture	54	53	0	0	1	0	0	108
Export	50.00	49.07	0.00	0.00	0.93	0.00	0.00	100.00
2. Agriculture	26	157	0	0	1	1	1	186
No Export	13.98	84.41	0.00	0.00	0.54	0.54	0.54	100.00
3. Catle Farm	9	10	0	0	0	0	0	19
	47.37	52.63	0.00	0.00	0.00	0.00	0.00	100.00
4. Public Sector	83	134	4	12	14	6	6	259
or para-public	32.05	51.74	1.54	4.63	5.41	2.32	2.32	100.00
5. Private Sector	23	27	0	1	7	1	0	59
	38.98	45.76	0.00	1.69	11.86	1.69	0.00	100.00
6. Trade	33	29	0	0	1	9	0	72
or Sales	45.83	40.28	0.00	0.00	1.39	12.50	0.00	100.00
7. Other	11	24	0	2	3	2	3	45
	24.44	53.33	0.00	4.44	6.67	4.44	6.67	100.00
Total	239	434	4	15	27	19	10	748
	31.95	58.02	0.53	2.01	3.61	2.54	1.34	100.00

Difference of means

Table 4: Difference of means for all dependent variables

	No exposure	Exposure	Difference
Aspiration : Agriculture			
Armed Violence 1	0.39	0.40	-0.01 (0.04)
Armed Violence 2	0.42	0.32	0.10** (0.04)
Armed Violence 3	0.41	0.32	0.09** (0.04)
Armed Violence 4	0.41	0.36	0.05 (0.04)
Obs : 801			
Aspiration : Public			
Armed Violence 1	0.38	0.33	0.06 (0.03)
Armed Violence 2	0.34	0.37	-0.03 (0.04)
Armed Violence 3	0.35	0.35	0.00 (0.04)
Armed Violence 4	0.36	0.34	0.02 (0.03)
Obs : 801			
Aspiration : Other			
Armed Violence 1	0.22	0.24	-0.02 (0.03)
Armed Violence 2	0.22	0.26	-0.04 (0.04)
Armed Violence 3	0.22	0.31	-0.09** (0.04)
Armed Violence 4	0.21	0.26	-0.05 (0.03)
Obs : 801			
Aspirations are realised			
Armed Violence 1	0.32	0.33	-0.01 (0.04)
Armed Violence 2	0.35	0.25	0.09** (0.04)
Armed Violence 3	0.34	0.24	0.10** (0.04)
Armed Violence 4	0.36	0.27	0.08** (0.03)
Obs : 748			
Internal Locus of Control			
Armed Violence 1	0.65	0.70	-0.04* (0.02)
Armed Violence 2	0.67	0.70	-0.03 (0.03)
Armed Violence 3	0.65	0.79	-0.13*** (0.03)
Armed Violence 4	0.68	0.67	0.01 (0.02)
Obs : 1544			
Occupational Happiness			
Armed Violence 1	0.78	0.78	0.00 (0.02)
Armed Violence 2	0.76	0.81	-0.04* (0.02)
Armed Violence 3	0.76	0.84	-0.08*** (0.03)
Armed Violence 4	0.77	0.78	-0.01 (0.02)
Obs : 1608			

Two-sample t test with equal variances, standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Results

Table 5: Results for H1, H2 and potential channels

	AV score[1]	AV1[2]	AV2[3]	AV3[4]	AV4[5]	Nightlight92	Female	Age	Const.	Obs.
H1 - Aspiration : Agriculture	-0.05***					-0.03	0.87***	0.05***	-2.11***	799
	(.03)					(.04)	(.18)	(.01)	(.42)	
		0.07				-0.03	0.90***	0.05***	-2.37***	799
		(.18)				(.04)	(.18)	(.01)	(.42)	
			-0.47***			-0.03	0.90***	0.05***	-2.14***	799
			(.17)			(.04)	(.18)	(.01)	(.41)	
				-0.47**		-0.03	0.90***	0.05***	-2.11***	799
				(.22)		(.04)	(.18)	(.01)	(.43)	
					-0.44***	-0.03	0.90***	0.05***	-2.21***	799
					(.17)	(.04)	(.18)	(.01)	(.41)	
H1 - Aspiration : Public	-0.03					-0.02	-0.05	-0.04***	1.26***	799
	(.03)					(.02)	(.17)	(.01)	(.46)	
		-0.30				-0.02	-0.07	-0.04***	1.38***	799
		(.18)				(.02)	(.17)	(.01)	(.46)	
			0.04			-0.02	-0.04	-0.04***	1.11**	799
			(.21)			(.02)	(.17)	(.01)	(.47)	
				-0.11		-0.02	-0.05	-0.04***	1.18**	799
				(.22)		(.02)	(.17)	(.01)	(.47)	
					-0.06	-0.02	-0.04	-0.04***	1.14**	799
					(.17)	(.02)	(.17)	(.01)	(.46)	
H1 - Aspiration : Other	0.07**					0.02	-0.83***	-0.02***	-1.17**	799
	(.03)					(.02)	(.20)	(.01)	(.50)	
		0.19				0.02	-0.84***	-0.02***	-1.00**	799
		(.19)				(.02)	(.20)	(.01)	(.47)	
			0.32			0.02	-0.85***	-0.02***	-0.97*	799
			(.21)			(.02)	(.20)	(.01)	(.51)	
				0.54**		0.02	-0.82***	-0.02***	-1.31**	799
				(.24)		(.02)	(.20)	(.01)	(.50)	
					0.41**	0.03	-0.86***	-0.02***	-0.95*	799
					(.18)	(.02)	(.20)	(.01)	(.49)	
H2 - Aspirations are realised	-0.06**					0.06**	0.41**	0.03***	-1.70***	746
	(.03)					(.03)	(.16)	(.01)	(.35)	
		0.04				0.06**	0.44**	0.03***	-1.99***	746
		(.17)				(.03)	(.17)	(.01)	(.36)	
			-0.48***			0.06**	0.43**	0.03***	-1.79***	746
			(.18)			(.03)	(.17)	(.01)	(.35)	
				-0.52**		0.06**	0.39**	0.03***	-1.72***	746
				(.22)		(.03)	(.17)	(.01)	(.34)	
					-0.48***	0.06**	0.42**	0.03***	-1.83***	746
					(.18)	(.03)	(.17)	(.01)	(.34)	
Potential channel : Internal locus of control	0.03					0.02	-0.42***	-0.01***	2.77***	1539
	(.02)					(.02)	(.13)	(.00)	(.33)	
		0.24*				0.02	-0.42***	-0.01***	2.70***	1539
		(.13)				(.02)	(.13)	(.00)	(.33)	
			0.14			0.02	-0.42***	-0.01***	2.83***	1539
			(.16)			(.02)	(.13)	(.00)	(.33)	
				-0.52***		0.02	-0.41***	-0.01***	2.70***	1539
				(.19)		(.02)	(.13)	(.00)	(.33)	
					-0.04	0.02	-0.42***	-0.01***	2.88***	1539
					(.13)	(.02)	(.13)	(.00)	(.33)	
Potential channel : Occupational happiness	0.06***					0.08*	-0.05	-0.02***	1.51***	1602
	(.02)					(.05)	(.14)	(.00)	(.40)	
		-0.01				0.08*	-0.06	-0.02***	1.75***	1602
		(.14)				(.05)	(.14)	(.00)	(.40)	
			0.29**			0.08*	-0.06	-0.02***	1.65***	1602
			(.14)			(.05)	(.14)	(.00)	(.40)	
				0.60***		0.08*	-0.05	-0.02***	1.54***	1602
				(.17)		(.05)	(.14)	(.00)	(.40)	
					0.08	0.08*	-0.06	-0.02***	1.71***	1602
					(.15)	(.05)	(.14)	(.00)	(.40)	

All 30 regressions include province fixed effects.The standard errors are clustered at the level of the survey site. [1] Armed Violence Score is a score based on the four armed violence questions and their intensity. [2]Armed Violence 1 is a binary variable equal to one if the individual had to move because of war at least once. [3]Armed Violence 2 is a binary variable equal to one if the individual has assisted to the destruction of his house. [4]Armed Violence 3 is a binary variable equal to one if the individual has been a victim of violence by armed forces (police, army or militia). [5]Armed Violence 4 is a binary variable equal to one if a member of the individuals family has been killed by armed forces. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table 6: Split-off households : Armed violence, aspirations and occupations

VARIABLES	(1) Aspi. Agriculture	(2) Aspi. Public	(3) Aspi. Other	(4) Aspi. realised
Armed Violence Score	0.00130	-0.0812**	0.0927**	-0.0134
	(0.0499)	(0.0374)	(0.0402)	(0.0496)
Nightlight92	-0.305**	0.0233	0.0178	0.0538**
	(0.138)	(0.0236)	(0.0190)	(0.0226)
Female	0.189	-0.0939	-0.154	0.439
	(0.307)	(0.252)	(0.297)	(0.333)
Age	0.0601***	-0.0454***	-0.0180	0.0497***
	(0.0145)	(0.0134)	(0.0161)	(0.0191)
Constant	-1.619*	1.269***	-0.789	-3.031***
	(0.835)	(0.461)	(0.553)	(0.678)
Observations	253	253	253	243
Province FE	NO	NO	NO	NO

The standard errors are clustered at the level of the survey site. Armed Violence Score is a score based on the four armed violence questions and their intensity. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table 7: Split-off households : Wealth score of the parental household

VARIABLES	(1) Aspi. Agriculture	(2) Aspi. Public	(3) Aspi. Other	(4) Aspi. realised
Armed Violence Score	-0.0142	-0.0837**	0.105***	-0.00757
	(0.0496)	(0.0378)	(0.0403)	(0.0494)
Wealth Score	-1.550*	-0.118	0.482***	0.276*
	(0.939)	(0.143)	(0.125)	(0.163)
Nightlight92	-0.270	0.0303	-0.0110	0.0347
	(0.171)	(0.0221)	(0.0171)	(0.0225)
Female	0.252	-0.0928	-0.157	0.443
	(0.316)	(0.253)	(0.302)	(0.333)
Age	0.0590***	-0.0455***	-0.0172	0.0506***
	(0.0146)	(0.0134)	(0.0164)	(0.0190)
Constant	-2.184**	1.225***	-0.635	-2.938***
	(1.015)	(0.455)	(0.551)	(0.664)
Observations	253	253	253	243
Province FE	NO	NO	NO	NO

The standard errors are clustered at the level of the survey site. Armed Violence Score is a score based on the four armed violence questions and their intensity. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table 8: Split-off households : Education of the head of household

VARIABLES	(1) Aspi. Agriculture	(2) Aspi. Public	(3) Aspi. Other	(4) Aspi. realised
Armed Violence Score	-0.0230	-0.0725*	0.0914**	-0.00233
	(0.0495)	(0.0381)	(0.0427)	(0.0479)
Unofficial Program	0.314	0.101	-0.436	-0.483
	(0.396)	(0.349)	(0.395)	(0.452)
Primary Edu	0.780**	-0.218	-0.318	0.298
	(0.348)	(0.336)	(0.396)	(0.340)
Secondary Edu	(omitted)	1.266	-0.805	-0.243
		(1.228)	(1.269)	(0.948)
Nightlight92	-0.340**	0.0241	0.0183	0.0705**
	(0.140)	(0.0279)	(0.0203)	(0.0312)
Female	0.247	-0.139	-0.0435	0.363
	(0.311)	(0.243)	(0.295)	(0.342)
Age	0.0589***	-0.0455***	-0.0186	0.0494**
	(0.0145)	(0.0141)	(0.0168)	(0.0194)
Constant	-1.807**	1.304**	-0.620	-3.022***
	(0.886)	(0.564)	(0.650)	(0.714)
Observations	245	251	251	241
Province FE	NO	NO	NO	NO

The standard errors are clustered at the level of the survey site. Armed Violence Score is a score based on the four armed violence questions and their intensity. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Robusntess

Table 9: Oster bounds

	Baseline Effect	Control Effect	Bound for β, Rmax=0.8	Bound for β, Rmax=1
H1 - Aspiration : Agriculture				
Armed Violence Score	-0.008	-0.009**	[-0.015 ; -0.009]	[-0.018 ; -0.009]
	(.006)	(.005)		
Armed Violence 1	-0.011	-0.010	[-0.011 ; 0.001]	[-0.011 ; -0.003]
	(.039)	(.034)		
Armed Violence 2	-0.097***	-0.090***	[-0.090 ; -0.070]	[-0.090 ; -0.062]
	(.037)	(.031)		
Armed Violence 3	-0.090 **	-0.084**	[-0.084 ; -0.065]	[-0.084 ; -0.056]
	(.044)	(.041)		
Armed Violence 4	-0.054	-0.086***	[-0.199 ; -0.086]	[-0.245 ; -0.086]
	(.036)	(.032)		
H1 - Aspiration : Public				
Armed Violence Score	-0.004	-0.007	[-0.039 ; -0.007]	[-0.061 ; -0.007]
	(.006)	(.005)		
Armed Violence 1	-0.056	-0.062	[-0.161 ; -0.062]	[-0.233 ; -0.062]
	(.039)	(.038)		
Armed Violence 2	0.030	0.007	[-0.251 ; 0.007]	[-0.369; 0.007]
	(.044)	(.044)		
Armed Violence 3	-0.003	-0.022	[-0.380 ; -0.022]	[-0.725 ; -0.022]
	(.045)	(.045)		
Armed Violence 4	-0.023	-0.014	[-0.096 ; -0.014]	[-0.014 ; -0.155]
	(.037)	(.036)		
H1 - Aspiration : Other				
Armed Violence Score	0.010*	0.012**	[0.012 ; 0.062]	[0.012 ; 0.095]
	(.005)	(.005)		
Armed Violence 1	0.019	0.030	[0.030 ; 0.262]	[0.030 ; 0.450]
	(.031)	(.031)		
Armed Violence 2	0.042	0.053	[0.053 ; 0.237]	[0.053 ; 0.339]
	(.039)	(.038)		
Armed Violence 3	0.091**	0.094**	[0.094 ; 0.271]	[0.094 ; 1.127]
	(.046)	(.045)		
Armed Violence 4	0.046	0.066**	[0.066 ; 0.338]	[0.066 ; 0.465]
	(.030)	(.030)		
H2 - Aspirations are realised				
Armed Violence Score	-0.011**	-0.013***	[-0.039 ; -0.013]	[-0.063 ; -0.013]
	(.005)	(.005)		
Armed Violence 1	-0.005	-0.005	[-0.005 ; 0.061]	[-0.005 ; 0.012]
	(.035)	(.034)		
Armed Violence 2	-0.094***	-0.095***	[-0.118 ; -0.095]	[-0.133 ; -0.095]
	(.032)	(.034)		
Armed Violence 3	-0.099**	-0.101**	[-0.175 ; -0.101]	[-0.485 ; -0.101]
	(.040)	(.040)		
Armed Violence 4	-0.082**	-0.096***	[-0.254 ; -0.096]	[-0.346 ; -0.096]
	(.037)	(.035)		
Internal locus of control				
Armed Violence Score	0.007*	0.005	[-0.068 ; 0.005]	[-0.153 ; 0.005]
	(.004)	(.004)		
Armed Violence 1	0.042	0.048*	[0.048 ; 0.152]	[0.048 ; 0.220]
	(.028)	(.026)		
Armed Violence 2	0.033	0.028	[-0.091 ; 0.028]	[-0.209 ; 0.028]
	(.030)	(.032)		
Armed Violence 3	0.135***	0.094***	[-0.804 ; 0.094]	[-1.183 ; 0.094]
	(.032)	(.032)		
Armed Violence 4	-0.011	-0.006	[-0.006 ; 0.064]	[-0.006 ; 0.107]
	(.027)	(.026)		
Occupational happiness				
Armed Violence Score	0.009***	0.010***	[0.010 ; 0.476]	[0.010 ; 0.774]
	(.003)	(.003)		
Armed Violence 1	-0.002	-0.000	[-0.350 ; -0.000]	[-23.229 ; -0.000]
	(.023)	(.023)		
Armed Violence 2	0.045**	0.046**	[-3.574 ; 0.046]	[-8.262 ; 0.046]
	(.022)	(.022)		
Armed Violence 3	0.082***	0.092***	[0.092 ; 3.885]	[0.092 ; 6.217]
	(.024)	(.024)		
Armed Violence 4	0.010	0.015	[0.015 ; 0.704]	[0.015 ; 1.360]
	(.024)	(.025)		

The standard errors are clustered at the level of the survey site. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table 10: Difference of means : Households that could be merged with individual characteristics and households that could not

	Not Merged	**Merged**	**Difference**
Armed Violence Score	2.97	2.96	0.01 (0.17)
Armed Violence 1	0.63	0.61	0.02 (0.03)
Armed Violence 2	0.26	0.23	0.02 (0.02)
Armed Violence 3	0.19	0.19	0.00 (0.02)
Armed Violence 4	0.37	0.37	0.00 (0.03)
Obs	396	1656	
Average household size	5.33	5.06	0.27** (0.13)
Obs :	397	1657	
Average age per household	23.63	24.72	-1.09 (0.75)
Obs :	396	1657	
Split-off household	0.31	0.30	0.01 (0.03)
Obs :	396	1655	
Night Light Intensity	4.47	4.51	-0.04 (0.29)
Obs :	397	1657	

Two-sample t test with equal variances, standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 11: Difference of means : Individuals who answered the aspirations question and those who did not

	No Answer	**Answer**	**Difference**
Armed Violence Score	2.90	3.02	-0.12 (0.15)
Armed Violence 1	0.61	0.61	-0.00 (0.03)
Armed Violence 2	0.24	0.23	0.01 (0.03)
Armed Violence 3	0.20	0.18	0.02 (0.02)
Armed Violence 4	0.35	0.40	-0.05** (0.02)
Obs	855	801	
Female	0.69	0.60	0.09 *** (0.02)
Obs	856	801	
Age	42.15	39.79	2.36 *** (0.80)
Obs	851	799	
Night Light 1992	4.46	4.57	-0.11 (0.25)
Obs :	856	801	

Two-sample t test with equal variances, standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 12: Robustness - Average night light, 12-18 years period

VARIABLES	(1) Aspi. Agriculture	(2) Aspi. Public	(3) Aspi. Other	(4) Aspi. Realised
Armed Violence Score	-0.0470	-0.0337	0.0846**	-0.0699*
	(0.0381)	(0.0311)	(0.0373)	(0.0418)
Night Light, Average	-0.0838	0.0247	0.0150	0.0633
	(0.0603)	(0.0306)	(0.0285)	(0.0417)
Female	0.329	0.0362	-0.297	0.283
	(0.271)	(0.239)	(0.281)	(0.277)
Age	0.0456	-0.0123	-0.0319	0.0886***
	(0.0305)	(0.0266)	(0.0309)	(0.0305)
Constant	-2.057**	0.231	-0.376	-3.774***
	(0.908)	(0.754)	(0.866)	(0.893)
Observations	354	354	354	340
Province FE	No	No	No	No

The standard errors are clustered at the level of the survey site. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Annex

Table 13: Occupations - All categories

Occupation	**Aspired**		**Outcome**	
	Frequency	*Percentage*	*Frequency*	*Percentage*
1. Agriculture - Export Crops	121	15.11	418	27.06
2. Agriculture - Other Crops	194	24.22	1000	64.72
3. Cattle Farm	20	2.50	6	0.39
4. Public Sector	264	32.96	21	1.36
5. Para-public Sector	16	2.00	2	0.13
6. Private Sector - Agriculture	7	0.87	12	0.78
7. Private Sector - Other	58	7.24	34	2.20
8. Craft Industry	12	1.50	7	0.45
9. Trading / Sales	75	9.36	31	2.01
10. Family Help	0	0.00	1	0.06
11. Apprentice	5	0.62	0	0.00
12. Other	29	3.62	13	0.84
Total	**801**	**100**	**1545**	**100**