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### **Growing Up in a War: The Shaping of Trust and Identity After Conflict in Peru**

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**Key words:** beliefs; conflict; identity

# Growing Up in a War: The Shaping of Trust and Identity After Conflict in Peru

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## Abstract

This paper evaluates the effect of conflict over the formation of trust and identity. It finds that Peruvian individuals exposed to violent events during their impressionable years trust less government institutions, and feel less identified with their neighbors, while more identified with religious groups. The effect on identification is heterogeneous by the indigenous origin of the individuals. Individuals who own an agricultural plot embedded in a communal arrangement at the local level exhibit even smaller levels of identification with their local neighbours while higher levels of identification with their ethnic group. In line with recent literature, these findings suggest that conflict has a small but persistent effect on the formation of trust and identity, which is a central feature to understand the interaction between culture and institutions, and ultimately to understand the persistent consequences of wars.

## 1 Introduction

Wars are among the most determinant factors behind development. The destruction that ensues after a war is also psychological. Does the psychological trauma have a lasting effect on the individual's beliefs? Can the individual trauma determine the degree of trust that an individual exerts towards public institutions? Or the level of identification with his or her peers?

If violence has an effect on the way people behave, at what time in the course of a lifetime is this determined? Previous works have highlighted the effect of macroeconomic disturbances during a period called the *impressionable years*, on beliefs. The hypothesis about the *impressionable years*, as defined by Giuliano and Spilimbergo (2014) is:

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*“[...] states that core attitudes, beliefs, and values crystallize during a period of great mental plasticity in early adulthood (the so-called impressionable years) and remain largely unaltered thereafter. Evidence of significant socialization has been found between 18 and 25 years of age (Krosnick and Alwin; 1989)”*

Giuliano and Spilimbergo (2014) find that individuals who experienced a recession while young, that is, between 16 and 25 years, believe that success depends more on luck than effort, favor redistribution policies and tend to vote for left-parties.

A natural extension for the Giuliano and Spilimbergo (2014) analysis follows: if recessions, as traumatic as they can be, experienced during the formative years, have a lasting effect on how people think, how a war can influence people’s beliefs?

I use Peru as my context of analysis. Peruvian data and history offer the possibility to follow different cohorts of individuals who were exposed to various degrees of violence in a geographically heterogeneous setting. Also, the ethnic composition of the country and the unusual cruelty experienced by a particular ethnic group allows to determine whether biased violence destroys any sense of integration or social cohesion. The Peruvian case is also interesting because the violence that was targeted towards the indigenous population was exerted almost in similar proportions by the army and the guerrilla movement. In that regard, it is interesting to investigate whether the degree of trust towards government institutions was harmed by the government intervention rather than the rebel forces<sup>1</sup>.

There is a growing literature that attempts to understand the effect of wars on personal beliefs, which is the main reference for this chapter. In a recent review, Bauer et al. (2016) survey 23 studies on conflict, and argue that individuals exposed to violence tend to increase their social cooperation at the local level, including community participation and pro-social behavior. According to the authors, this may be part of the explanation for quick recovery periods: a sustained sense of cooperation emerging in the aftermath of destruction and destitution. Focusing on trust, Bauer et al. (2016) find that many of the studies surveyed find no effect on trust over other individual’s groups, while there is a small positive effect on the trust toward members of the same group. What are the reasons for that behavior? Can we generalize this idea? How does this interact with the internal dynamics of ethnic groups?

In another related work, Adhvaryu and Fenske (2014), find that exposure violent events of African individuals from ages 0 to 14 has little impact on later attitudes and behavior. Particularly on general trust, the authors find no statistically significant effect.

In this chapter, I follow this growing literature on the determination of beliefs and try

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<sup>1</sup>Using the same empirical strategy and data León (2012) finds that exposure to violence at early childhood reduces the years of schooling by 0.31 for Peruvian individuals.

to understand whether the exposure to violence during the impressionable years period exerted any influence on the way people form their beliefs. With this I aim to contribute to the explanation of the effects of wars on people's beliefs. Additionally, I evaluate whether the interaction of violence exposure with an ethnic dimension helps to shed light on the way war affects beliefs.

Therefore, this chapter makes three contributions. First, it addresses the impact of armed conflict on beliefs, namely trust and identity, when the violence took place during the impressionable years period of the individuals. Following Giuliano and Spilimbergo (2014), the chapter seeks to understand whether other type of macro shocks at that relevant age (from 16 to 25) have the same relevance in the determination of beliefs. Second, it tries to disentangle whether the identity of the perpetrator sheds some light in the determination of beliefs. And third, it analyses whether the interaction of violence with a measure of ethnicity or race that reflects an important dimension of the population of the study context, offers an alternative explanation.

Methodologically, in this chapter I exploit the variation in conflict location and birth cohorts to identify the effects of conflict on two types of social capital traits: trust and identity. I differentiate the effect by the identity of the perpetrator, and by the indigenous origin of the individual.

To preview the results, I show that Peruvian individuals exposed to violent events during their impressionable years trust less government institutions, and feel less identified with their neighbors, while more identified with religious groups. The effect on identity is heterogeneous depending on the degree of connection to the indigenous dimension of the individual. In concrete, individuals who own an agricultural plot which is embedded in a local institutional setting that proxies indigenous arrangements, exhibit a smaller degree of identification with locals (or neighbors), while higher levels of identification with ethnic and race groups. This last results is better understood in the historical context of Peru, where the conflict experienced between 1980 and 2000 had a decisively political motivation which at the same time disregarded the ethnic component presents in the country since the times of independence. The systematic attack from the army and the guerrilla eroded the identification of the individuals with their locals, while deepened the identification with their ethnic peers. Together these results suggest that wars that reached individuals during their impressionable years can have lasting effects on the trust they exhibit, but overall, on the sense of identity.

The chapter is organized as follows: section 2 discusses the data used in the analysis, and overviews the historical relevance of the conflict period and the ethnic and race dimension through the discussion the the communal land setting and its interaction with

native and peasants. Section 4 presents the empirical framework used to identify the effect of conflict. Section 4.1 discusses the main results for the effect of conflict during the impressionable years. Section 5 outlines possible mechanisms and discusses some avenues for further research. Finally, section 6 concludes.

## 2 Historical Overview

### 2.1 The Armed Conflict

*“People were afraid, and shouted: ‘They are coming! They are coming! If not the Shining Path, the soldiers!’<sup>2</sup>”*

From 1980 to 2000, Peru experienced the longest and bloodiest conflict in its republican history. The number of Peruvians who perished victims of it was approximately 69,280<sup>3</sup> according to the estimates of the Commission for the Truth and Reconciliation (CVR for its acronym in Spanish, CVR 2003<sup>4</sup>). A number that surpasses in magnitude the number of Peruvians dead in the other two major wars, the war against Chile in 1879 and the independence war in 1821.

Unlike many of the conflicts surveyed in Bauer et al. (2016), the driving force in the Peruvian conflict did not have an ethnic origin, but a political motivation. The two forces confronted were the Peruvian Communist Party (PCP), led by its more radical members grouped in what ended up being *Sendero Luminoso* (the Shining Path, SL in Spanish), and the government (who was also supported by local self-defense committees). A second faction of rebels joined the conflict in 1984 under the name of Tupac Amaru Revolutionary Movement (MRTA in Spanish).

The estimates of the CVR attribute 54% of the casualties to the PCP-SL, 43.5% to the government and 1.5% to MRTA. But perhaps, the most striking fact that complements the almost even distribution of victims between PCP-SL and the government, is the proportion of victims whose origin was indigenous: 75% of all victims had *Quechua*<sup>5</sup> as their mother tongue. This percentage is an indication of the degree of violence biased towards indigenous population, considering the percentage of people whose main language is of any ethnic origins.

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<sup>2</sup>Testimony N 450066. CVR (2003)

<sup>3</sup>Section 3 provides details about the estimation procedure used by the CVR.

<sup>4</sup>Available online at: <http://cverdad.org.pe/ifinal/>

<sup>5</sup>The 1994 population census reported that 19.42% of the population had any native language as mother tongue, out of which *Quechua* was 16.46%, and *Aymara* was 2.28%. The population 2007 census reported 15.68% of the population as native speakers, and 13.02% in particular as *Quechua* speakers.

Partly, The large percentage of native victims is explained by the high proportion of native speakers in the highlands. However, the 75% of *Quechua* victims, is even higher than the proportion of Quechua speakers among the Ayacucho (the region with the highest toll) population in 1994, 70.6%. Numerous testimonies collected by the CVR provide a detailed account of the extraordinary degree of cruelty exerted from both, the PCP-SL and the army, towards this group of Peruvians. It was common that some communities experienced attacks and counter-attacks from both group after the other. Examples of this are the massacres in the towns of Lucanamarca and Accomarca.

On the 22th of March 1983, the self-defense committee from the community of Lucanamarca, in Ayacucho, captured and murdered a commander from PCP-SL. On the 2nd April, 60 members of PCP-SL entered the community of Lucanamarca and murdered 69 inhabitants. The order from the leaders of PCP-SL was to be as cruel as possible to provide an exemplary demonstration of the consequences of opposing the revolution. Indeed, the accounts of the events elaborated by the CVR indicate that the victims were killed with axes and machetes. 18 victims were children whose slaughtered bodies were exposed in the main plaza. Some victims died after being submerged in boiling water. The leader of PCP-SL, Abimael Guzman, justified the action as a vindication of the revolution.

The other event, in Accomarca (also in Ayacucho), was conducted by the Army. On the 14th of August 1985, a battalion from the Peruvian army entered the community of Acomarca, which was under the suspicion of being a base for PCP-SL. After gathering the local population in the main plaza of the locality, 30 children, 27 women and 12 men were brutally murdered. After shooting everyone and after having raped the women, the army locked the three groups of victims inside some houses and burned the entire community.

These two events illustrate the cruelty of the conflict, which did not follow any war convention, over the indigenous population. The CVR signals this an evidence of the ethnic fragmentation that added a never seen degree of violence in the country. The same ethnic fragmentation, however, has been pointed by the CVR as the reason to explain the failure of PCP-SL's revolution. PCP-SL's political conception and strategy were at odds with the cultural and social characteristics of the peasants communities and populations affected by the violence. The rebel group adopted and attempted to implement a philosophy based on China's cultural revolution which relied on a vertical imposition of the mandates of the party over the dominant class in favor of the peasant class. This classification was not so evident in the communities of the highlands, where the social interaction within the communities followed an historical pattern of cooperation within the community with little difference among its members. If anything, the terrorist actions provided the opportunity for old confrontations between communities to become violent.

When the government allowed the army to take control of the situation, the ethnic differences became also relevant. The CVR has documented several case studies which reveal an army exerting a similar degree of disregard for the indigenous population, as the PCP-SL. However, in the evolution of the conflict, the army was quicker than PCP-SL to gain cooperation from the local communities, which ultimately turned out to be vital for the final defeat of the terrorist group.

## **Chronology**

The conflict started officially with PCP-SL declaring war on the Peruvian government. One symbolic action characterizes this declaration of war: on the 17th of May of 1980, members of the terrorist group burnt electoral ballots in the Chuschi district, in the region of Ayacucho. 1980 signaled the restitution of democracy in Peru after 12 years of autocracy under the rule of generals Juan Velasco Alvarado and Francisco Morales Bermudez. It was precisely general Morales Bermudez who decided to call for elections in 1980.

It has been pointed out by the CVR that this immediate context explains the rapid expansion of the terrorist actions in the first part of the decade of 1980. Fernando Belaunde Terry won the elections that year, which symbolized the return to democracy after the coup d'état in 1968. The re-appointed president, therefore, had little incentives to coordinate with the army for a stronger response to these initial actions of the PCP-SL. On their part, the PCP-SL's decision to embark into the armed conflict came as a consequence of the radicalization of the protests led by the left parties during great part of the 12 years of military dictatorship. This, coupled with what was the beginning of a long period of economic turmoil, facilitated the expansion of the terrorist's actions.

The decision of PCP-SL to start their operations in Ayacucho is related to a growing discontent among educated classes in that region. As explained by CVR (2003) and León (2012), the rapid expansion of access to education among population during the mid 70's did not find a match in the labor market. Therefore, a growing number of dissatisfied university and secondary education students found the ideas of PCP-SL appealing under that context. Some universities and schools in Ayacucho had a reputation for leading movements in favor of the expansion of education. The PCP-SL leaders took University San Antonio de Huamanga as their basis for the indoctrination phase.

Figure 1 plots the annual evolution of the number of events and victims for the period between 1980 and 2000. The number of events peaked twice, in 1984 and 1989, while the number of victims in one year reached its maximum level in 1984. Geographically, the conflict started in the region of Ayacucho, but at some point it reached almost all the country. 2 plots the geographical dispersion in 1980, at the beginning, and in 1989 at its

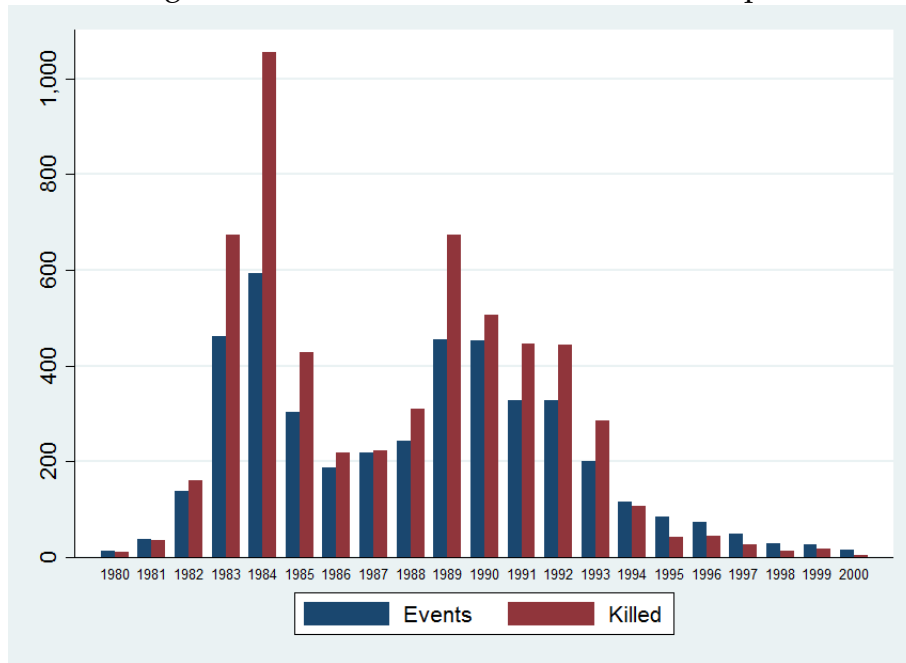
peak. By 1989, there were violent actions even in the far north of the country.

According to the CVR, the conflict can be classified in 5 periods:

1. *Beginning of the armed conflict (May 1980-December 1982)*. PCP-SL burns electoral ballots in the district of Chuschi, in the Ayacucho region. Little press coverage of the events, mainly explained by the interest on the transition to the new democratic government. Additionally, the police institution was undergoing a major reformation to join in one body the three traditional types of police institutions, poorly articulated in the country: Civil Police, Republican Police and Investigation Police. On the 30th of December of 1982, the president allowed the army to take control of the situation.
2. *The militarization of the conflict. (January 1983-June 1986)*. The army starts to take control of some regions where PCP-SL operated. In those regions the government declared the *State of Emergency*. Both, the army and the terrorists are involved in local massacres, and this marks the beginning a harsh period in the highlands. MRTA joins the conflict in the region of San Martin, with connections to the drug trafficking. 1984 marks the first peak in the number of victims (see figure 1).
3. *Violence's upsurge (June 1986-March 1989)*. this period witnesses the opening of new combat fronts in urban areas. Up to 1986 the majority of the violent action took place in rural areas in the highlands. Both terrorist groups liaise with drug cartels, specially in the area where MRTA was located. The national economy was in crisis: Peru started to experience a period of hyperinflation. And the government lost control over the army.
4. *The peak of the crisis (March 1989-September 1992)*. 1989 registers the second peak in the number of victims. The army led several counterattacks in the highland region. Huge political instability in the central government: on the 5th of April, 1992, president Fujimori dissolved the parliament, which marked the beginning of his autocratic regime. The leader of PCP-SL, Abimael Guzman, was captured.
5. *Decline of violence (September 1992-November 2000)*. After the capture of Abimael Guzman, PCP-SL lost control of many regions. The army, supported by local self-defense committees regained the control of those regions. The government enacted a series of laws to provide amnesty to repented terrorists in exchange for intelligence collaboration.

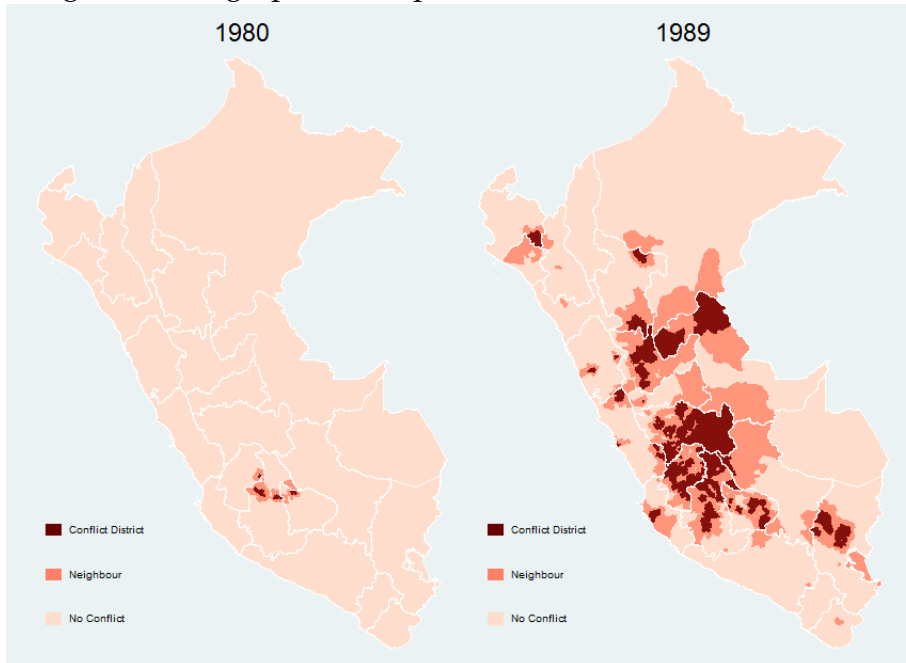


Figure 1: Number of Events and Killed People



Notes: [1] Data source: CVR (2003)

Figure 2: Geographical Dispersion of Conflict: 1980 and 1989



Notes: [1] Data source: CVR (2003)

## 2.2 Communal Land, Native Origin and *Comuneros*

The large number of indigenous victims highlights the ethnic bias for the violence exerted during the conflict. It is remarkable that both, PCP-SL and the army punished the indigenous groups with similar levels of cruelty. In that regard, because indigenous groups suffered a disproportionate effect of the conflict, the analysis design should help to understand whether this group reacted differently after the violence. If there was any effect of violence on trust and identification, would indigenous individuals express an heterogeneous response? If there is a type of social organization which groups the majority of native and indigenous population in Peru that is the communal land organization. A complete understanding of the interaction between the ethnic dimension and conflict has necessarily to provide an understanding of the communal land associations and how they relate to the native and individual dimension.

To the best of my knowledge, there are no studies that address this interaction. From the economic point of view, however, some studies have pointed out that there is at least an insurance justification for the probability of engaging in violent activities among members of the communal land organizations. Guardado (2015) suggests that in the face of coffee price shocks, individuals are less likely to engage in violent activities if they live in a city where there is a high proportion of agricultural land under communal tenancy. The reason for that is that the provision of communal insurance prevents the upsurge of violence. In the explanation of this result, there is a natural connection to the indigenous or ethnic origin of the individuals.

Historical communal setting in Peru have been related to some sort of cooperative behavior, which ultimately signals a certain degree of trust within the community, and in terms of the analysis of Bauer et al. (2016) a more pro-social behavior. It also signals to a degree of identification within the community: if members of the communal association are tightly connected, it is probably that the internal network for risk-sharing is stronger. Following Guardado (2015), the basic measure for this dimension is the importance of the communal setting in the city where the individual grew up. However, this can also be measured at an individual level through the native origin of the adult or his or her individual connection to the communal setting.

In the empirical section I describe three ways, mutually linked, in which I measure the ethnic dimension. The first is an aggregate measure at the district level (as Guardado; 2015): the proportion of agricultural land under the tenancy of peasant or indigenous communities, which I term as communal land. The second and third are individual indicators I obtain from National Household Survey (ENAHU in Spanish): the native origin of the individual, or whether the individual has a an agricultural plot which belongs to

a communal association. I refer to the native origin simply as “native” to denote an individual whose main language is either *Quechua* or *Aymara*. While for the last measure, I define an individual as *comunero*: in Peru, this is the terminology to identify a peasant who is part of an indigenous community or conducts agricultural operations within a communal land setting.

In this section I discuss the historical background for the ethnic dimension that permeates these three measures through the explanation of the origin of the communal land associations, and leave a detailed statistical description to section 3.

### **Brief Historical Background on communal land and native origins**

Being of native origins in Peru implies some degree of connection not only to the native languages, but also to certain ancient practices. In the highlands of Peru the property of land in hands of indigenous communities has been a matter of long standing analysis. As pointed out systematically, the organization of the communal geographical space has been historically associated with low levels of agricultural production (CEPES; 2005), and more importantly, with the prevalence of indigenous population (Del Castillo; 1997). Therefore, the geographical unit, an agricultural plot for instance, known as communal land, has been inherently linked to individuals speaking a native language, and more precisely, an individual who is part of an indigenous community or conducts his agricultural activities within a communal setting is known as *comunero*. Therefore, the discussion of the native or *comunero* status is implicitly embedded in the discussion about communal land.

Historical accounts more or less date the origin of nowadays associative rural communities, the closest definition of communal land associations, to the colonial period of Peru (Del Castillo; 1992, Del Castillo; 1997, CEPES; 2005, Caballero and Alvarez (1981), INEI (1998)). They were the output of the *Reducciones de Indios*, a term that can be translated as Indigenous Communities. The main purpose of these *Reducciones* was to facilitate the evangelization and civilization of the remaining indigenous population after the consolidation of the Spanish conquest. Viceroy Toledo is believed to have started the process by 1570. In doing so, he relied on an ancient, pre-inca type of population organization: the *Ayllu*.

Although the Inca organization was also based on the *Ayllu*, this type of societal arrangement was not an Inca innovation. Incas were known for assimilating good practices from the diverse cultures they conquered, and *Ayllus* were some of them. Therefore, *Ayllus* pre-date the consolidation of the Inca empire.

An *Ayllu* was basically a family organization, comprised of one or many families, in which a *Curaca* was the visible head of the extended family. In the organization of the

*Ayllu* all members had to provide labor in equal parts and share the produce of the land. As it became patent during the Inca period, the main purpose of the *Ayllu* was to provide food to all members. But the activities of the *Ayllu* were not constrained to the core group of families, it also had to provide food and labor to the state (the Inca). In retribution, the *Ayllu* would receive food from the state in case of shortage. Each *Ayllu* offered three forms of communal contribution, the *Mita*, *Minka* and *Ayni*.

The *Mita* was a system through which members of the *Ayllu* delivered labor when the central government (the Inca) required the construction of large scale infrastructure like temples, bridges, or mining exploitation, among other labor intensive activities. The arrival of the Spanish colonizers precisely took advantage of this organization to exploit a mercury mine in the central highlands, that depleted most of the male population from the *Ayllus* close to the mine, which also had persistent negative effects until today, as documented by Dell (2010).

The other two forms of labor, *Minka* and *Ayni*, represented also a type of communal labor arrangement, but in favor of the *Ayllu* itself. In particular, the *Minka* system sought to provide a source of communal labor for the construction of small infrastructure in favor of the local *Ayllu*. While the *Ayni* was a type of risk-sharing mechanism through which a family within the *Ayllu* would support another family from the *Ayllu* during the bad times.

The colonial period of Peru that followed the arrival of the Spanish conquerors kept this types of organizations and used some of their labor arrangements. After the independence war, and by the beginning of the republic period in 1821, *libertador* Simón Bolívar sought to disintegrate the inherited *Reducciones* because he thought they were a colonial institution that prevented the integration of the indigenous population into the new society.

History denied this wish to the *libertador*, and associative rural communities remained informally alive until 1920; year in which the enactment of a new constitution recognized the existence of these communities. That was the first year the Peruvian government promulgated a law aimed to recognize and protect them.

In the following years, the promulgation of three new constitutions, an agrarian reform, and the intense guerrilla period under analysis, did not change the core of the legislation around the communities, neither the *de-facto* structure: the rural communities survived until today. Several modifications to the law were introduced during this period. Among the most important, in 1992: members of the community can sell the land if they want. Yet, the agricultural census of 2012 reports that 60.7% of the agricultural land in Peru is still held by these communities.

Interestingly, these communities are still engaged in the ancient practices documented during the colonial and Inca period. Data from the 2012 agricultural census indicate that 59.13% of the rural communities still engage in the *Ayni*, 56.57% in the *Minka*, 0.92% in the *Mita*, and 83.78% in any of the three. Also interesting is the little cooperation between communities. Despite the fact that communities are still engaged in cooperation activities within the community, the interaction between them is very limited. The agricultural census of 2012 reports that the percentage of communities engaged in multi-communal businesses is 3%. This fact is not trivial given the context of the guerrilla period. Previous sections noted that the violence which ensued after PCP-SL's arrival to the highlands had some basis on the historical conflicts between communities.

The CVR conceives the interaction of the ethnic component with the presence of the guerrilla or the army as a key factor explaining the unparalleled cruelty in Peruvian history that this conflict represented.

### 3 Data

I use three data sources for the empirical analysis. With the National Household Survey I measure individual's beliefs, demographics as well as their individual connection to communal plots. With the agricultural census of 1994 I measure the share of agricultural land under communal tenancy. Finally, the CVR is the source for the conflict data at district level.

Although the formation of beliefs during the impressionable years period is the main analysis of this chapter, I start with the description of the data used to measure the exposure to conflict during the impressionable years, as well as the measures for the ethnic dimension.

#### 3.1 Conflict

Based on the reports for approximately 24,000 victims recorded in different sources, the CVR was able to extrapolate the number of victims to 69,280. The 95% confidence interval for this estimation was [61,007-77,522]. The method utilized for the estimation of the number of victims is called *Multiple System Estimation* (MSE).

The MSE methodology has been recently used in the estimation casualties for different conflicts<sup>6</sup>. The original version was developed by a Danish scientist, Johannes Petersen in

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<sup>6</sup>However, it has been also used in other contexts of public policy sensitivity like drug use. See King et al. (2013)

1860 to calculate the number of fishes in a pond<sup>7</sup>. The most recent applications, however, use the methodology to estimate the population size of regions where census data collection may be inaccurate due to isolation. In the conflict context, Manrique-Vallier et al. (2013) provides a review of the application of the methodology to conflicts in Guatemala, Kosovo, and Peru.

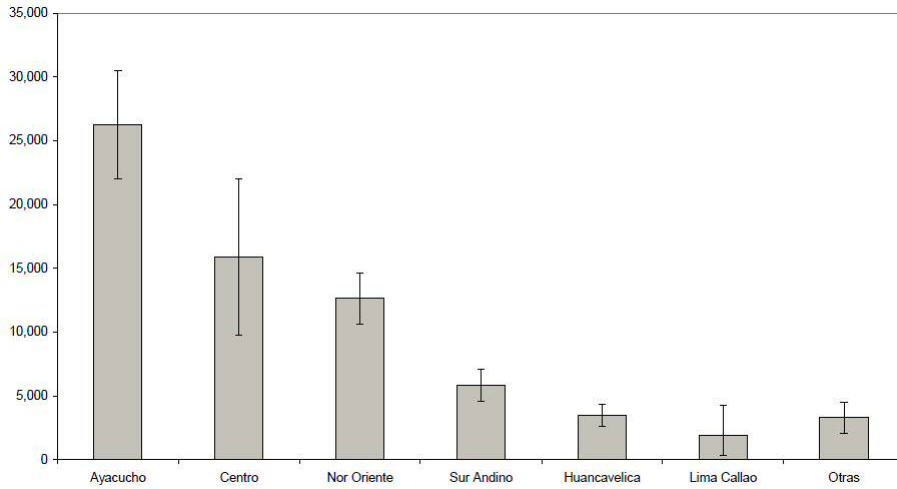
The original implementation of the methodology serves as an illustration of its procedure. If we wanted to know the number of fishes in a pond, we could proceed to catch a certain number, say 100. After marking the 100 fishes we return them to the pond. On a second catch of again 100 fishes, we count how many of the initial 100 were caught again. Imagine this number as 20. Therefore, the whole population fishes in the pond should be 500. The idea for the estimation is simple. If the two random catches are independent and every fish has the same probability of being caught, the ratio of the number of fishes caught in the second catch over the size of the first catch ( $20/100$ ), should be proportional to the size of the second catch over the total number of fishes that populate the pond ( $100/N$ ). After a simple manipulation of these two proportions, the total number of fishes is estimated as 500. Appendix A provides more detail on the methodology used by the CVR to produce the estimates.

Figure 2 shows that at its second peak in 1989, the conflict was widely widespread, reaching areas beyond the geographical origin, Ayacucho (left panel). Figure 3 plots the regional estimates. Ayacucho, concentrated 26,259 casualties, which represents 38% of the total number of victims. While 21.7% of the casualties were registered in the central highlands region. The Nor Oriente region refers the jungle and around 18% of the casualties were reported from that region. Sur Andino refers to the southern highlands, and approximately 8% of the victims were from this region. The capital Lima, as well as Callao, its harbor, and the rest of the country experienced smaller intensity in the number of victims.

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<sup>7</sup>Although the origin of the methodology is disputed. See Goudie and Goudie (2007)

Figure 3: Conflict: Geographical Intensity



Notes: [1] Figure taken from the CVR Final Report. CVR (2003), annex 2. [2] The grey bars indicate the average estimate while the spikes are the 95% confidence interval estimatios.

Following Giuliano and Spilimbergo (2014), I define the individual's impressionable years the 10 years period when the individual's age ranges between 16 and 25. The city of reference for this period is the district of birth. Hence, I measure the number of impressionable years that the individual was exposed to violence. Measuring the exposure to violence this way, follows the approach used by León (2012), where the author measured the exposure to violence and its impact on schooling attainment at the individual level. Therefore, I define the variable  $killed_{i,ro}$  as:

$$killed_{i,ro} = \sum_{t=16}^{25} violence_{ro,t} \quad (1)$$

Where  $violence_{ro,t}$  is a dummy variable that indicates that in year  $t$ , in district  $ro$ , there were at least one killed person due to the violence and it coincided with any impressionable year of the individual. Therefore,  $killed_{i,ro}$  measures the number of impressionable years that the individual was exposed to conflict in their district of birth. Table 1 summarizes the main explanatory variable. For the national sample of individuals in ENAHO from 2007 to 2012, 90.54% did not experience any type of violence at their district of birth during their impressionable years. 9.46% of the individuals had at least one impressionable year affected by conflict at their district of birth. On average, an individual experienced 0.23 years of violence that overlapped with their impressionable period. The standard deviation for this mean is 0.95.

A variation of this definition considers army and terrorist violence separately. The definition would be the same, but the violence count considers only violence attributed

to the army and police forces on one side, and the terrorists on the other. The last two columns of table 1 show the frequency count for those variables.<sup>8</sup> On average individuals experienced more terrorist violence than army violence during their impressionable years. On average individuals experienced 0.16 years of terrorist violence during their impressionable years period, which is almost the double compared to the average number of impressionable years affected by army violence, 0.07.

Table 1: Number of Individuals With Impressionable Years Affected by Conflict

N. of Years	Total		By Group	
	Freq.	(%)	Army	Terrorist
0	142,301	90.54	150,988	146,206
1	7,058	4.49	4,076	5,540
2	3,439	2.19	577	2,138
3	1,195	0.76	541	1,130
4	1,008	0.64	597	634
5	694	0.44	156	444
6	393	0.25	88	384
7	338	0.22	55	376
8	359	0.23	64	106
9	239	0.15	25	84
10	143	0.09	0	125
<b>Mean</b>	0.23		0.07	0.16
<b>S.D</b>	0.95		0.47	0.79

Notes: [1] Data sources: ENAHO 2007-2012 and CVR (2003). [2] Impressionable years is the period of an individual between the age of 16 and 25.

### 3.2 Communal land, native or *comunero*

The three measures that I use to approach the ethnic dimension in the analysis come from different sources. The first, the share of communal land in the districts, is an aggregate measure I calculate using information from the 1994 agricultural census. The other two measures, the status of native speaker, or the status of *comunero*, are measures at the individual level that I retrieve using information from ENAHO itself. In this section I present some descriptive statistics to to explicitly reveal the positive correlation between these measures.

In the sample from ENAHO I use, 28% of the individuals are characterized as native, while 5% are *comuneros*. The data source to estimate the district share of communal land is the Agricultural Census of 1994. For a district to be considered a communal district, the

<sup>8</sup>Government violence accounts for killings associated either to the army or the police, according to the accounts of the CVR (2003), while terrorist violence groups killings associated to either the Shining Path or the MRTA



share of agricultural land under the tenancy of peasant or indigenous individuals has to be larger than 0.5.

Table 2: Land Arrangement (Thousands of Ha.)

	1994	2012	Change
<b>Total Land</b>	<b>35245.8</b>	<b>36426.5</b>	<b>3.35%</b>
Individual Land	14027.2	13250.1	-5.54%
(%)	39.80	36.37	
Land in society	1242.5	613.4	-50.63%
(%)	3.53	1.68	
Coop Land	355.0	44.9	-87.37%
(%)	1.01	0.12	
Communal Land	14089.1	15515.3	10.12%
(%)	39.97	42.59	
Native Land	5251.9	6587.7	25.43%
(%)	14.90	18.08	
Other type of Land	280.1	415.2	48.23%
(%)	0.79	1.14	
Average Share by District	0.42	0.37	
Average Share by Province	0.48	0.49	
Number of Districts	1801	1837	
Number of Provinces	195	195	

Notes: [1] Data source: CENAGRO 1994 and 2012. [2] Communal land in 1994 includes the after agrarian reform farmers' groups. Native land is the denomination of communal land from the forest. [3] Share is the sum of communal and native land over the total land surface in the district. When missing (mainly metropolitan Lima), it was replaced by zero.

I start by describing the persistence of the communal land setting between the two agricultural censuses: 1994 and 2012. I focus on tenancy at the district level, which is the variable I will use to differentiate a district as a communal district. Table 2 reports the composition of agricultural land by the type of tenancy recorded in the agricultural censuses of 1994 and 2012. Total agricultural land in Peru grew merely by 3.35% between 18 years<sup>9</sup>. Communal land, the main concern of this section, is the land in hands of indigenous population. A community is able to register this type of settlement, which constitutes a type of private ownership, although managed in a communal setting. The government decided to keep the *communal* denomination to refer to indigenous population from the highlands with *Quechua* or *Aymara* origins, and coined a new term, *native*, to refer to the indigenous population in the east side of the Andes, the forest. Combined, the land in hands of these two groups was 54.9% of the total land in 1994, and 60.7% in 2012. Hereafter, unless specified, I will refer as *communal* to the combination of these two types of land ownership.

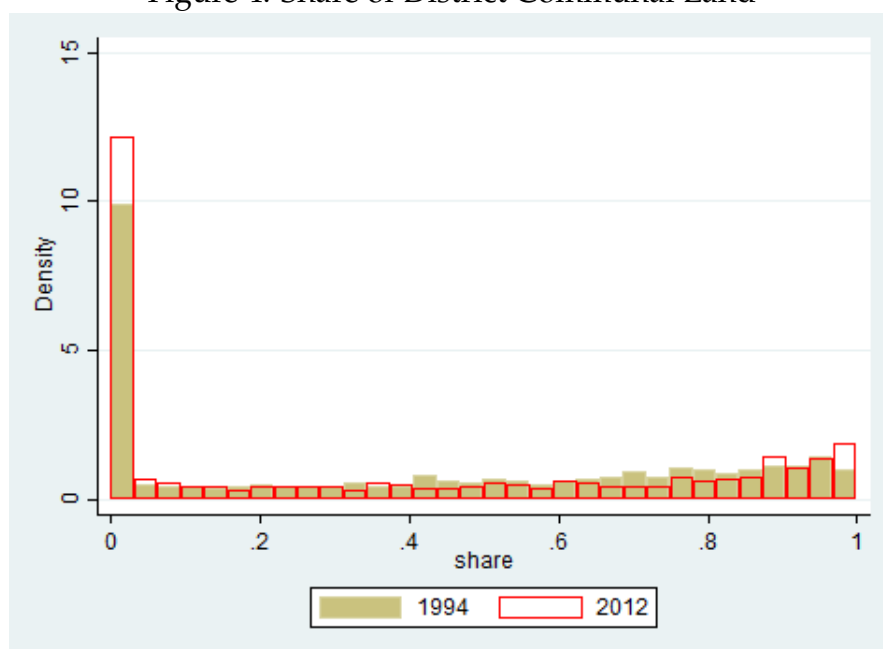
The land owned by individuals remained as the second largest type of tenancy. It represented 39.8% of total land in 1994 and 36.37% in 2012. This smaller share is explained by

<sup>9</sup>The previous agricultural census of 1974 reported a total agricultural surface of 23.545 millions of Ha. In consequence by 1994 the total agricultural land grew by 49.7% by a similar period.

a reduction, 5.54%, in the land in this category. Society and cooperative ownership were the categories with the largest drop in their share: 50.63% the first, 87.37% the second. This is a consequence of the adjustments after the deactivation of the agrarian reform in 1982<sup>10</sup>.

The average share of communal land in a district was 0.42 in 1994, and 0.37 in 2012. However if the unit of observation is the province, such shares are 0.48 in 1994 and 0.49 in 2012. Figure 4 plots the distribution of the district share of communal land for both periods: it is clear that such distribution has changed little from 1994 to 2012. Figure 5 plots the correlation between the share of communal land in 1994 and the share of communal land in 2012 at the district level. The correlation between these two periods is 0.63<sup>11</sup>.

Figure 4: Share of District Communal Land

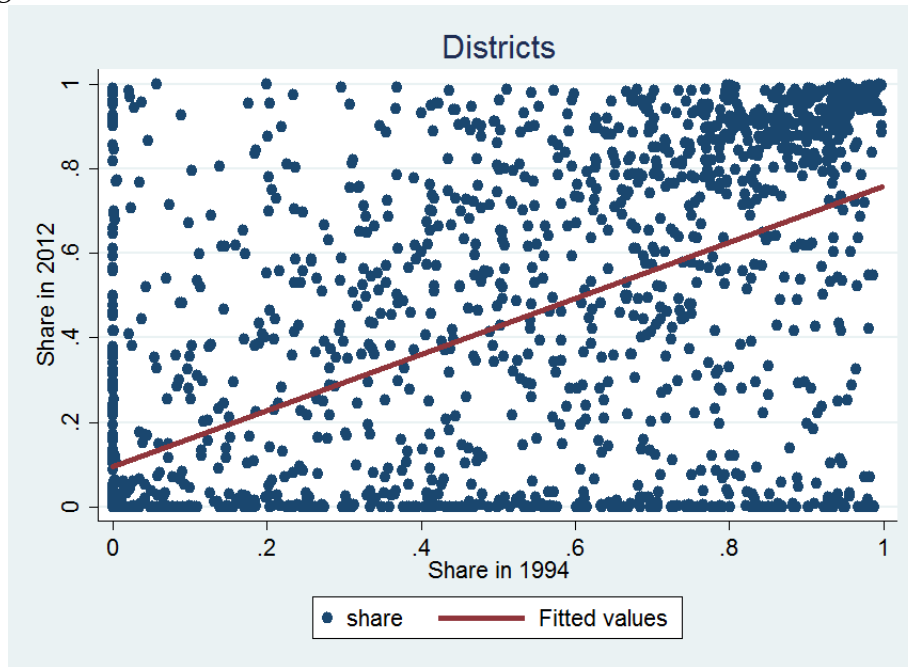


Notes: [1] Data source: CENAGRO 1994-2012. [2] Histograms plot the district share using the 1993 border definition, which consisted of 1791 districts.

<sup>10</sup>General Juan Velazco launched an agrarian reform in 1969 that expropriated large extensions of land from landlords to be transferred to local farmers. This reallocation of land did not touch large communal territories and mainly affected private territories in the northern coast of Peru. By 1982, a new military government annulled the reform but did not seek the restitution of previous ownership.

<sup>11</sup>At a bigger administrative level, provincial, the correlation coefficient between 2012 and 1994 share of communal land is 0.87.

Figure 5: Correlation Share of District Communal Land: 2012 and 1994



Notes: [1] Data source: CENAGRO 1994-2012. [2] The estimation uses 1791 districts each period, according to the 1993 border definition.

Table 3: Summary Stats: Demographics at Individual Level

	Non-Communal	Communal	Total
Years of schooling	9.401 (4.429)	7.985 (4.706)	8.942 (4.569)
Male	0.504 (0.500)	0.529 (0.499)	0.512 (0.500)
Native	0.114 (0.318)	0.446 (0.497)	0.222 (0.415)
Comunero	0.0227 (0.149)	0.0789 (0.270)	0.0410 (0.198)
Coast	0.476 (0.499)	0.266 (0.442)	0.408 (0.491)
Age	41.20 (15.97)	44.07 (16.51)	42.13 (16.20)
Observations	104410		

Notes: [1] Data source: ENAHO 2007-2012. [2] Unweighted averages. Standard deviations shown in parenthesis. [3] The sample includes individuals at least 18 years old.

Not I turn to the demographic differences. Table 3 provides statistics at the individual level broken down by the two types of districts the individuals live in: communal and non-communal. It immediately reveals a positive association between the three variables: both, the proportion of native speakers or *comuneros* are high in communal districts. The

proportion of native speakers in communal districts is 0.446 while in non-communal districts is 0.114. The reason for this is that the definition of communal for a district uses the 0.5 threshold in the share of agricultural land under the tenancy of communal associations. It is of course possible that there are native individuals in districts with communal land share smaller than 0.5. Similarly, the proportion of *comuneros* is 7.9% in communal districts while it is 2.3% in non-communal districts. On this number, first it is worth pointing out the relatively low rate of *comuneros* nationwide, 4.1% of the sampled individuals. A possible explanation for this the fact that although some individuals live and work in a communal land setting, they conduct activities in separate plots that the community granted from the community authorities, which ultimately represents a type of private ownership in their view. This situation is discussed in Del Castillo (1992) and Del Castillo (1997). This table offers additional information on the communal districts at the individual level. They have less educated people: on average an individual living in a communal districts has 7.99 years of schooling, while individuals in non-communal districts accumulate 9.4 years of schooling on average. Communal districts are slightly more populated by men, and they are not located in the coast. The average age of an individual living in a communal district is 44 years while individuals from non-communal districts are on average 41.2 years old.

Table 4: Demographic Variables at District Level, broken down by district's share of communal land (1994 and 2007/2012)

	1994			2007/12		
	<= 0.5	> 0.5	Diff.	<= 0.5	> 0.5	Diff.
Quechua	0.208	0.426	-0.218***	0.229	0.403	-0.174***
Aymara	0.028	0.022	0.005	0.017	0.028	-0.010
Other Native	0.004	0.015	-0.011***	0.003	0.023	-0.020***
Spanish	0.760	0.537	0.223***	0.748	0.543	0.205***
Population (Ln.)	7.827	7.036	0.791***	8.231	7.703	0.528***
Age	34.893	36.128	-1.235***	39.873	41.147	-1.275***
Male	0.559	0.577	-0.018***	0.508	0.505	0.002
High Skilled	0.115	0.082	0.033***	0.176	0.133	0.043***
Agriculture Labor	0.549	0.635	-0.086***	0.547	0.618	-0.070***
Events per 10,000 pers.	5.431	16.044	-10.614***	2.992	5.510	-2.518**
Victims per 10,000 pers.	93.014	679.228	-586.214*	39.584	353.834	-314.250*
Victims (Army) per 10,000 pers.	29.472	435.628	-406.156	11.502	261.938	-250.436
Victims (Terrorists) per 10,000 pers.	61.839	220.393	-158.554*	24.320	87.671	-63.351*
Observations	1791			1791		

Notes: [1] Data sources: population census 1994 and 2007 for demographic variables. Agricultural census 1994 and 2012 for share of communal land. [2] Districts in 2012 use 1994 borders. [3] All demographic estimations refer to population aged 18 years or more. [4] Differences that are statistically significant are denoted by the following system: \*\*\* 1%, \*\* 5%, and \* 10%.

In table 4 I compare district averages using the agricultural census and the population census. I match information of the 1994 agricultural census with information of the 1994

population census; and information of the 2012 agricultural census with data from the 2007 population census. The idea is to determine whether 1994 differences in population variables between communal and non-communal districts are still relevant in the period 2007-2012. The general conclusion is that although 14 years separate the population censuses, the demographic differences have remained.

The detail of such differences as follows: table 4 shows that in both rounds of agricultural censuses districts with a high share of communal land show a larger prevalence of population speaking *Quechua*, but not *Aymara* neither in 1994 or 2007. The proportion of people speaking other native language is again higher in communal districts for both periods. Not surprisingly, the proportion of Spanish speakers is higher in the non-communal districts for both periods. Communal districts are populated by relatively elderly adults. Communal districts are less populated than non-communal ones. The proportion of males in the communal districts was slightly (and statistically significant) higher in communal districts. However there are no differences in the 2007 data. The proportion of high-skilled workers (with at least technical education) was smaller in the communal districts in both periods. The proportion of agricultural labor force was also higher in communal districts in both periods.

The last four rows of table 4 provide an insight of the intensity of violence experienced by this districts. The way these four variables are measured consider the number of events, victims (overall, attributed to the army and to the terrorists) for the whole period of 1980-2000 scaled by 1994 district population. The comparison in the first two columns classifies districts as communal or not depending on the communal land share estimated with the 1994 agricultural census; while the second comparison uses the 2012 agricultural census to classify the districts. The only difference that is statistically significant is the number of events per 10,000 people. It was higher in communal districts. The number of victims scaled by population in the communal districts is larger in magnitude than the victims per population in the non-communal districts, however it is only for the difference in terrorist's victims that the difference is statistically significant at 10%.

Table 5 replicates the exercise but using the proportion of native speakers in the district. Something that emerges clearer in this table is the higher number of casualties and events in districts with a higher proportion of native speakers.

In sum, what all these statistics show is that communal districts were inherently different than non-communal ones, both, in terms of their demography and the violence they were exposed. And such differences have remained through time. The empirical section will take advantage of this characteristic and define the 0.5 threshold using the 1994 distribution. Classifying districts depending on the proportion of native speakers provides

Table 5: Demographic Variables at District Level, broken down by district's share of native language (1994 and 2007)

	1994			2007		
	<= 0.5	> 0.5	Diff.	<= 0.5	> 0.5	Diff.
Quechua	0.074	0.747	-0.673***	0.073	0.759	-0.686***
Aymara	0.010	0.055	-0.045***	0.008	0.050	-0.042***
Other Native	0.006	0.015	-0.010**	0.007	0.021	-0.014***
Population (Ln.)	7.685	7.061	0.624***	8.140	7.775	0.365***
Age	35.714	34.952	0.762***	40.069	41.022	-0.953***
Male	0.555	0.591	-0.035***	0.514	0.492	0.022***
High Skilled	0.115	0.071	0.044***	0.187	0.102	0.084***
Agriculture Labor	0.553	0.654	-0.101***	0.539	0.649	-0.109***
Events per 10,000 pers.	2.232	25.396	-23.165***	1.361	9.382	-8.021***
Victims per 10,000 pers.	17.279	1004.155	-986.876***	10.810	480.313	-469.503***
Victims (Army) per 10,000 pers.	2.701	611.969	-609.268**	1.647	336.048	-334.401*
Victims (Terrorists) per 10,000 pers.	13.434	361.271	-347.837***	8.652	133.304	-124.652***
Observations	1791			1791		

Notes: [1] Data sources: population census 1994 and 2007 for demographic variables. [2] Districts in 2007 use 1994 borders. [3] All demographic estimations refer to population aged 18 years or more. [4] Differences that are statistically significant are denoted by the following system: \*\*\* 1%, \*\* 5%, and \* 10%.

a similar picture where the intensity of violence is higher for native districts.

### 3.3 Individual's beliefs (and demographics)

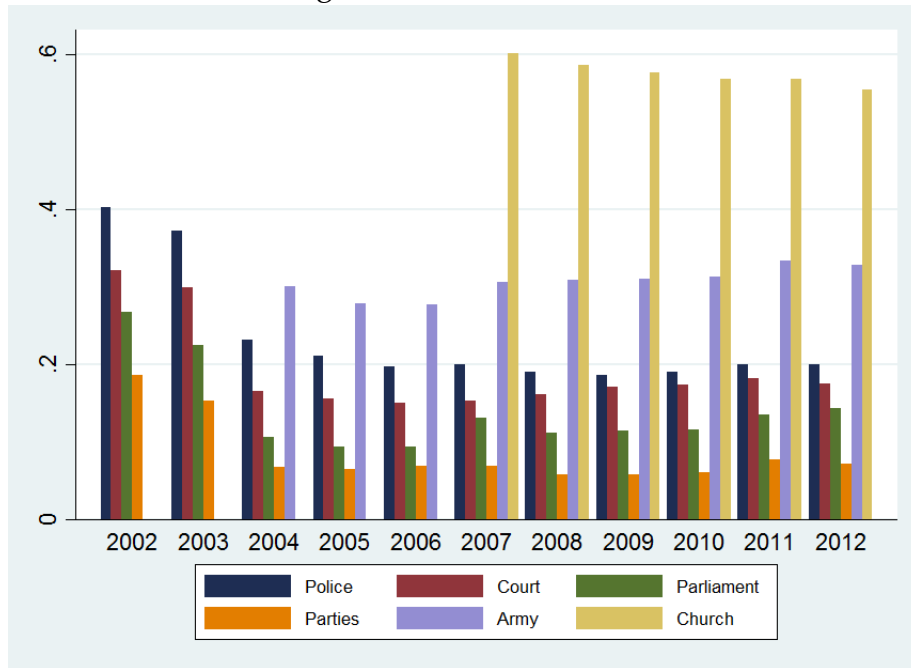
For the variables about trust and identity, I use the National Household Survey (ENAHO) for the period 2007-2012. The survey collects information about the household and the individual that I also use as control variables. It also records the current district of residence as well as the district of birth, that I use to match the information on violence.

In particular, I investigate the degree of trust over the army, the police, parliament, political parties, judiciary system and church. Regarding identity, I investigate whether individuals feel closer to their neighbors (locals), their ethnic/race peers or their religious groups.

ENAHO, collected information about beliefs since 2002. I cannot, however, use the whole period for the analysis because of changes in the framing of the questions and categorization of the alternatives. Figure 6 plots the annual averages for the six variables on trust I use in the empirical analysis. Only four institutions, the police, the parliament, the judiciary system (national court) and political parties were considered for the questionnaire. The wording of the alternatives to measure the degree of trust changed in 2004, which may explain the severe drop in the average trust observed for the four institutions. From 2004 the army was included in the list of institutions. However, the ranking of the alternatives to measure the degree of trust was reversed in 2007, and also the church was

included among the list of institutions. The period from 2007 to 2012 has the same set of institutions, question framing and alternatives, and is, therefore, the period I choose for the analysis.

Figure 6: Historical Trust

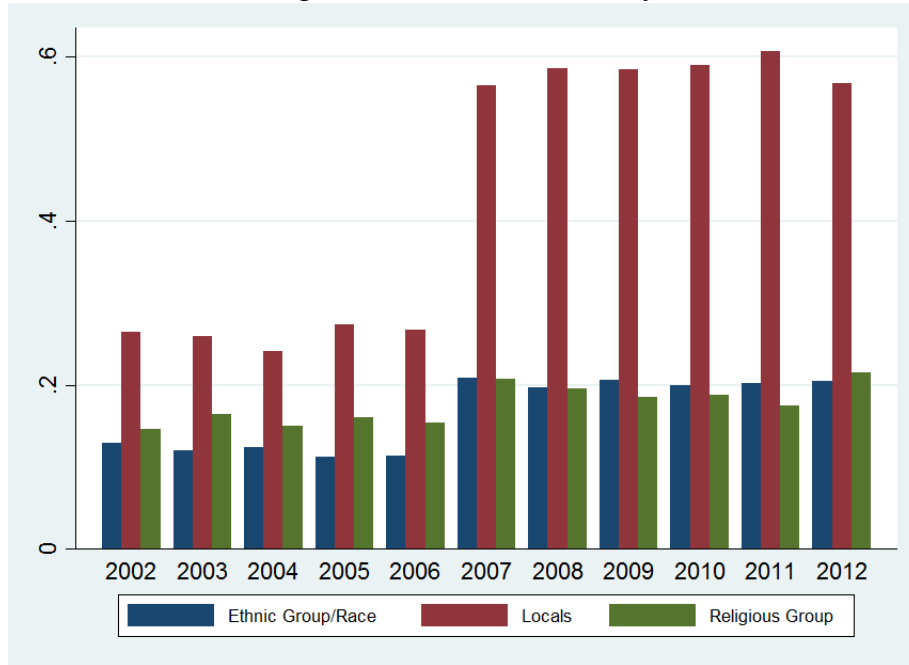


Notes: [1] ENAHO 2002-2012

It is clear that the level of trust towards public institutions in Peru is generally low. For instance, the proportion of people who trusts political parties is consistently the lowest in all years. The church stand as the most trusted institution in Peru, which coincidentally is not a public institution.

The question about identity also started in 2002, but as in the previous case, the framing and number of alternatives changed in 2007. The most noticeable change is the definition of locals, which included all Peruvians in the 2002-2006 version, while for the period 2007-2012 covers up to citizens of the region. I decided to keep the same period for the three variables on identity: local, ethnic or race, and religion. Historically the proportion if individuals who felt more identified with their locals has been the highest (see figure 7).

Figure 7: Historical Identity



Notes: [1] ENAHO 2002-2012

In more detail, for the the period 2007-2012 the data clearly shows that Peruvians, in general have little trust on their institutions. The question about trust lists several government institutions and then inquires the individuals in the household aged 16 or more about how much they trust such institutions. The respondents are offered five alternatives: (a) no trust at all, (b) little trust, (c) just enough, (d) a lot, and (e) do not know. I re-categorize each variable to reflect 1 for responses (c) and (d), and 0 for responses (a) and (b).

The only question on identity asked the individuals for the group (or community) they felt most identified with. The mutually exclusive alternatives were: (a) your region, province, district or local community, (b) your ethnic group or race, (c) your peasants or indigenous community, (d) your group or religion beliefs, and (e) others. The first alternative offers a rather vague geographical sense of contentedness, while alternatives (b), (c), and (d) are better defined. I redefine these four answers into three options: (i) local identity, for (a), (ii) community identity, for (b) and (c), and religion identity, for (d).

Table 6 presents the summary statistics for the trust and identity variables broken down by the native origin of the individual. In general, Peruvian individuals exhibit low levels of trust on the institutions included in the analysis. The national proportion of individuals who trust the army is around 32.61%, with native individuals showing a lower level of trust than non-native. The police is even less trusted: the national aver-



Table 6: Summary Stats: Individual Beliefs by Native Speaker Condition

	Non-Native	Native	Total
Army	35.25 (47.78)	23.32 (42.29)	32.61 (46.88)
Police	21.12 (40.82)	15.74 (36.42)	19.93 (39.95)
Jury	18.25 (38.62)	13.39 (34.05)	17.17 (37.71)
Parliament	13.58 (34.25)	10.16 (30.21)	12.82 (33.43)
Parties	6.844 (25.25)	6.409 (24.49)	6.747 (25.08)
Church	60.01 (48.99)	50.46 (50.00)	57.90 (49.37)
Ethnic Group/Race	13.26 (33.92)	33.90 (47.34)	17.83 (38.28)
Locals	64.59 (47.83)	49.64 (50.00)	61.28 (48.71)
Religion	20.54 (40.40)	15.46 (36.16)	19.42 (39.56)
Observations	104635		

Notes: [1] Data source: ENAHO 2007-2012. [2] Unweighted averages. Standard deviations shown in parenthesis. [3] An individual is native if their mother tongue is of any native origin: Quechua, Aymara or other

age is 19.93%, again, native individuals show a smaller trust on police, 15.74%, compared to a higher trust from non-native individuals, 21.12%. A potential explanation for this difference is the crime rate between urban and rural regions, with the first being more populated than the second ones. The judiciary system is yet less trusted: the national average reaches 17.17%, again with native individuals showing smaller levels of trust than non-native individuals: 13.39% vs 18.25%. The proportion of individuals who trust the Parliament is just 12.82%, again, when split by the native status, native individuals show a smaller level of trust, 10.16%, than non-native individuals 13.58%. At the bottom of the preferences, the political parties can only make 6.74% of the population trust them. This time there is little difference depending on the native status of the individual. Perhaps related to this general distrust to government or official institutions, the church seems to harvest most the trust of Peruvian individuals. The proportion of Peruvians who trust the church is about 57.90%. This time, native individuals show a smaller level of trust than the non-native: 50.46% against 60.01%.

Regarding identity, most of Peruvians identify themselves with their local neighbors: 61.28%. This sense of identity is higher for non-native individuals, 64.59%, than for non-native, 49.64%. The national proportion of Peruvians who identify with their ethnic group

or race is 17.83%. Not surprisingly, this sense of connection is higher for native individuals, who in their majority populate the highlands: 33.9%. Just 13.26% of the non-native individuals declare that they identify with their ethnic group or race. Identification with religious groups is also important among Peruvian individuals. The national proportion of individuals who feel identified with any religious group is 19.42%. Non-native individuals express a higher degree of identification with religion, 20.58%, than native individuals, 15.46%.

If instead of the native origin of the individual, the classification uses the proportion of agricultural land under the tenancy of peasants or indigenous communities the differences remain. In this case, a district is classified as communal if the share of agricultural land owned by peasant or indigenous communities is higher than 0.5. Table 7 shows the differences. As in the native classification, individuals living in communal districts trust less the government institutions, and identifies themselves more with their ethnic or racial group.

Table 7: Summary Stats: Individual Beliefs by Communal District Status

	Non-Communal	Communal	Total
Army	34.52 (47.54)	28.61 (45.19)	32.60 (46.87)
Police	20.42 (40.31)	18.85 (39.11)	19.91 (39.93)
Jury	17.78 (38.24)	15.88 (36.55)	17.17 (37.71)
Parliament	13.22 (33.87)	11.99 (32.48)	12.82 (33.43)
Parties	6.654 (24.92)	6.940 (25.41)	6.746 (25.08)
Church	58.94 (49.19)	55.75 (49.67)	57.91 (49.37)
Ethnic Group/Race	14.17 (34.87)	25.43 (43.55)	17.82 (38.27)
Locals	63.59 (48.12)	56.56 (49.57)	61.31 (48.70)
Religion	20.58 (40.43)	16.97 (37.53)	19.41 (39.55)
Observations	104425		

Notes: [1] Data source: ENAHO 2007-2012. [2] Unweighted averages. Standard deviations shown in parenthesis. [3] A district is referred as communal if the share of agricultural land under communal tenancy is larger than 0.5

ENAHO also collects information on the individual characteristics I include as controls: (i) the number of years of schooling, (ii) gender (male = 1), (iii) a dummy variable to indicate whether the individual learned any native language as mother tongue, and

a (iv) a dummy to indicate that the individual resides in the coastal region of Peru. The empirical equation also includes age fixed effects.

Finally, local mobility of individuals from the rural highlands, where the violence was more frequent, is relatively low. The proportion of individuals living in a district different from the district of birth is 31%. This, however may imply that individuals relocate to somewhere nearby. The percentage of individuals living in a province (a higher administrative unit) different than the province of birth is 23%. While the migration rate at the regional level is 15%. Adhvaryu and Fenske (2014) find that controlling for migration in different ways does not alter the results. I would expect that if conflict had an effect on migration, it was temporary, and that the district of birth fixed effect in the empirical section should account for different migration rate by districts affected by the violence.

## 4 Empirical Framework

The main specification, hence, takes the following form:

$$y_{irt} = \alpha + \beta * killed_{i,ro} + \gamma_{age} + \gamma_p(t) + \theta_r + \theta_{ro} + \psi_t + X_{it} + \varepsilon_{irt} \quad (2)$$

Where  $y_{irt}$  is the belief.  $\gamma_{age}$  is age fixed effect,  $\theta_{ro}$  is district of birth fixed effect, while  $\theta_r$  is current district fixed effect.  $\psi_t$  is year fixed effect,  $\gamma_p(t)$  is a set of current province-specific trends.  $Z_i$  is a vector of individual characteristics: the years of schooling, gender (male), a dummy for individuals whose mother tongue is either *quechua* or *aymara*, a dummy for individuals living in the coast region. The period of analysis is 2007 to 2012.  $\varepsilon_{irt}$  is the error term, clustered at the district of origin level. After controlling for common fixed effects at the district of origin, the district of residence, year fixed effects, province trends and age (cohort) fixed effects, this methodology uses the exposure to violence that is not explained by these set of fixed effects.  $\beta$  captures such effect: the exposure to violence, as defined in 1. I evaluate the effect of total violence (both army and terrorist) and also the effect of army and terrorist violence separately.

To differentiate by the identity of the perpetrator, I used the re-definition of the variable  $killed_{i,ro}$  where I count impressionable years affected for army violence only and terrorist violence only. I present the results in separate regressions for each violence definition.

A second specification interacts the number of impressionable years,  $killed_{i,ro}$  with the ethnic origins of the individual. where the ethnic origin is measured in the three different ways explained in section 2.2: the share of communal land, the native origin, or

the *comunero* status:

$$y_{irt} = \alpha + \delta_1 * killed_{i,ro} + \delta_2 * killed_{i,ro} * ethnic_{i,ro} + \gamma_{age} + \gamma_p(t) + \theta_r + \theta_{ro} + \psi_t + X_{it} + \varepsilon_{irt} \quad (3)$$

The coefficients  $\delta_2$  then captures the effect of violence during the impressionable years of the individuals interacted with the measure of ethnic origins. For this specification I also differentiate by the identity of the perpetrator: the government or the terrorists.

## 4.1 Results and Discussion

### 4.1.1 The effect of conflict on trust and identity

Table 8 presents the results of estimating equation 2 for the group of variables on trust. Panel (a) evaluates the baseline specification with the number of impressionable years as explanatory variable. Panels (b) and (c) use an alternative measure for exposure to violence. Panel (b) uses exposure to violence measured as dummy variable: at least one impressionable year affected by violence. Panel (c) attempts to measure the intensity of the conflict that the individual was exposed to during their impressionable years: the specification here uses the number of victims in the district during the impressionable years of the individual scaled by the district population in 1993 (in thousands). I report results for overall violence exposure (columns labeled *All*), and exposure to army violence (columns labeled *A*) and terrorist violence (label *T*) alone.

Table 8: Trust

	Army			Police			Jury			Parliament			Parties			Church		
	All (1)	A (2)	T (3)	All (4)	A (5)	T (6)	All (7)	A (8)	T (9)	All (10)	A (11)	T (12)	All (13)	A (14)	T (15)	All (16)	A (17)	T (18)
<b>a. Number of Impressionable Years</b>																		
Killed	-0.19 (0.16)	-0.39 (0.26)	-0.24 (0.20)	-0.25* (0.14)	-0.62*** (0.21)	-0.32** (0.16)	-0.28** (0.12)	-0.44** (0.21)	-0.33** (0.14)	-0.20* (0.11)	-0.56*** (0.18)	-0.23* (0.13)	-0.05 (0.09)	-0.09 (0.15)	-0.05 (0.10)	-0.19 (0.18)	-0.48 (0.32)	-0.37* (0.19)
R <sup>2</sup>	0.09	0.09	0.09	0.06	0.06	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.05	0.05	0.05	0.10	0.10	0.10
Observations	115492	115492	115492	120595	120595	120595	114418	114418	114418	111480	111480	111480	116085	116085	116085	124650	124650	124650
<b>b. At Least One Impressionable Year</b>																		
Killed (0/1)	-0.42 (0.61)	-0.36 (0.82)	-0.69 (0.64)	0.10 (0.47)	-0.53 (0.60)	-0.18 (0.51)	-0.77* (0.46)	-0.65 (0.64)	-0.47 (0.45)	0.19 (0.41)	-0.52 (0.65)	0.23 (0.46)	-0.08 (0.34)	0.13 (0.51)	-0.17 (0.33)	0.00 (0.64)	0.56 (0.81)	-0.09 (0.71)
R <sup>2</sup>	0.09	0.09	0.09	0.06	0.06	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.05	0.05	0.05	0.10	0.10	0.10
Observations	115492	115492	115492	120595	120595	120595	114418	114418	114418	111480	111480	111480	116085	116085	116085	124650	124650	124650
<b>c. Intensity</b>																		
Killed	0.26 (0.40)	0.62** (0.31)	-4.52 (3.28)	-0.03 (0.74)	0.26 (0.96)	-4.21** (1.69)	0.46 (0.34)	0.77** (0.32)	-3.22** (1.50)	-0.35 (0.48)	-0.15 (0.57)	-3.03 (1.92)	0.41 (0.41)	0.61** (0.30)	-1.66 (1.12)	-0.31 (0.42)	-0.29 (0.43)	-1.09 (2.28)
R <sup>2</sup>	0.09	0.09	0.09	0.06	0.06	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.05	0.05	0.05	0.10	0.10	0.10
Observations	115431	115431	115431	120527	120527	120527	114357	114357	114357	111434	111434	111434	116029	116029	116029	124567	124567	124567

Notes: [1] Numbered columns refer to the violence variable used in the estimation by each social trait. *All* holds for overall violence, *A* for army-led killings, while *T* for terrorist-led killings. [2] Panel a. uses the number of impressionable years affected by the violence, while panel b. re-categorizes it to a dummy variable denoting at least one impressionable year affected by conflict. Panel c uses the number of people killed during the period of the impressionable years scaled by the district population in 1993. [3] All regressions include dummies for year, age, district of birth, district of residence, and a set of province-specific trends. Additional controls: years of schooling, a dummy for males, a dummy for native speakers and a dummy for residents in the coast region. [4] Standard errors clustered at the district of origin level. [5] Coefficients that are statistically significant are denoted by the following system: \*\*\* 1%, \*\* 5%, and \* 10%.

Results in table 8 indicate that there is an statistically significant effect when violence is measured as the sum of impressionable years exposed to violence, as reported in panel (a). The effect is negative and statistically significant for trust towards the police, the judiciary institution and the parliament. The estimated coefficients are very low, however. All of them are less than 1%. The average number of impressionable years exposed to violence was 0.23, with an standard deviation of 0.97.

Focusing on panel (a), a one standard deviation increase in the number of impressionable years exposed to overall violence reduces the probability to trust the police by 0.24 ( $0.25 \times 0.97$ ) percentage points. The effect becomes slightly stronger when the estimation isolates the violence exerted by the army: a one standard deviation increase in the number of impressionable years exposed to government violence reduces the probability to trust the police by 0.60 ( $0.62 \times 0.97$ ) percentage points. Terrorist violence alone explains a reduction in trusts towards the police by 0.31 ( $0.32 \times 0.97$ ) percentage points.

The effect of violence on trusts over the judiciary institution and the parliament exhibits the same pattern: a negative overall effect where the violence exerted by the government galvanizes a stronger effect. In the case of the trust on church, only terrorist violence has an effect that is statistically significant at 10%.

Panel (b) shows a similar pattern, however only the overall effect of violence on trust towards the judiciary institution is statistically significant at 10%. Results in panel (c) confirm the negative effect of terrorist violence over trust towards the police and the judiciary institution. But the intensity of army violence is associated with a positive effect on trust towards the army, the judiciary system and the political parties.

To understand these results, it is worth referring to the comments of the CVR on the consequences of the violence in Peru. According to their account, the judiciary was among the less trusted institutions during the conflict, which is explained by the shallow reach of government institutions in general in the regions of the conflict. It is remarkable, at the same time, that there is no effect on trust towards the army in any of the specifications.

Regarding identity, table 9 presents a similar set of results. The main effect to highlight here is the negative effect of violence on the probability of identification with the group of locals and the positive effect on the probability of identification with the religious groups. More importantly, in both cases the effect when statistically significant is carried by terrorist violence. There is also a consistent positive effect of violence on identification with the ethnic and race group, however none of the estimated coefficients is statistically significant at any reasonable level. However, as in the case of the effect of violence over trust, the estimated effects are relatively small.

Table 9: Identity

	Local/Neighbour			Ethnic/Race			Religion		
	All (1)	A (2)	T (3)	All (4)	A (5)	T (6)	All (7)	A (8)	T (9)
<b>a. Number of Impressionable Years</b>									
Killed	-0.38*	-0.26	-0.34	0.12	0.18	0.11	0.31**	0.11	0.30**
	(0.22)	(0.47)	(0.27)	(0.16)	(0.29)	(0.19)	(0.13)	(0.27)	(0.15)
R <sup>2</sup>	0.13	0.13	0.13	0.20	0.20	0.20	0.09	0.09	0.09
Observations	126279	126279	126279	126279	126279	126279	126279	126279	126279
<b>b. At Least One Impressionable Year</b>									
Killed (0/1)	-2.00***	-1.06	-1.80***	0.74	0.72	0.34	1.32***	0.12	1.49***
	(0.62)	(0.87)	(0.67)	(0.47)	(0.70)	(0.53)	(0.50)	(0.66)	(0.50)
R <sup>2</sup>	0.13	0.13	0.13	0.20	0.20	0.20	0.09	0.09	0.09
Observations	126279	126279	126279	126279	126279	126279	126279	126279	126279
<b>c. Intensity</b>									
Killed	-0.47*	-0.54**	0.37	0.71*	0.88***	-1.35	0.22	0.07	2.66
	(0.28)	(0.21)	(2.81)	(0.38)	(0.27)	(3.83)	(0.27)	(0.20)	(2.24)
R <sup>2</sup>	0.13	0.13	0.13	0.20	0.20	0.20	0.09	0.09	0.09
Observations	126194	126194	126194	126194	126194	126194	126194	126194	126194

Notes: [1] Numbered columns refer to the violence variable used in the estimation by each social trait. *All* holds for overall violence, *A* for army-led killings, while *T* for terrorist-led killings. [2] Panel a. uses the number of impressionable years affected by the violence, while panel b. re-categorizes it to a dummy variable denoting at least one impressionable year affected by conflict. Panel c uses the number of people killed during the period of the impressionable years scaled by the district population in 1993. [3] All regressions include dummies for year, age, district of birth, district of residence, and a set of province-specific trends. Additional controls: years of schooling, a dummy for males, a dummy for native speakers and a dummy for residents in the coast region. [4] Standard errors clustered at the district of origin level. [5] Coefficients that are statistically significant are denoted by the following system: \*\*\* 1%, \*\* 5%, and \* 10%.

Panel (a) indicates that overall violence reduced the probability that an individual identifies with the local population, however this result is only statistically significant at 10%. In concrete, a one standard deviation increase in the number of impressionable years affected by overall violence reduces the probability of local identification by 0.37 percentage points (0.38x0.97). The same violence has the opposite effect on the probability of religious identification: a one standard deviation increase in the number of impressionable years affected by overall violence increases the probability that a random individual identifies him self or herself with a religious group by 0.30 (0.31x0.97) percentage points. In this case, the effect is driven by terrorist violence. The estimated coefficient for army violence is smaller in magnitude and not statistically significant.

Results in panel (b) show the similar pattern. Having experienced at least one impressionable year of overall violence results in the probability of local identification by 2 percentage points. When the estimation looks for an heterogeneous effect depending on the identity of the perpetrator, terrorist violence stands out over army violence: the coef-

ficient is not only statistically significant but higher than the coefficient for army violence (which is not statistically significant). At least one year of terrorist violence during the impressionable years reduces the probability of feeling identified with the local population by 1.8 percentage points.

In the case of identification with religious groups the effect is the opposite but with the same pattern: overall violence during the impressionable years increases the probability that the individual identifies with religious groups by 1.32 percentage points. Such effect is explained by terrorist violence: at least one year of terrorist violence during the impressionable years increases the probability of finding identification with religious groups by 1.49 percentage points.

Panel (c) offers coefficients with the same sign as in the previous panels. The intensity of army violence had a negative impact on the degree of identification with the local population: -0.54. A one standard deviation increase in the number of victims by population (215.5<sup>12</sup>) reduces the probability of identification with locals by 116.1%. This result is quite extreme, and may be the result of including extreme values in the ratio of victims over population: the average army victims over population is 3.5, while the median is zero and the 95th percentile is also zero. Therefore, although the estimations using the intensity are illustrative, the estimation of the coefficients may be subjected to extreme values<sup>13</sup>.

How to understand the identity results? The CVR again offers guidance in this regard. In the chapter about the psychological consequences of the violence<sup>14</sup>. According to the accounts of CVR (2003), religious groups were particularly supportive during the conflict period in many regions in the highlands. This comes as a natural consequence of the absence of government institutions in those regions, where ultimately other types of informal institutions supplanted the government's role. This result will be clearer in section 4.1.2.

### **Conflict During Early Childhood**

In their account, Bauer et al. (2016) suggest that the effect of violence on cooperation behavior varies little depending on the age that the individual was exposed to the conflict. In a mostly related work, Adhvaryu and Fenske (2014) investigate the formation of beliefs in African individuals exposed to conflict during their early childhood and finds a small

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<sup>12</sup>The average and standard deviation for the ratio of army victims/population are 3.5 and 215.5, respectively.

<sup>13</sup>Also, this is a linear probability model, in which case the predicted probability could reach extreme values at both extremes.

<sup>14</sup>CVR (2003), Part III, chapter 1.



positive effect for generalized trust.

In order to shed more light on the results of this chapter, this section evaluates whether the choice of a different life period offers different results. In particular, I focus on the period when the individual was aged between 0 and 15 years. Violence during that period of life could have different effects by means of different factors. In this section I do not account for the channels through which violence at early stages may affect trust and identity beliefs. However, one possible channel is education. As found by León (2012), individuals who experienced the violence period at early childhood accumulate 0.31 less years of education as adults.

Empirically, I re-estimate equation 2 but using the number of early years (between 0 and 15) affected by violence as explanatory variable.

Table 10 presents the results for trust. Experiencing violence during early childhood has a different effect on trust. First, the effect on the judiciary institution and the political parties is gone. Second, the effect on trust over the police changes sign and becomes positive. Third, there is now a positive effect of violence on trust over the army. Finally, the church is less trusted by individuals exposed to violence during their impressionable years.

Table 10: Trust: Early Childhood

	Army			Police			Jury			Parliament			Parties			Church		
	All	A	T	All	A	T	All	A	T	All	A	T	All	A	T	All	A	T
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
<b>a. Number of Early Years</b>																		
Killed	0.33**	0.55	0.37*	0.35***	0.55***	0.46***	0.16	0.17	0.19	0.06	0.28	0.10	0.11	0.18	0.15	-0.32**	-0.56*	-0.34*
	(0.17)	(0.38)	(0.19)	(0.09)	(0.20)	(0.11)	(0.14)	(0.26)	(0.18)	(0.10)	(0.21)	(0.12)	(0.08)	(0.15)	(0.09)	(0.15)	(0.30)	(0.19)
R <sup>2</sup>	0.09	0.09	0.09	0.06	0.06	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.05	0.05	0.05	0.10	0.10	0.10
Observations	115492	115492	115492	120595	120595	120595	114418	114418	114418	111480	111480	111480	116085	116085	116085	124650	124650	124650
<b>b. At Least One Early Year</b>																		
Killed (0/1)	0.94	1.01	1.20*	0.90	0.80	1.21*	-0.34	-0.01	-0.04	-0.27	-0.10	0.13	0.07	0.32	0.33	-0.78	-2.13***	-0.81
	(0.73)	(1.11)	(0.73)	(0.59)	(0.83)	(0.64)	(0.59)	(0.98)	(0.65)	(0.53)	(0.76)	(0.56)	(0.33)	(0.43)	(0.33)	(0.65)	(0.82)	(0.70)
R <sup>2</sup>	0.09	0.09	0.09	0.06	0.06	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.05	0.05	0.05	0.10	0.10	0.10
Observations	115492	115492	115492	120595	120595	120595	114418	114418	114418	111480	111480	111480	116085	116085	116085	124650	124650	124650
<b>c. Intensity</b>																		
Killed	0.61	0.52	2.60	1.32***	1.26***	3.62**	-0.32	-0.56	2.92	-0.25	-0.42	1.99	-0.09	-0.32*	3.10**	-0.74*	-0.37**	-6.27**
	(0.47)	(0.47)	(1.82)	(0.18)	(0.21)	(1.75)	(0.59)	(0.73)	(2.51)	(0.35)	(0.28)	(1.62)	(0.21)	(0.17)	(1.55)	(0.44)	(0.15)	(2.76)
R <sup>2</sup>	0.09	0.09	0.09	0.06	0.06	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.05	0.05	0.05	0.10	0.10	0.10
Observations	115431	115431	115431	120527	120527	120527	114357	114357	114357	111434	111434	111434	116029	116029	116029	124567	124567	124567

Notes: [1] Numbered columns refer to the violence variable used in the estimation by each social trait. *All* holds for overall violence, *A* for army-led killings, while *T* for terrorist-led killings. [2] Panel a. uses the number of early years (between 0 and 15) affected by the violence, while panel b. re-categorizes it to a dummy variable denoting at least one impressionable year affected by conflict. Panel c uses the number of people killed during the period of the impressionable years scaled by the district population in 1993. [3] All regressions include dummies for year, age, district of birth, district of residence, and a set of province-specific trends. Additional controls: years of schooling, a dummy for males, a dummy for native speakers and a dummy for residents in the coast region. [4] Standard errors clustered at the district of origin level. [5] Coefficients that are statistically significant are denoted by the following system: \*\*\* 1%, \*\* 5%, and \* 10%.

These positive effects open a different discussion with respect to current result. However, the results at early age they are much in line with the literature has found on the effect of violence on cooperative behavior. As mentioned earlier, Bauer et al. (2016) in their meta-analysis find that exposure to violence leads to an increase in pro-social behavior<sup>15</sup>. However, within the set of result they present, the effect on trust on institutions is not statistically significant. The result of this section not only offer a validation to their findings applied to a different context, but also provide additional evidence that the experience of violence at different stages in life may have different results during adult life.

In line with the above description, the results on identity are also different. Table 11 suggest that exposure to violence during early childhood has the opposite effect on the identification measures as the ones found in table 9.

Table 11: Identity: Early Childhood

	Local/Neighbour			Ethnic/Race			Religion		
	All (1)	A (2)	T (3)	All (4)	A (5)	T (6)	All (7)	A (8)	T (9)
<b>a. Number of Early Years</b>									
Killed	0.06 (0.17)	0.32 (0.36)	-0.03 (0.19)	-0.18 (0.16)	-0.36 (0.32)	-0.17 (0.19)	0.11 (0.14)	0.05 (0.24)	0.21 (0.15)
R <sup>2</sup>	0.13	0.13	0.13	0.20	0.20	0.20	0.09	0.09	0.09
Observations	126279	126279	126279	126279	126279	126279	126279	126279	126279
<b>b. At Least One Early Year</b>									
Killed (0/1)	-0.04 (0.61)	1.39 (1.02)	-0.66 (0.65)	-0.93 (0.57)	-1.65** (0.84)	-0.81 (0.61)	0.91 (0.56)	0.14 (0.83)	1.35** (0.57)
R <sup>2</sup>	0.13	0.13	0.13	0.20	0.20	0.20	0.09	0.09	0.09
Observations	126279	126279	126279	126279	126279	126279	126279	126279	126279
<b>c. Intensity</b>									
Killed	1.46*** (0.33)	1.70*** (0.32)	0.78 (2.14)	-0.66 (0.46)	-0.57 (0.44)	-2.72 (2.72)	-0.48* (0.29)	-0.72*** (0.15)	1.83 (1.58)
R <sup>2</sup>	0.13	0.13	0.13	0.20	0.20	0.20	0.09	0.09	0.09
Observations	126194	126194	126194	126194	126194	126194	126194	126194	126194

Notes: [1] Numbered columns refer to the violence variable used in the estimation by each social trait. *All* holds for overall violence, *A* for army-led killings, while *T* for terrorist-led killings. [2] Panel a. uses the number of early years (between 0 and 15) affected by the violence, while panel b. re-categorizes it to a dummy variable denoting at least one impressionable year affected by conflict. Panel c uses the number of people killed during the period of the impressionable years scaled by the district population in 1993. [3] All regressions include dummies for year, age, district of birth, district of residence, and a set of province-specific trends. Additional controls: years of schooling, a dummy for males, a dummy for native speakers and a dummy for residents in the coast region. [4] Standard errors clustered at the district of origin level. [5] Coefficients that are statistically significant are denoted by the following system: \*\*\* 1%, \*\* 5%, and \* 10%.

<sup>15</sup>Adhvaryu and Fenske (2014) also provide evidence in this direction, and as in the present case, the general effect of the measure they have for trust, is very small.

### **Proliferation of Fixed Effects**

The estimation strategy is demanding in the number of fixed effects it requires. The possibility that the estimated coefficients are too small may be related to this, so in this section I provide some estimates of simple correlations to understand the nature of the link between conflict and beliefs. In concrete, I re-run the empirical equation 2 excluding the dummies for the district of origin or the district of residence, neither the province-specific trends. Tables 12 and 13 show the results. The main conclusion regarding trust is that the estimated coefficients are slightly larger and all of them with the negative sign. In the case of identity, there are no statistically significant effect, and the coefficients estimated in panel (c) are practically zero. These results suggest that controlling for geographical fixed effects at residency and birth, as well as province trends, reduces the effect of violence over trust.

Table 12: Trust: No Fixed Effects

	Army			Police			Jury			Parliament			Parties			Church		
	All	A	T	All	A	T	All	A	T	All	A	T	All	A	T	All	A	T
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
<b>a. Number of Impressionable Years</b>																		
Killed	-1.48***	-2.66***	-1.70***	-1.09***	-1.93***	-1.29***	-0.93***	-1.44***	-1.06***	-0.71***	-1.21***	-0.78***	-0.55***	-0.88***	-0.67***	-0.33	-0.66	-0.51
	(0.27)	(0.41)	(0.34)	(0.17)	(0.24)	(0.21)	(0.17)	(0.27)	(0.20)	(0.15)	(0.28)	(0.19)	(0.13)	(0.16)	(0.15)	(0.37)	(0.70)	(0.46)
R <sup>2</sup>	0.05	0.05	0.05	0.01	0.01	0.01	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.03	0.03	0.03
Observations	54734	54734	54734	57978	57978	57978	54332	54332	54332	51655	51655	51655	54786	54786	54786	61140	61140	61140
<b>b. At Least One Impressionable Year</b>																		
Killed (0/1)	-4.66***	-5.44***	-5.47***	-3.02***	-4.03***	-3.68***	-3.33***	-3.38***	-3.36***	-1.88***	-3.20***	-2.12***	-1.52***	-1.74**	-1.88***	-0.48	-0.91	-1.08
	(1.07)	(1.44)	(1.21)	(0.75)	(0.94)	(0.82)	(0.77)	(0.90)	(0.80)	(0.63)	(0.77)	(0.68)	(0.51)	(0.70)	(0.51)	(1.25)	(1.70)	(1.28)
R <sup>2</sup>	0.05	0.05	0.05	0.01	0.01	0.01	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.03	0.03	0.03
Observations	54734	54734	54734	57978	57978	57978	54332	54332	54332	51655	51655	51655	54786	54786	54786	61140	61140	61140
<b>c. Intensity</b>																		
Killed	-0.35	0.19	-7.44**	-0.72	-0.30	-6.81***	-0.09	0.22	-4.14***	-0.71*	-0.40	-4.93***	-0.09	0.23	-3.68***	-1.30***	-1.27***	-3.97
	(0.58)	(0.17)	(3.56)	(0.74)	(0.95)	(1.14)	(0.28)	(0.35)	(1.08)	(0.41)	(0.44)	(1.67)	(0.46)	(0.25)	(0.88)	(0.33)	(0.26)	(2.64)
R <sup>2</sup>	0.03	0.03	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02
Observations	115431	115431	115431	120527	120527	120527	114357	114357	114357	111434	111434	111434	116029	116029	116029	124567	124567	124567

Notes: [1] Numbered columns refer to the violence variable used in the estimation by each social trait. *All* holds for overall violence, *A* for army-led killings, while *T* for terrorist-led killings. [2] Panel a. uses the number of impressionable years affected by the violence, while panel b. re-categorizes it to a dummy variable denoting at least one impressionable year affected by conflict. Panel c uses the number of people killed during the period of the impressionable years scaled by the district population in 1993. [3] All regressions include as controls: dummies for years and age, years of schooling, a dummy for males, a dummy for native speakers and a dummy for residents in the coast region. [4] Standard errors clustered at the district of origin level. [5] Coefficients that are statistically significant are denoted by the following system: \*\*\* 1%, \*\* 5%, and \* 10%.

Table 13: Identity: No Fixed Effects

	Local/Neighbour			Ethnic/Race			Religion		
	All (1)	A (2)	T (3)	All (4)	A (5)	T (6)	All (7)	A (8)	T (9)
<b>a. Number of Impressionable Years</b>									
Killed	0.32 (0.25)	0.41 (0.38)	0.26 (0.29)	-0.56* (0.31)	-0.46 (0.40)	-0.55* (0.33)	0.27 (0.20)	0.09 (0.30)	0.32 (0.22)
$R^2$	0.09	0.09	0.09	0.13	0.13	0.13	0.04	0.04	0.04
Observations	62198	62198	62198	62198	62198	62198	62198	62198	62198
<b>b. At Least One Impressionable Year</b>									
Killed (0/1)	1.84* (1.04)	1.14 (1.49)	2.00* (1.13)	-2.78** (1.26)	-1.47 (1.74)	-2.66** (1.27)	0.87 (0.83)	0.42 (1.02)	0.62 (0.78)
$R^2$	0.09	0.09	0.09	0.13	0.13	0.13	0.04	0.04	0.04
Observations	62198	62198	62198	62198	62198	62198	62198	62198	62198
<b>c. Intensity</b>									
Killed	-0.00*** (0.00)	-0.00*** (0.00)	-0.01** (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00 (0.00)
$R^2$	0.06	0.06	0.06	0.09	0.09	0.09	0.04	0.04	0.04
Observations	126194	126194	126194	126194	126194	126194	126194	126194	126194

Notes: [1] Numbered columns refer to the violence variable used in the estimation by each social trait. *All* holds for overall violence, *A* for army-led killings, while *T* for terrorist-led killings. [2] Panel a. uses the number of impressionable years affected by the violence, while panel b. re-categorizes it to a dummy variable denoting at least one impressionable year affected by conflict. Panel c uses the number of people killed during the period of the impressionable years scaled by the district population in 1993. [3] All regressions include as controls: dummies for years and age, years of schooling, a dummy for males, a dummy for native speakers and a dummy for residents in the coast region. [4] Standard errors clustered at the district of origin level. [5] Coefficients that are statistically significant are denoted by the following system: \*\*\* 1%, \*\* 5%, and \* 10%.

#### 4.1.2 The effect of conflict and the communal origins of the individual

In this section I empirically test whether the exposure to violence during the impressionable years had a different result depending on the indigenous origin of the individuals and I provide an answer to the question whether individuals with some degree of connection to the indigenous dimension in Peru have a different reaction to the violence. In a way, this provides also an answer to the question about whether people who belong to groups persistently poor and historically neglected develop a higher or lower trust over institutions, or whether they have a different sense of connection to their peers.

I measure the degree of connection to the indigenous dimension in three ways, as explained in section 2.2: (i) with the share of agricultural land in hands of peasant or indigenous groups or associations, (ii) with the *comunero* characteristic of the individual, and (iii) with the native characteristic of the individual. These three ways of measurement are represented by panels (a), (b), and (c), respectively, in tables 14, 15, 16, and 17.

Tables 14 and 15 use the empirical specification for equation 3 that considers exposition to violence measured as the number of impressionable years under violence.

Regarding trust (table 14), the indigenous interaction suggests that individuals with some degree of connection to the indigenous dimension and who were exposed to violence during their impressionable years report a smaller probability to trust political parties. This result is evident in columns 13, 14 and 15 for panels (a) and (c). For instance, taking panel (a) for the interpretation, and column 13, one standard deviation increase in the number of impressionable years exposed to overall violence led to a reduction in the probability of trusting the political parties by 0.26 ( $[0.16 - 0.43] * 0.97$ ) percentage points for individuals born in a district where more than half of the agricultural land was held by peasant or indigenous communities. Although small, this result represents 4% of the average trust on political parties (0.26% out of 6.7%). Panel (c) provides suggestive evidence that being a *comunero* increases the magnitude of the negative effect of violence during the impressionable years over the individual trust over the parliament. In particular, the experience of at least one impressionable year affected by army violence. In this case, the estimated effect of army violence considering being a *comunero* reaches -1.58 (in column 11, panel (c):  $-1.58 = -0.48 - 1.07$ ).

Table 14: Trust Interacted Number of Years

	Army			Police			Jury			Parliament			Parties			Church		
	All	A	T	All	A	T	All	A	T	All	A	T	All	A	T	All	A	T
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
<b>a. Share</b>																		
Killed	-0.10 (0.19)	0.10 (0.30)	-0.17 (0.23)	-0.35* (0.19)	-0.75*** (0.27)	-0.44** (0.22)	-0.47** (0.18)	-0.61* (0.34)	-0.52*** (0.20)	-0.08 (0.13)	-0.22 (0.26)	-0.05 (0.17)	0.16 (0.11)	0.35* (0.21)	0.23* (0.12)	-0.30 (0.23)	-0.63 (0.46)	-0.54** (0.24)
Killed x Share	-0.19 (0.29)	-0.96** (0.45)	-0.14 (0.35)	0.21 (0.24)	0.25 (0.38)	0.24 (0.27)	0.38* (0.22)	0.34 (0.39)	0.38 (0.25)	-0.26 (0.17)	-0.67** (0.30)	-0.37* (0.21)	-0.43*** (0.13)	-0.86*** (0.24)	-0.57*** (0.15)	0.21 (0.33)	0.27 (0.61)	0.33 (0.36)
R <sup>2</sup>	0.09	0.09	0.09	0.06	0.06	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.05	0.05	0.05	0.10	0.10	0.10
Observations	115492	115492	115492	120595	120595	120595	114418	114418	114418	111480	111480	111480	116085	116085	116085	124650	124650	124650
<b>b. Comunero</b>																		
Killed	-0.19 (0.17)	-0.37 (0.29)	-0.24 (0.21)	-0.24* (0.14)	-0.58*** (0.21)	-0.31* (0.17)	-0.28** (0.13)	-0.38* (0.23)	-0.32** (0.15)	-0.17* (0.11)	-0.48*** (0.17)	-0.18 (0.13)	-0.03 (0.09)	-0.05 (0.15)	-0.04 (0.10)	-0.23 (0.19)	-0.49 (0.34)	-0.41** (0.20)
Killed x Comunero	-0.06 (0.35)	-0.29 (0.60)	-0.04 (0.42)	-0.10 (0.36)	-0.43 (0.56)	-0.14 (0.41)	-0.03 (0.31)	-0.77 (0.49)	-0.14 (0.33)	-0.37 (0.23)	-1.07*** (0.34)	-0.57** (0.25)	-0.19 (0.16)	-0.42 (0.30)	-0.20 (0.18)	0.45 (0.48)	0.06 (0.99)	0.45 (0.52)
R <sup>2</sup>	0.09	0.09	0.09	0.06	0.06	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.05	0.05	0.05	0.10	0.10	0.10
Observations	115492	115492	115492	120595	120595	120595	114418	114418	114418	111480	111480	111480	116085	116085	116085	124650	124650	124650
<b>c. Native</b>																		
Killed	-0.31* (0.18)	-0.57** (0.27)	-0.37 (0.23)	-0.29 (0.18)	-0.77*** (0.22)	-0.35 (0.23)	-0.32** (0.16)	-0.36 (0.29)	-0.37* (0.19)	-0.10 (0.13)	-0.43* (0.24)	-0.09 (0.16)	0.11 (0.11)	0.14 (0.19)	0.16 (0.11)	-0.22 (0.21)	-0.62 (0.42)	-0.49** (0.23)
Killed x Native	0.29 (0.25)	0.48 (0.45)	0.28 (0.29)	0.10 (0.26)	0.39 (0.53)	0.06 (0.30)	0.10 (0.19)	-0.21 (0.34)	0.08 (0.21)	-0.26 (0.16)	-0.36 (0.31)	-0.33* (0.19)	-0.39*** (0.14)	-0.62*** (0.23)	-0.49*** (0.16)	0.07 (0.33)	0.34 (0.53)	0.26 (0.37)
R <sup>2</sup>	0.09	0.09	0.09	0.06	0.06	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.05	0.05	0.05	0.10	0.10	0.10
Observations	115492	115492	115492	120595	120595	120595	114418	114418	114418	111480	111480	111480	116085	116085	116085	124650	124650	124650

Notes: [1] Numbered columns refer to the violence variable used in the estimation by each social trait. *All* holds for overall violence, *A* for army-led killings, while *T* for terrorist-led killings. [2] Panel a. uses the number of impressionable years affected by the violence, while panel b. re-categorizes it to a dummy variable denoting at least one impressionable year affected by conflict. Panel c uses the number of people killed during the period of the impressionable years scaled by the district population in 1993. [3] All regressions include dummies for year, age, district of birth, district of residence, and a set of province-specific trends. Additional controls: years of schooling, a dummy for males, a dummy for native speakers and a dummy for residents in the coast region. [4] Standard errors clustered at the district of origin level. [5] Coefficients that are statistically significant are denoted by the following system: \*\*\* 1%, \*\* 5%, and \* 10%.



However, the most interesting results emerge for the identity variables. Table 15 indicates that violence had a statistically significant effects on the probability of identification with locals and ethnic groups that oppose each other. This result appears in panel (b), which measures the indigenous dimension with the individual ownership of agricultural land in a communal setting. One standard deviation increase in the number of impressionable years affected by violence represents a 1.36  $([-0.27 - 1.14] \times 0.97)$  percentage points reduction in the probability that an individual who is also a *comunero* identifies himself with his locals. Whereas the same shock represents an increase of 1.72  $([-0.06 + 1.83] \times 0.97)$  percentage points in the probability that a *comunero* individual identifies himself with his ethnic or race group. Actually, this effect is even stronger when the estimation considers only the violence exerted by the army: 3.42 percentage points increase, which is 19% of the national average of people who identify themselves with ethnic or racial groups (17.83).

Tables 16 and 17 repeat the exercise considering the a dummy variable that reflects the exposure to the violence during at least one impressionable year. The results are robust for the variables on identification and stronger in magnitude. What also emerges from this exercise is the fact that violence led by the army had the strongest effect. In concrete, focusing on table 17 and taking the results from column 2 and panel (b): having experienced at least one impressionable year under conflict led by the army represented a reduction in the probability that a *comunero* individual feels identified with his local neighbors by 8.49  $(-0.48 - -8.01)$  percentage points. At the same time, army violence measured as dummy, represented an increase of 11.75  $(-0.14 + 11.89)$  percentage points in the probability of a *comunero* identifying himself with his ethnic or race group.

Table 15: Identity Interacted Number of Years

	Local/Neighbour			Ethnic/Race			Religion		
	All (1)	A (2)	T (3)	All (4)	A (5)	T (6)	All (7)	A (8)	T (9)
<b>a. Share</b>									
Killed	-0.16 (0.26)	0.52 (0.58)	-0.09 (0.34)	-0.01 (0.16)	-0.33 (0.28)	-0.02 (0.21)	0.26 (0.18)	-0.18 (0.47)	0.20 (0.23)
Killed x Share	-0.44 (0.41)	-1.45* (0.85)	-0.49 (0.52)	0.25 (0.30)	0.96* (0.50)	0.26 (0.37)	0.10 (0.23)	0.53 (0.54)	0.18 (0.27)
R <sup>2</sup>	0.13	0.13	0.13	0.20	0.20	0.20	0.09	0.09	0.09
Observations	126279	126279	126279	126279	126279	126279	126279	126279	126279
<b>b. Comunero</b>									
Killed	-0.27 (0.22)	-0.09 (0.46)	-0.23 (0.27)	-0.06 (0.15)	-0.17 (0.25)	-0.07 (0.18)	0.35*** (0.13)	0.24 (0.29)	0.33** (0.16)
Killed x Comunero	-1.14** (0.55)	-1.85 (1.23)	-1.10* (0.62)	1.83*** (0.62)	3.70*** (1.26)	1.80** (0.72)	-0.39 (0.37)	-1.39** (0.56)	-0.37 (0.43)
R <sup>2</sup>	0.13	0.13	0.13	0.20	0.20	0.20	0.09	0.09	0.09
Observations	126279	126279	126279	126279	126279	126279	126279	126279	126279
<b>c. Native</b>									
Killed	-0.25 (0.27)	0.08 (0.52)	-0.19 (0.35)	0.12 (0.17)	-0.00 (0.27)	0.16 (0.21)	0.12 (0.18)	-0.19 (0.37)	0.01 (0.23)
Killed x Native	-0.29 (0.39)	-0.85 (0.58)	-0.31 (0.44)	0.00 (0.32)	0.44 (0.46)	-0.11 (0.35)	0.41* (0.23)	0.72 (0.46)	0.60** (0.28)
R <sup>2</sup>	0.13	0.13	0.13	0.20	0.20	0.20	0.09	0.09	0.09
Observations	126279	126279	126279	126279	126279	126279	126279	126279	126279

Notes: [1] Numbered columns refer to the violence variable used in the estimation by each social trait. *All* holds for overall violence, *A* for army-led killings, while *T* for terrorist-led killings. [2] Panel a. uses the number of impressionable years affected by the violence, while panel b. re-categorizes it to a dummy variable denoting at least one impressionable year affected by conflict. Panel c uses the number of people killed during the period of the impressionable years scaled by the district population in 1993. [3] All regressions include dummies for year, age, district of birth, district of residence, and a set of province-specific trends. Additional controls: years of schooling, a dummy for males, a dummy for native speakers and a dummy for residents in the coast region. [4] Standard errors clustered at the district of origin level. [5] Coefficients that are statistically significant are denoted by the following system: \*\*\* 1%, \*\* 5%, and \* 10%.

Table 16: Trust Interacted Dummy

	Army			Police			Jury			Parliament			Parties			Church		
	All	A	T	All	A	T	All	A	T	All	A	T	All	A	T	All	A	T
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
<b>a. Share</b>																		
Killed (0/1)	-0.76 (0.74)	0.73 (1.01)	-1.28* (0.75)	-0.12 (0.50)	-0.62 (0.64)	-0.52 (0.56)	-1.15* (0.61)	-0.71 (0.83)	-0.57 (0.57)	0.09 (0.46)	0.17 (0.68)	0.42 (0.54)	-0.03 (0.47)	0.79 (0.81)	0.14 (0.47)	-0.23 (0.77)	0.03 (1.07)	-0.24 (0.95)
Killed (0/1) x Share	0.82 (1.10)	-2.97* (1.62)	1.40 (1.19)	0.55 (0.90)	0.22 (1.31)	0.79 (0.98)	0.95 (0.80)	0.14 (1.20)	0.24 (0.83)	0.26 (0.77)	-1.91* (1.09)	-0.47 (0.85)	-0.12 (0.58)	-1.77* (0.98)	-0.74 (0.59)	0.55 (1.17)	1.36 (1.56)	0.36 (1.29)
R <sup>2</sup>	0.09	0.09	0.09	0.06	0.06	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.05	0.05	0.05	0.10	0.10	0.10
Observations	115492	115492	115492	120595	120595	120595	114418	114418	114418	111480	111480	111480	116085	116085	116085	124650	124650	124650
<b>b. Comunero</b>																		
Killed (0/1)	-0.47 (0.62)	-0.41 (0.86)	-0.75 (0.66)	0.10 (0.47)	-0.54 (0.62)	-0.19 (0.51)	-0.87* (0.47)	-0.56 (0.67)	-0.55 (0.46)	0.17 (0.41)	-0.36 (0.64)	0.29 (0.46)	-0.06 (0.34)	0.19 (0.52)	-0.15 (0.33)	-0.22 (0.65)	0.34 (0.83)	-0.35 (0.73)
Killed (0/1) x Comunero	0.80 (1.56)	0.67 (2.18)	0.97 (1.70)	0.07 (1.50)	0.05 (2.39)	0.14 (1.62)	1.88 (1.51)	-1.68 (2.01)	1.38 (1.53)	0.27 (1.19)	-2.77* (1.56)	-1.13 (1.23)	-0.42 (0.91)	-0.88 (1.20)	-0.31 (0.96)	3.36** (1.58)	3.09 (2.51)	3.76** (1.72)
R <sup>2</sup>	0.09	0.09	0.09	0.06	0.06	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.05	0.05	0.05	0.10	0.10	0.10
Observations	115492	115492	115492	120595	120595	120595	114418	114418	114418	111480	111480	111480	116085	116085	116085	124650	124650	124650
<b>c. Native</b>																		
Killed (0/1)	-1.22* (0.65)	-0.44 (0.88)	-1.21* (0.70)	-0.24 (0.49)	-0.77 (0.63)	-0.36 (0.54)	-1.11** (0.54)	-0.37 (0.77)	-0.61 (0.52)	0.37 (0.47)	-0.16 (0.73)	0.70 (0.53)	0.22 (0.44)	0.72 (0.72)	0.33 (0.44)	0.03 (0.71)	0.59 (0.85)	0.22 (0.81)
Killed (0/1) x Native	2.42** (1.06)	0.26 (1.49)	1.51 (1.15)	0.99 (0.86)	0.75 (1.22)	0.48 (0.87)	1.05 (0.79)	-0.95 (1.06)	0.42 (0.85)	-0.58 (0.66)	-1.26 (0.97)	-1.47** (0.71)	-0.93 (0.58)	-1.96** (0.84)	-1.46** (0.59)	-0.09 (1.17)	-0.09 (1.70)	-0.80 (1.21)
R <sup>2</sup>	0.09	0.09	0.09	0.06	0.06	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.05	0.05	0.05	0.10	0.10	0.10
Observations	115492	115492	115492	120595	120595	120595	114418	114418	114418	111480	111480	111480	116085	116085	116085	124650	124650	124650

Notes: [1] Numbered columns refer to the violence variable used in the estimation by each social trait. *All* holds for overall violence, *A* for army-led killings, while *T* for terrorist-led killings. [2] Panel a. uses the number of impressionable years affected by the violence, while panel b. re-categorizes it to a dummy variable denoting at least one impressionable year affected by conflict. Panel c uses the number of people killed during the period of the impressionable years scaled by the district population in 1993. [3] All regressions include dummies for year, age, district of birth, district of residence, and a set of province-specific trends. Additional controls: years of schooling, a dummy for males, a dummy for native speakers and a dummy for residents in the coast region. [4] Standard errors clustered at the district of origin level. [5] Coefficients that are statistically significant are denoted by the following system: \*\*\* 1%, \*\* 5%, and \* 10%.

Table 17: Identity Interacted Dummy

	Local/Neighbour			Ethnic/Race			Religion		
	All (1)	A (2)	T (3)	All (4)	A (5)	T (6)	All (7)	A (8)	T (9)
<b>a. Share</b>									
Killed (0/1)	-1.20*	0.38	-1.19	0.44	-0.17	0.22	0.95	-0.53	1.13*
	(0.70)	(0.87)	(0.75)	(0.41)	(0.66)	(0.49)	(0.64)	(0.80)	(0.63)
Killed (0/1) x Share	-1.90	-3.68**	-1.39	0.71	2.27	0.28	0.88	1.66	0.82
	(1.16)	(1.75)	(1.25)	(0.92)	(1.44)	(1.05)	(0.85)	(1.19)	(0.86)
R <sup>2</sup>	0.13	0.13	0.13	0.20	0.20	0.20	0.09	0.09	0.09
Observations	126279	126279	126279	126279	126279	126279	126279	126279	126279
<b>b. Comunero</b>									
Killed (0/1)	-1.62**	-0.48	-1.47**	0.26	-0.14	-0.09	1.33**	0.28	1.49***
	(0.63)	(0.83)	(0.68)	(0.46)	(0.60)	(0.51)	(0.52)	(0.70)	(0.52)
Killed (0/1) x Comunero	-5.54***	-8.01***	-4.60**	7.07***	11.89***	6.07**	-0.07	-2.17	0.02
	(2.07)	(3.00)	(2.28)	(2.30)	(3.67)	(2.51)	(1.37)	(2.05)	(1.47)
R <sup>2</sup>	0.13	0.13	0.13	0.20	0.20	0.20	0.09	0.09	0.09
Observations	126279	126279	126279	126279	126279	126279	126279	126279	126279
<b>c. Native</b>									
Killed (0/1)	-1.37*	-0.06	-1.41*	0.67	-0.04	0.36	0.62	-0.46	0.90
	(0.70)	(0.93)	(0.79)	(0.53)	(0.71)	(0.63)	(0.60)	(0.74)	(0.58)
Killed (0/1) x Native	-1.75	-2.97*	-1.00	0.21	2.27	-0.05	1.94**	1.71	1.55**
	(1.20)	(1.77)	(1.29)	(1.16)	(1.70)	(1.22)	(0.80)	(1.12)	(0.78)
R <sup>2</sup>	0.13	0.13	0.13	0.20	0.20	0.20	0.09	0.09	0.09
Observations	126279	126279	126279	126279	126279	126279	126279	126279	126279

Notes: [1] Numbered columns refer to the violence variable used in the estimation by each social trait. *All* holds for overall violence, *A* for army-led killings, while *T* for terrorist-led killings. [2] Panel a. uses the number of impressionable years affected by the violence, while panel b. re-categorizes it to a dummy variable denoting at least one impressionable year affected by conflict. Panel c uses the number of people killed during the period of the impressionable years scaled by the district population in 1993. [3] All regressions include dummies for year, age, district of birth, district of residence, and a set of province-specific trends. Additional controls: years of schooling, a dummy for males, a dummy for native speakers and a dummy for residents in the coast region. [4] Standard errors clustered at the district of origin level. [5] Coefficients that are statistically significant are denoted by the following system: \*\*\* 1%, \*\* 5%, and \* 10%.

As for trust, native people show a higher effect in response to violence during their impressionable years when it comes to trust the political parties (as shown in table 16, panel (c)).

In sum, the results of this sub-section point towards an heterogeneous effect of violence during the impressionable years depending on the degree of connection to the indigenous dimension. This effect is important for the group of variables about identification. The general result that emerges is that violence, and in particular, army violence, harmed people's identification with locals, and on the other hand strengthened the feeling of identification with ethnic and race groups.

## **5 Potential Channels and Further Avenues for Research**

Hitherto this chapter has found an statistically significant effect of violence during the impressionable years over the levels of trust on some institutions and the degree of identification with groups of population. The effect varies depending on the indigenous origin of the individuals. Although an historical account of the violence period could shed light on the reasons for this effect, it is necessary to build a theoretical explanation for the results. In this section I provide a discussion in this regard without aiming to build a fully formed theoretical framework. In fact, I draw from Bauer et al. (2016) to guide the discussion, and explain the potential channels they consider in their meta-analysis.

Bauer et al. (2016) propose three theoretical approaches from which future research could start explaining the emerging body of statistical results: (i) changes in economic constraints, (ii) changes in parochial norms and preferences, and (iii) changes in general preferences and other psychological explanations.

### **5.1 Economic constraints**

The first approach seems the most immediate to adopt in the economics discipline. It could be possible that exposure to violence at some point in life alters budget constraints and makes optimal to trust or trust less certain institutions, even more in the case if identity. In perhaps a relevant attempt to build a theoretical approach to explain violence participation, Guardado (2015) proposes a model in which the decision to participate in violent activities varies depending on the communal relevance of the district where Peruvian individuals reside. In her model, individuals who live in districts with a high degree of communal land concentration (measured with tenancy) have an smaller probability to engage in violent activities during coffee prices shock. The interpretation that

the author provides rely on a model of labor decisions that considers different contract arrangements. Living in a district with a high concentration of communal land offers the possibility to risk-share in the presence of the price shock, therefore the need to engage in alternative activities, such violence, decreases. Applied to the context and target of this chapter, a model like this would account for the possibility that changes in the degree of identification, for instance, alter the optimal contract that allows individuals to cope with the shock. If the individuals feel less identifies with their locals, would that make it more costly to engage in a risk-sharing contract?

## **5.2 Parochial norms**

The CVR interpreted the ethnic and race factor as a dimension that crossed both combat fronts in the Peruvian case. According to the CVR, the conflict in many cases provided the opportunity to exacerbate latent communal conflicts (over demarcation, public good provision, etc.). In this sense, a theoretical explanation that relies on the alteration of parochial norms would try to understand how the exposure to violence deepened the frictions among communities whereas at the same time increased the sense of identification with individual's own community. As mentioned in the section about communal land (2.2) these types of communities still engage on certain types of local cooperation within the community. However, it is also know that they cooperate very little between them. The agricultural census of 2012 indicates that among these communities, a mere 3% makes businesses with other communities. Therefore, in this context, a theoretical framework should would attempt to understand how violence changed the degree of integration within the local communities.

## **5.3 General preferences and other psychological explanations**

As noted by the CVR, the Peruvian conflict had devastating effects on individuals directly affected by the violence. There is a series of case studies which highlight a general sense of sadness and disregard for any type of social interaction among the population with the highest exposition to the violence. The case studies presented in the CVR report also manifest that these effects were persistent. In that regard, a potential theoretical framework in this context would look to identify whether further generations of people with heavy exposure to violence also evidence signs of disregard and general discomfort.

## 6 Conclusions

Wars can have persistent effects that go beyond the evident physical destruction. Among the non-physical effects, beliefs constitute an important topic to analyze. Its relevance relies on their connection to culture and institutions, which ultimately explains the degree of development experienced by some nations.

In this chapter I evaluate the effect of a 20 years armed conflict on individual's beliefs about trust and identity. The way it affected is through its shocking influence during a critical moment in people's life, the impressionable years.

The baseline results indicate that violence experienced during the impressionable years at the district of birth of the individual had a negative effect on the degree of trust over some institutions: the police, the judiciary system and the political parties. The estimated effect, nonetheless, is small. A one standard deviation increase in the number of impressionable years exposed to overall violence reduces the probability that an individual trusts the police by 0.24 percentage points, the judiciary institution by 0.27 percentage points and the parliament by 0.19 percentage points.

The baseline results for the variables on identity show that the exposure of at least one impressionable year to overall violence reduces the probability that an individual identifies himself or herself with his or her local co-inhabitants by 2 percentage points, while it increases the probability that he or she finds identification with a religious group by 1.32 percentage points.

Using a different period of exposure, early childhood, offers different results. The effect on trust is positive, however also small, whereas there is no detectable effect on identity. This in itself is an interesting result that indicates that exposure at different stages in life to traumatic events may lead to opposing consequences in the formation of people's beliefs.

In the context of the Peruvian conflict, the ethnic and race component played an important role in spite of not being the fundamental cause for the conflict. This is particularly relevant for the variables addressing identity. Individuals who own an agricultural plot which is embedded in a communal tenancy exhibit higher negative effects on the probability of identification with locals, while higher levels of identification with their ethnic group or race.

The last result ultimately confirms the speculations of the Commission for the Truth and Reconciliation for the Peruvian context that the ethnic and racial component, although explicitly neglected during the conflict period had a considerable importance in the process of understanding the consequences of the war.

In order to further understand these consequences further research needs to build a theoretical framework that mixes changes in the economic constraints, changes in the parochial preferences and in the general preferences after the individual was exposed to the violence.



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## A Appendix: CVR Data

As discussed by Manrique-Vallier et al. (2013), the methodology relies on four strong assumptions:

1. Closed system: the lists (every catch in the fish example) refer to a closed system:  $N$  must refer to the same population in every draw.
2. Homogeneity: for each list (or draw), every individual (or fish) must have the same probability of being included, or captured.
3. Independence: the probability that an individual is included in list A is independent from the probability that the same individual is included in list B, and vice versa.
4. Random selection: each list is a random draw of the total population,  $N$ .

In the application of the methodology to the estimation of casualties, the assumption 1 is almost irrelevant, while assumption 4 is not possible, which requires some robustness checks. Assumption 2 is less worrisome, however it depends on the effort exerted in the collection of observations for every list. If the agents collection information of every list are independent, assumption 3 should hold.

In the context of the Peruvian case, the CVR defined 6 lists, or data sources, with information of the 24,692 reported victims:

1. CVR itself: information on the number of victims, based on 16,886 testimonies.
2. National Coordinator of Human Rights: for the period 1983-2000, this government institution collected information about victims reported to the institution across the country.
3. Center for Agrarian Development: specific of the number of victims in the district of Chungi, Ayacucho. The information was collected by the municipality of Chungi.
4. Commission for Human Rights: for the period 1982-1996, this government institution collected information about victims reported to the institution across the country. However, it has a particular focus in the regions of Ayacucho, Apurimac and Huancavelica.
5. Population's Advocate: this institution collects information of missing people, as well as executions. The information used covered the period 1983 to 1996.
6. Red Cross: list with information of missing people collected by the Red Cross.

The details of the estimation, as well as the treatment of the assumptions that led to the estimate of 69,280 can be found in the Appendix 2 of the Final Report elaborated by the CVR. At this point it is worth mentioning that the statistical procedure involve the estimation of models that predicted the probability of being included in all the lists<sup>16</sup> or some of them, by geographical strata and identity of the perpetrator. The statistical models calculated directly the probability of being a victim of the army, while the estimates for the number of victims attributed to PCP-SL, and the other groups was estimated as a residual from the total number of victims estimated and the victims estimated as casualties from the army.

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<sup>16</sup>The final number of lists was reduced to 3: CVR, Population's Advocate, and the rest. This helped the statistical procedure.