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Keywords : conflict displacement, education, labor, instrumental variables



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Returning Home After Conflict Displacement: Labor Supply and Schooling Outcomes Among Kosovar Households*

Iva Trako[†]

July 3, 2018

Abstract

This paper uses the 1998-1999 Kosovo war and the following massive displacement of people as a natural experiment in order to estimate the impact of conflict displacement on labor market and education outcomes of Kosovars after they returned from exile. I exploit the interaction of the spatial variation in conflict intensity -as measured by casualties and bombings- and distance to the Albanian border as a source of exogenous variation in the displacement status. Results indicate that displaced Kosovar men are less likely to be employed in the agricultural sector and to work on their own account, while displaced Kosovar women are more likely to be inactive. Loss of assets (e.g. land, livestock) in an agrarian skill-based economy and also loss of social networks in an informal labor market might have further decreased the probability to find employment relative to stayers. However, shortly after the return home, the results also indicate that displaced Kosovar men and women are more likely to be working off-farm, especially in the construction and public administration sectors, which indicates a relatively quick recovery. In addition, displaced Kosovar girls are more likely to be enrolled in primary school, but I find no effect on education for boys. The refugee camp experience might have provided better conditions to young Kosovar girls compared to the the precarious pre-war “parallel” education system.

JEL Classification: I20, J22, O12, O15

Keywords: conflict displacement, education, labor, instrumental variables

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1 Introduction

Every year millions of people around the world are being forced to abandon their homes due to conflict, either as refugees or internally displaced persons (IDPs). According to the [UNHCR \(2017\)](#) Global Trends Report, by the end of 2016 the number of forcibly displaced individuals worldwide as a result of persecution, conflict, violence, or human rights violations reached 65.6 million, which has been the highest on record.¹ It is not just the scale of global forced displacement that is disconcerting but also its rapid acceleration in the recent years ([Martin, 2016](#); [IMDC, 2016](#); [Crawford et al., 2015](#)).

Migration and displacement may look very similar ways of movement of people, but while the former can be considered an optimization problem for the household, the latter is an exogenous shock to the household.² Displacement is a direct side-effect of armed conflict, where individuals are forced to abandon their original place of residence due to life threatening situations. This condition puts individuals and families in a very vulnerable situation where they lose their social network, physical assets and often family members. However, little is known about the short-to long-term impacts of displacement on livelihoods. In order to identify policies that might mitigate the challenges and adverse conditions that the displaced people face, it is necessary to evaluate the effects of displacement on individuals so that post-war aid can be better targeted.

There is already an extensive economic literature on the impacts of voluntary migration and the impacts of war and violence, but the literature on the economics of forced displacement is still in its early stages.³ One of the principal reasons for the limited number of studies using quantitative methods is the lack of reliable data. Similarly, methodological difficulties in establishing exogeneity in the displacement shock complicates claims of causality. However, this literature is starting to gain attention in the last years as the micro data sets on conflict areas are becoming more available. There are few examples of quantitative estimates of the effect of displacement and the consequences seem to be mixed.⁴ For instance, [Sarvimäki, Uusitalo and Jantti \(2009\)](#) find increased mobility among displaced Finns due to WWII and consequently higher long-run incomes. Nevertheless, most of the previous literature suggests that there are

¹During 2016, 10.3 million people were newly displaced by conflict or persecution. This includes 6.9 million individuals displaced within the borders of their own countries and 3.4 million new refugees and new asylum-seekers. The [UNHCR \(2017\)](#) Global Trends Report can be found here: <http://www.unhcr.org/5943e8a34.pdf>.

²The discussion on the determinants of forced displacement, its definition and how forced migrants compare to “voluntary” migrants is out of the scope of this paper. See [Czaika and Kis-Katos \(2009\)](#); [Engel and Ibáñez \(2007\)](#); [Cortes \(2004\)](#) and [Stark \(2004\)](#) for this discussion.

³The literature on the impacts of conflict has found mixed consequences. For instance, a number of studies have found that civil war has little or no lasting effects on an area ([Brakman, Garretsen and Schramm, 2004](#); [Chen, Loayza and Reynal-Querol, 2008](#); [Davis and Weinstein, 2002](#); [Miguel and Roland, 2011](#)). Other studies have found that conflicts in fact might have positive impacts, especially in terms of political participation ([Valente, 2013](#); [Bellows and Miguel, 2009](#); [Blattman and Annan, 2010](#)). There is also evidence of long-run negative impacts from conflict on labor market and education outcomes ([Swee, 2015](#); [Akbulut-Yuksel, 2014](#); [Leon, 2012](#); [Blattman and Annan, 2010](#); [Shemyakina, 2011](#); [Kondylis, 2008](#)).

⁴[Ruiz and Vargas-Silva \(2013\)](#) provides a literature review on the effect of displacement on migrating individuals as well as on hosting communities.

serious negative consequences of forced displacement for those forced to migrate. [Fiala \(2015\)](#) finds a sizeable reduction in consumption smoothing for displaced households in Uganda. [Eder \(2014\)](#) analyzing post-war Bosnia, shows that displaced individuals invest less on their children's education. [Kondylis \(2010\)](#) also using data from post-war Bosnia, finds higher unemployment for men and lower labor force participation for women. [Bauer, Braun and Kvasnicka \(2013\)](#), analyzing the integration of Germans from Easter Europe, conclude that the first generation of migrants has lower incomes and ownership rates. [Abdel-Rahim, Jaimovich and Ylönen \(2015\)](#), studying displacement in Nuba Mountains of Sudan, conclude that displaced households hold fewer assets and are less involved in production. [Verwimp and Muñoz-Mora \(2018\)](#) investigate the food security and nutritional status of formerly displaced households in Burundi and they find that individuals who remain much longer in a displacement status are worse off compared to those who returned earlier.

This paper contributes to this literature by analyzing the impact of conflict displacement on labor market and education outcomes for the case of post-war Kosovo. During the 1998-1999 Kosovo war and especially during the NATO bombing campaign (March-June 1999), around 13,140 individuals were killed or went missing in Kosovo and more than 1 million were displaced either as refugees or IDPs, which represents approximately 70% of Kosovo's pre-war population. However, after the end of the conflict in June 1999, the displaced individuals started returning immediately to their previous residences and by the end of 1999 almost 95% had returned. The aim of this study is to use the Kosovo war and this massive displacement of people as a natural experiment in order to compare the labor market and education outcomes of those individuals that were displaced and decided to return relative to those that stayed in Kosovo.

For this purpose, I use two post-conflict individual and household survey data (e.g. *1999 Kosovo Demographic Social and Health Survey* and *2000 Kosovo Living Standard Measurement Survey*) containing rich information on labor market and education outcomes, displacement status and other individual characteristics. Both household surveys have several remarkable features that make them convenient for measuring displacement. For instance, they record the place of residence before, during and after the conflict for each individual and they were both collected post-war, that is, after most of the displaced individuals returned to their homes. Displacement status is defined using the place of residence: a person who reports having migrated during the period of the conflict —while resettlement or returned refugee is considered a displaced person, regardless of whether or not she resettled in her municipality of origin.⁵ I also use two municipality level data on conflict intensity: the *1998-2000 Kosovo Memory Book* database on casualties from the Kosovo war and the *Human Rights Data Analysis Group database on NATO bombing airstrikes*, which both can be geo-matched to the household data at the municipality

⁵Municipalities are the second political division of Kosovo, below districts and above villages or settlements. There were 29 municipalities in 1991 Kosovo, and some were divided after the war to form 30 municipalities. In 1991, the median population in the municipalities was 54,544 and the mean was 65,206, with a minimum of 4,611 and a maximum of 199,654.

level.

Despite the fact that displacement is to a great extent a forced action, it is still partly a result of a decision and therefore it is an endogenous variable.⁶ In order to reduce unobserved selection and biases that may be present in the displacement decision, I use an instrumental variables approach where I exploit the interaction of the spatial variation in conflict intensity and distance to the Albanian border as a source of exogenous variation in the displacement decision.⁷ This empirical strategy uses two sources of variation. First, the severity of the conflict is a good candidate to serve as instrument since the pattern of the Serb invasion in 1998/99 was governed by the will to create an ethnically homogeneous Serb territory. Likewise, the patterns of the NATO bombing raids generated the necessary fear to make people flee their homes (Ball et al., 2002; OSCE, 1999). Second, distance has been generally assumed in the literature to discourage migration by raising transaction costs. However, in this context distance is used to capture affinity with the customs and culture over the border and mainly ethnic heterogeneity. Basically, areas with higher ethnic heterogeneity (i.e. located further away from Albania) were also more likely to suffer forced displacement. Indeed, most of forced expulsions in 1999 were carried out by the Serb forces in large towns across the north-eastern region of the province, which also corresponds with the most ethnically heterogeneous municipalities in terms of Albanian and Serb populations (OSCE, 1999). Hence, I argue that forced displacement in Kosovo was highly influenced by conflict intensity and distance to the Albanian border.

This identification strategy relies on the idea that the relationship between the severity of the conflict and the decision to be displaced depends on the distance to the Albanian border, but the relationship between the severity of the conflict and the outcomes of interest does not depend on the distance to the Albanian border. In practice, I use the war casualties and the number of NATO bombing days at the municipality level as two proxies for the level of conflict intensity. While, distance to the Albanian border is measured as the driving distance (in kilometers) from the village of residence to the south-west Kosovo-Albanian border of Morina.

However, one potential concern that might threaten the exogeneity assumption is that pre-war local economic conditions might predict local conflict intensity and distance to the Albanian border. For instance, locations closer to the Albanian border were more likely to have a higher proportion of Albanians before the war. This is of interest since ethnicity might have determined individual economic status through ethnic discrimination. Historical evidence suggests that casualties and bombings in Kosovo were not determined by pre-war economic performance at the local level since the primary aim of Serb attacks was territorial separation and ethnic cleansing.

⁶Conflict displacement is often a non-random event. Households are generally forced to leave their homes by rebels or army forces that take possession of their land, expand territorial control, weaken population support for opponent groups or increase their own support base and income. Therefore, it is likely that characteristics such as wealth or local visibility makes some households more prone to being displaced than others (Verwimp and Muñoz-Mora, 2018; Justino, 2011).

⁷The interaction-based instrumental variables technique has been previously proposed and used in the literature by Nunn and Qian (2014); Esarey (2015); Nizalova and Murtazashvili (2016) among others.

Similarly, NATO's objective was to attack only targets of military nature (i.e. military facilities, equipment, weapons etc) regardless of the economic performance of the different regions (Grant, 1999; ICTY, 2000). Therefore, since the pattern of conflict in Kosovo was likely driven by geo-strategic motives rather than economic motives, it is plausible to argue that conflict intensity interacted with distance to the Albanian border is likely to be orthogonal to unobserved factors that might affect schooling and labor market outcomes.

Even though historical references suggest that in Kosovo there was no targeting of individuals and regions based on the local economic differences, in order to address this potential concern I control for pre-war labor-force participation and pre-war proportion of Albanians at the municipality level. In addition, I also perform several robustness checks and conduct placebo tests with different samples in order to assess the validity of the exclusion restriction and also to reinforce the results obtained from the IV estimation.

The first-stage results indicate that further away from the Albanian border, an increase in conflict intensity increases the likelihood of being displaced. Indeed, according to the historical references Kosovar Albanians living in municipalities with more ethnic heterogeneity were more likely to be displaced by the Serb forces. The second-stage results show that conflict displacement impacted negatively but also positively the labor market and education outcomes of Kosovars who were forced to abandon their homes relative to those who stayed.

Firstly, I find that, in the short-run, conflict displacement had a negative impact on labor market outcomes of Kosovar men and women, particularly in terms of access to employment. More specifically, these results show that displacement is associated to a significant and large increase in women's inactivity and to a decrease in men's self-employment and their employment in the agricultural sector. Interestingly, I also find that shortly after the return in Kosovo, conflict displacement also had a positive impact on labor market outcomes. The medium-term results indicate that both displaced Kosovar men and women are also more likely to be working off-farm (i.e. construction and public administration sectors). One possible explanation for these findings is that loss of assets, land and livestock in an agrarian skill based economy must have made it very difficult for returned refugees to find employment. Another plausible mechanism behind these results is the loss of social networks in an informal labor market, which is fundamental for the job search in these type of transition economies.

Secondly, the results in terms of education outcomes show that, in the short-run, while displaced Kosovar girls are significantly more likely to be enrolled in primary school relative to those who stayed, displacement does not seem to have any effect on Kosovar displaced boys or teenage girls. One possible channel through which this effect might be operating is the refugee camp experience. Young female refugees, especially those who were in camps, might have had better access to basic education and better conditions than the IDPs and the stayer girls after taking into account the pre-war precarious context of the "parallel" education system in Kosovo.

This paper contributes to the growing literature on the economics of forced displacement at

the microeconomic level. To the best of my knowledge, this study is the first to consistently analyze the casual effect of conflict displacement in the immediate post-conflict period in Kosovo and to also provide empirical evidence on the potential mechanisms behind the results. It assess the effect of conflict-induced displacement on labor market and education outcomes accounting for potential selection issues by using a novel interaction-based instrument involving conflict intensity and distance. Lastly, Kosovo constitutes an interesting case study for this analysis as it is one of only a small number of countries for which detailed conflict intensity and conflict displacement information is available for the immediate period after the conflict.

The rest of the paper is organized as follows: Section 2 provides background information on the war and conflict displacement in Kosovo, Section 3 describes the databases used in the analysis and some descriptive evidence, Section 4 presents the instrumental variables empirical strategy and discusses the identifying assumptions, Section 5 presents the results, Section 6 sheds some light on the plausible channels of each one of the outcomes, while Section 7 briefly concludes.

2 Background

2.1 Kosovo War (1998-1999)

Kosovo is a partially recognised state in the Balkans with a long history of ethnic diversity and conflict. Just before the war, in 1998, it's population was around 2,1 million, of which 83% were Albanians, 10% were Serbs and 7% belonged to other ethnicities. Ethnic identity has always been analogous to religious identity, as Albanians are predominantly Muslims, while Serbs are Orthodox Christians (Brunborg, 2002).

From 1989 (when Kosovo's autonomous status within Serbia was partially revoked) till 1998, the majority of Kosovo Albanians lived in a situation similar to an apartheid, in which they were denied access to jobs and services, and were unable to exercise basic rights. As a result, the Kosovo Albanians established parallel systems of institutions for almost every aspect of daily life, including employment, education and health. Also, the continued discrimination and repression by the Serbs led to the emergence of an armed insurgency group of Albanians which was called the Kosovo Liberation Army (KLA). During the '90s, the KLA launched several attacks targeting Serbian law enforcement in Kosovo.⁸

Given this situation, in March 1998, Serb forces engaged in an indiscriminate military campaign of "ethnic cleansing" against KLA and Albanian civilians. Their aim was to expel all the Albanians from Kosovo in order to create an ethnically homogenous territory. After one year of continued ethnic tensions and violent confrontations between the Albanians and Serbs and after several failed attempts at a diplomatic solution, NATO intervened on March 24th 1999 with

⁸Between 1989 and the beginning of 1998, an estimated 350,000 Kosovo Albanians left the province at one stage or another, most of them going to countries in Western Europe.

a bombing campaign against the Republic of Serbia, including attacks on targets in Kosovo. The NATO air campaign was justified in order to stop the actual and potential killings and expulsions of Kosovo Albanians by Serbian forces (Cutts, 2000).

Finally, after a 78-day air campaign, on June 9th 1999, the Republic of Serbia accepted a peace plan that required the withdrawal of all Serb forces from Kosovo, the safe and free return of all refugees and displaced people, and the establishment of a UN mission.

2.2 Forced Displacement from Kosovo

As a consequence of the ethnic cleansing and the NATO bombing campaign, Kosovo suffered one of the largest population displacements in Europe since WWII. On the one hand, reports by the *Humanitarian Law Centre* (HLC) in Belgrade and Kosovo estimate that approximately 13,535 civilians and soldiers were killed or missing. On the other hand, the *United Nations High Commissioner for Refugees* (UNHCR) estimates that around 1.4 million people were displaced from their homes, of which around 850,000 sought refugee protection out of Kosovo and around 600,000 were internally displaced persons.⁹ Figure A-1 shows a map of the distribution of the displaced populations from Kosovo in neighbouring countries/territories and Figure A-2 shows the cumulative refugee population over time and by country of destination from March till June 1999.¹⁰

However, after the end of the war in June 1999, the refugees started returning immediately. Within three weeks, 500,000 people had returned, and by the end of 1999, more than 800,000 had returned to their homes (including people who had left before the NATO air campaign). In particular, out of approximately 850,000 Kosovo refugees during the war, by October 1999 around 65,500 individuals remained displaced and by May 2000 the number had dropped to around 40,000 (Cutts, 2000). Figure A-3 shows the cumulative returned refugee population since the end of the Kosovo war.

It is important to note that the data used in this analysis is limited to displaced persons who by 1999-2000 returned to Kosovo, but clearly it does not include individuals that preferred not to come back before the collection of the household surveys. Returning home from conflict displacement is also a non-random event. In general, households that are poorly integrated in the host economy or with more assets at their original home may be more likely to return (Arias, Ibáñez and Querubin, 2014). According to the Kosovo Agency of Statistics (2014) the number of Kosovo residents that reported to have migrated during the 1998-1999 Kosovo war and decided not to come back was around 50,000 individuals by 2011. This number of non-returned individuals represents 5-6% of the total displaced refugee population, which is quite

⁹ *Kosovo Crisis Update*, June 11, 1999. Geneva, Switzerland: United Nations High Commissioner for Refugees

¹⁰ Of those that were expelled from Kosovo after the start of the air campaign, some 450,000 went to Albania, some 242,000 to the former Yugoslav Republic of Macedonia (FYR Macedonia), some 70,000 to Montenegro and some 96,000 participated of the Humanitarian Evacuation Programme (HEP) which allowed them to go to other countries such as Germany, USA, Turkey, France, Italy etc (Cutts, 2000).

small in order to generate a problem of selected sample of the displaced individuals.

In order to better understand the nature of this selection, I also use the 1999 Kosovo DSHS, 2000 Kosovo LSMS and the 2012 Kosovo Remittances Survey to compare the educational attainment of the displaced who returned to Kosovo to that of emigrants from Kosovo to other countries who left the country due to the 1998-1999 war and never came back. I find that the proportion of individuals having achieved higher education is similar across groups, while the proportion of individuals having low (primary education) and medium education (secondary) differs across groups: around 40% of the displaced who returned have low education, compared to 31% of the emigrants from Kosovo to other countries; and around 38% of the displaced who returned have medium education, compared to 46% of the emigrants that never returned to Kosovo.

3 The Data

This study uses four data sources: two household-individual level surveys and two conflict intensity databases. Firstly, the individual level surveys are: the 1999 *Kosovo Demographic, Social and Health Survey* (DSHS) and the 2000 *Kosovo Living Standard Measurement Survey* (LSMS). Secondly, the conflict intensity datasets are municipality level data on war casualties from the *1998-2000 Kosovo Memory Book* (KMBD), and municipality level data on reported bombing days from the *Human Rights Data Analysis Group* (HRDAG) database on NATO airstrikes.

The 1999 Kosovo DSHS was carried out by United Nations Population Fund (UNFPA), the International Organization for Migrations (IOM), and the Statistical Office of Kosovo from November 1999 to February 2000, which is just after the conflict. While, the 2000 Kosovo LSMS was conducted by the World Bank from September to December 2000, which is over a year after the end of the NATO air campaign that terminated the conflict in Kosovo. These surveys are both representative on the national as well as on the regional level. The sampling procedure was stratified by region (7 regions in the DSHS and 5 regions or areas of responsibility in the LSMS) and by sector (rural and urban). The 1999 DSHS covered 27 out of 29 municipalities and interviewed a total of 7,343 randomly selected households and 40,918 individuals. The 2000 LSMS covered 29 out of 30 municipalities and was administered to a total of 2,880 randomly selected households and 17,917 individuals.¹¹ Both household surveys contain a rich set of information on demographics, education, labor activities, health, conflict displacement and other characteristics.

The Kosovo Memory Book Database (KMBD) is a joint project between the *Humanitarian Law Centre* (HLC) in Belgrade and the HLC in Kosovo. This project collected detailed

¹¹Note that until 1999, Kosovo had 29 municipalities. The municipality of Malisevo was part of four other municipalities (Klina, Orahovac, Suva Reka and Glogovac) and did not exist until July 2000, when it was re-established by the United Nations Mission in Kosovo (UNMIK).

information on casualties between 1998 and 2000 in connection to the war in Kosovo, which are document based on death records, statements by surviving family members and witnesses. This database contains the victims’s vital information at the time of death, including name, age, ethnicity, location of the incident, date of the incident, type of casualty (civilian or military status) etc. Overall, the Kosovo Memory Book indicates that 13,140 individuals were killed or missing in Kosovo, with an average of 437 casualties per municipality. From the total number of victims, around 76% are civilians, while 24% are armed forces. Based on several analysis and findings, including a comparison with ten other databases in which no new death records were found, the KMBD was found to have more records than any other database in every period and for each municipality (Krüger and Ball, 2014). I use the KMBD municipality level data on war casualties and the 1991 population census to compute the war casualty rate- as the total number of casualties per 1,000 inhabitants at the municipality level.¹² This variable offers a measure of conflict incidence at the local level. A municipal map of Kosovo which shows the spatial variation in war casualties per 1,000 Kosovo inhabitants is presented in Figure 2.

The NATO airstrikes database of the HRDAG records the number of reported bombing attacks occurring in each municipality per day during the NATO air campaign (March-June 1999). These bombing records are derived from a report published by the Human Rights Watch (HRW) in February 2000, which contains daily information on bombings based mostly on different Serbian government sources and Serbian newspapers, but they are also based on NATO’s reports in the Operation Allied Force Update. No effort was made to quantify the severity of each airstrike, but reports of different airstrikes were counted separately. From this database, I compute bombing intensity as the total number of days a municipality was attacked with bombs and missiles during the NATO Air Campaign (78 days). Figure 3 shows the spatial variation in bombing intensity from March-June 1999 across municipalities.

These measures of local conflict incidence - i.e. war casualty rate and bombings at the municipality level - are used to instrument for displacement in the subsequent regression analysis.

3.1 Measuring Conflict Displacement

The 1999 Kosovo DSHS and the 2000 Kosovo LSMS have several attractive features which make them convenient for measuring forced displacement. Firstly, they both contain several self-reported outcomes which are used to explicitly identify each individual that was displaced during the 1998-1999 Kosovo war. In particular, forced migrants are identified using the following questions: *“How many times did you change residence since the beginning of the conflict (March 1998)?”*, *“What was the main reason for this displacement?”*; to which the five answers are:

¹²It is important to note that the 1991 Kosovo population census was boycotted by the Kosovar Albanian population. To compensate for this the FRY statistical office (FSO) in Belgrade estimated the size of the Albanian population on the basis of the 1981 census results taking into account population changes during the intercensal period 1981-1991. The 1991 population census data at the municipality level that is used in this study is taken from Brunborg (2002).

security, house inhabitable, work, study, other. Given this, I exclude from the analysis all individuals who declared having moved for a job, for studies and those that moved for other reasons, using the forcibly displaced as the treated group and the non-movers or stayers as the control group.¹³

Secondly, both household surveys record the place of residence pre, during and post-conflict for the forcibly displaced and the non-displaced. Specifically, this information is identified through the following question: “*Where did you live immediately before the conflict (March 1998)?*”, with the following categories: here (site of survey), other municipality, Former Yugoslavia, Albania, Serbia, Western Europe, other and not yet born. As the municipality of residence before the war is recorded for all individuals, this allows me to geo-match the measures of conflict intensity at the municipality level to each individual regardless of displacement status. These measures of local conflict intensity are used to instrument for displacement in the subsequent regression analysis.

Conversely to other studies, both surveys are successful in differentiating between refugees (displaced persons who went into exile during the time of the conflict) and internally displaced persons (IDPs) (individuals who resettled in camps or in other locations within Kosovo during the conflict). The individuals that declared being forcibly displaced were also asked “*Where were you living during most of this absence?*”; to which the answers are: other locality but same municipality, other municipality, Former Yugoslavia, Albania, Serbia, Western Europe and other. The 1999 Kosovo DSHS, in particular, also records whether an individual went to a refugee camp. Given this information, I only include individuals who resided in Kosovo pre-war, excluding individuals that lived in other parts of former Yugoslavia or some other country before March 1998.

Thirdly, both surveys were collected post-war, which coincides with the return of the majority of the refugees and IDPs to their homes. The 1999 Kosovo DSHS was implemented five months after the end of the war (November 1999), while the 2000 Kosovo LSMS was implemented almost one year and a half after the end of the war (September 2000). Figure 1 shows a timeline of the cumulative refugee flows (displaced refugees and returned refugees) during the war and the implementation of the household surveys in 1999 and 2000, which indicates that the vast majority of the refugees had returned in Kosovo before the start of the collection of both household surveys. Moreover, Figure A-4 shows the patterns of daily returned refugees as recorded by UNHCR and Figure A-5 shows the patterns of first and last displacement as recorded in the 1999 Kosovo DSHS. Both of them clearly indicate that most of the refugees had returned in Kosovo by the end of September 1999.

¹³In the 1999 Kosovo DSHS 97.33% declared being forcibly displaced while only 2.67% declared being willingly displaced. In the 2000 Kosovo LSMS 98% declared being displaced due to security reasons, 0.42% due to house inhabitable, 0.17% due to work, 0.03% due to study and 0.48% due to other reasons. Therefore, the sample excluded is clearly very small and negligible. Even if I do not exclude these few observations from the analysis and I put them in the treatment group as displaced individuals, the main results remain unaltered. (Results upon request).

3.2 Descriptive Statistics

For the labor market outcomes analysis I restrict the sample to men and women aged 20-65 years old and for the education outcomes analysis, I restrict the sample to boys and girls aged 6-19 years old. Table 1 shows descriptive statistics of forced displacement by gender and age group for each database. In general, 60-70% of the individuals in each sample were forcibly displaced, which is very similar to the UNHCR estimates of 1.4 million displaced individuals from a population of 2.1 million (approx. 67%). Women and children were more likely to be displaced compared to men, indicating that a proportion of the men stayed in the province to fight in the war. In particular, 40-45% chose to move out of Kosovo (refugees), while 20-25% were displaced persons inside Kosovo (IDPs). Also, around 19% decided to go to a refugee centre, which means that around 2/3 of the displaced population went to host families. The return pattern of the displaced population indicates that 87-96% had the same municipality of residence as before the start of the war (March 1998). Due to the fact that several homes remained inhabitable after the war, some returnees remained displaced and could not return to their previous residence.

Table 2 presents descriptive statistics of the displacement status by ethnic group. More than 95% of the displaced population are ethnic Albanians, which clearly gives some evidence of the “ethnic cleansing” campaign of the Serbs against the Albanians. However, among the non-displaced population, Albanians also constitute the majority (70%), followed by Serbs (20%) and other ethnic groups (10%). Figure A-6 and A-7 show the spatial variation in the proportion of displaced individuals across municipalities for each household survey. While, Figure A-8 shows the spatial ethnic distribution in 1991 across municipalities. The north-western, north-eastern and central regions have the highest proportions of displacement, which also coincides with the more ethnically heterogeneous municipalities.

Figure A-9 shows labor market status by gender and age group for the 1999 DSHS and 2000 LSMS, respectively. The labor market variables are measured slightly different in each database. For instance, in the 1999 DSHS activity status is measured through categories: *employed*, *self-employed*, *contributing family worker*, *unemployed* (seeking work) and *inactive* (housewife, retired and other). Duration in each activity status is not specified in this survey. While, in the 2000 LSMS, *employed* is defined as having done any work (i.e. off-farm, on-farm, self-employed) during the last week. *Unemployment* is defined as having looked for a job during the last week. The *inactive* are individuals neither in work, unemployed, nor attending school. The 2000 LSMS also reports usual weekly hours, which is used to measure hours of work.

In 1999, 88% of men aged 20-65 are economically active, but half (42%) are unemployed. In 2000, the proportion of economically active men lowers to 75%, of which 64% are employed and only 11% are unemployed. Only 32% of women in the same age group are economically active in 1999 and 36% in 2000, but their unemployment rate is a lower than the rate for men. Unemployment rates are very high among young adults aged 20-25, but these rates decrease

with age. After age 40, unemployment rates are less than 40% for men and women alike. The inactive population is considerable at all ages for women (around 65%) and is composed mostly by housewives, while for men is much lower but increases substantially after the age of 50. Women work 34 hours per week, while men work 44 hours per week on average.

Some descriptive statistics on children’s enrolment rates by gender are shown in Figure A-10. Enrolment is measured as a dummy variable indicating whether a child is registered in primary, secondary or university during the 1999-2000 and 2000-2001 academic year, respectively. Both graphs indicate that around 78% of children aged 6-19 years old are enrolled in school. Primary or compulsory school age boys and girls (aged 6-14) are virtually all enrolled in school (more than 90%), with equality between genders. However, girl’s seem to drop-out in the last years of primary school. Enrolment rates for secondary school children aged 15-19 drop to approximately 58% and the gender gap within this group is quite dramatic, with only 50-55% for girls versus 60-65% for boys. Approximately 20% of young people aged 19-25 are enrolled in higher education, with near-equality between genders. In this analysis, I focus only on primary and secondary enrolment.

4 Empirical Strategy

In order to measure the effect of conflict-displacement on labor market and education outcomes, the basic regression model can be represented by the following equation:

$$Y_{im} = \beta_1 D_i + \beta X'_{im} + \varepsilon_{im} \quad (1)$$

where Y_{im} represents the outcome of interest (e.g. work off-farm, work on-farm, self-employed, child enrolled in school etc) for individual i residing in municipality m after the war. D_i is a dummy variable that indicates whether a person i was displaced due to the Kosovo war, X'_{im} is a vector of individual controls and ε_{im} is the unobserved individual heterogeneity.

Even though displacement is to a great extent a forced action, it is partly a result of a decision, and therefore it is an endogenous variable. This endogeneity issue can be clearly observed through the patterns of conflict displacement at the municipality level. Firstly, even in the most war-affected municipalities, the western part of Kosovo (see Figures 2 and 3), we do not observe the displacement of the entire population. For instance, only half of Djakovica municipality’s population (50-56%) was displaced, even though this municipality is one that suffered the most from the war, either through casualties or bombing attacks. Secondly, in both surveys there are individuals who declared being displaced even if they resided in less war-affected municipalities, such as those in the north of Kosovo.

This patterns of conflict displacement suggest that it is possible for individuals to “self-select” into or out of displacement. As a result, those who leave could be different from those who stay in terms of unobservable characteristics that may also make them more (or less)

successful in terms of post-war outcomes. In other words, there might be unobserved omitted variables, such as individual heterogeneity in preferences, ability etc, that might affect both displacement and outcomes. Also, pre-war socio-economic conditions might play an important role at the moment of displacement, resulting in reverse causality. [Kondylis \(2010\)](#), [Czaika and Kis-Katos \(2009\)](#) and [Ibáñez and Vélez \(2008\)](#) show that pre-war economic conditions are important determinants of the displacement decision, even when facing conflict and war violence. For example, if well-endowed households who are better able to cope with war have lower propensity of displacement, then the proportion of well-endowed individuals will be greater in high conflict intensity municipalities. Conversely, the opposite could also be true if well-endowed individuals have better outside opportunities (in employment or schooling) and are thus more likely to move. Failing to account for such endogeneity issues means that estimating the impact of displacement on outcomes by a simple OLS estimation might give biased and inconsistent estimates of β_1 . The following sub-section describes the identification strategy used in this study to disentangle the effect of displacement from the effect of conflict or war.

4.1 Identification: Instrumental Variables Approach

One way to address the potential endogeneity in the displacement decision is to use a recent methodological innovation based on interaction-based instrumental variables ([Esarey, 2015](#); [Nunn and Qian, 2014](#)). This empirical strategy exploits the interaction of the spatial variation in conflict intensity and distance to the Albanian border as a source of exogenous variation in the conflict displacement decision. In order to identify the local average treatment effect (LATE), the instrument must satisfy two basic conditions: (1) to be correlated to displacement; (2) to satisfy the exclusion restriction, which means that it must not be correlated to factors directly affecting labor market and education outcomes.

The first obvious candidate to serve as an instrument is the severity of the conflict in the location of origin. Empirically, conflict intensity is measured through war casualties and bombings at the municipality level.¹⁴ In order to motivate the relevance condition, [Figure A-11](#) shows the estimated total refugee migration and casualties over time, while [Figure A-12](#) shows the estimated total refugee migration and bombing reports over time (March-June 1999). [Figure A-11](#) suggests that the observed pattern of casualties closely resembles the pattern of refugee flow during the whole period of the conflict, while [Figure A-12](#) indicates that NATO’s activity coincides with the refugee flow only for the first part of the conflict (till the end of April). Bombing intensity increases substantially after the largest number of casualties and highest levels of refugee flow. Given that bombing intensity is consistent with the patterns of refugee flow only for the first period of the conflict, I will exploit this fact in order to disentangle the effect of

¹⁴[Kondylis \(2010\)](#) also uses conflict incidence as an instrument for conflict displacement in the context of the post-war in Bosnia and Herzegovina. She uses the municipality level population losses data (which reports the ICTY casualties estimates) and the 1991 census in order to compute the proportion of the pre-war population that went missing in each municipality during the conflict.

displacement from the effect of conflict by using the bombing intensity measure only for this first period.¹⁵

The second candidate to serve as an instrument is distance to the Albanian border, since forced displacement was more intense further away from Albania and especially in municipalities with ethnic heterogeneity.¹⁶ Distance to the Albanian border is measured as the driving distance (in kilometers) from the village of residence to the south-west Kosovo-Albanian border of Morina. In general, distance has been assumed in the literature to discourage migration by raising transaction costs. However, in this context distance is used to capture mainly ethnic diversity. Basically, areas with higher ethnic heterogeneity were also more likely to suffer forced displacement. Indeed, according to a report from [OSCE \(1999\)](#) most of forced expulsions in 1999 were carried out by the Serb forces in large towns across the north-eastern region of the province, more precisely from Kosovska Mitrovica to Pec and from Pec to Pristina, which also corresponds with the most ethnically heterogeneous municipalities in terms of Albanian and Serb populations. In addition, even though there were several borders from where refugees could have left the province, in most of the cases the Serb forces closed the northern borders and diverted the convoys mainly south-west in order for the refugees to have no other choice but to go to Albania.¹⁷

A remaining econometric concern with these instruments is that using them separately might violate the exclusion restriction, in the sense that each instrumental variable might have an independent impact on post-war outcomes beyond any effects working through conflict displacement. For instance, pre-war local economic performance might predict local conflict incidence. Similarly, proximity (remoteness) to the Albanian border is likely to be associated to lower (higher) incomes during the pre-war period. However, given that changes in the level of violence had a larger effect on forced displacement for individuals residing in areas with higher ethnic heterogeneity and located further away from Albania, I argue that this concern can be addressed if the level of violence is interacted with distance to the Albanian border.

Basically, the idea behind this identification strategy is that the relationship between the severity of the conflict and the decision to be displaced is conditional on the distance to the Albanian border, but the relationship between the severity of the conflict and the outcomes of

¹⁵[Ball et al. \(2002\)](#) also studies the statistical patterns of refugee flow and killings in Kosovo during the period March-June 1999 using only data from the Albanian border guard registries of people entering Albania through the village of Morina. The authors find that the killings and the exodus of refugees occurred in the same places at roughly the same times, implying that the common cause of both phenomena was a systematic military campaign by Serbian forces aiming to expel Kosovar Albanians from their homes. This study was used as evidence at the International Criminal Tribunal for the Former Yugoslavia (ICTY) in the case against Slobodan Milosevic.

¹⁶See Figures [A-6](#), [A-7](#) and [A-8](#).

¹⁷This type of displacement was particularly true for those refugees from the north of the province. For instance, many refugees from Kosovska Mitrovica and the surrounding area were not sent north to Leposavic, west towards Rozaje (Montenegro) or southwards down the main route to the Former Yugoslav Republic of Macedonia. Instead they were compelled to take very roundabout routes south-west along minor roads, eventually reaching Prizren and then Albania ([OSCE, 1999](#)).

interest does not depend on the distance to the Albanian border. In other words, being located further away from the Albanian border strengthens the relationship between the severity of the conflict and displacement because those Albanian Kosovars that were living closer to the Serbian border were more likely to be expelled and displaced from their homes compared to those that were living closer to the Albanian border. Thus, even if there was endogeneity between conflict intensity and the outcome of interest, the exclusion restriction would only be violated if the unobserved variables driving this endogeneity were also correlated with distance to the Albanian border (for more econometric details see [Nizalova and Murtazashvili \(2016\)](#); [Esarey \(2015\)](#)).

At the same time, there is little reason to believe that the impact of conflict intensity on the outcomes of interest is conditional on the distance to the Albanian border. Therefore, the interaction term (conflict intensity * distance to Albanian border) is a reasonable candidate instrument since it is likely to accurately predict displacement and at the same time is likely to be orthogonal to unobserved factors that might affect schooling and labor market outcomes. Casual inference using the interaction-based instrument relies on the assumption that, conditional on the controls, the interaction between conflict intensity and distance to the Albanian border only affects labor market and education outcomes through forced displacement. Since the validity of the instrument is central to this identification strategy, in the following sub-sections I provide some historical evidence and I also perform some robustness checks in order to assess its validity.

4.1.1 First-Stage Estimation

In order to account for the potential endogeneity in the displacement status, I use the interaction of conflict intensity and distance to the Albanian border as instrument for conflict displacement as follows:

$$Y_{im} = \beta_1 \hat{D}_i + \beta X'_{im} + \nu_{im} \quad (2)$$

$$\hat{D}_i = \alpha_1 (WCR_{m_o} * DA_{v_o}) + \alpha_2 WCR_{m_o} + \alpha_3 DA_{v_o} + \alpha X'_{im} + \epsilon_{im} \quad (3)$$

$$\hat{D}_i = \delta_1 (B_{m_o} * DA_{v_o})_{io} + \delta_2 B_{m_o} + \delta_3 DA_{v_o} + \delta X'_{im} + \epsilon_{im} \quad (4)$$

Equation 2 is the second stage of the 2SLS system and equations 3 and 4 are first stage specifications using the two different measures of conflict intensity. In each first-stage model, I regress the dummy for displacement status D_i of individual i on the interaction term between conflict intensity - measured as war casualty rate or bombings- and distance to the Albanian border. WCR_{m_o} denotes the number of casualties per 1,000 inhabitants at the municipality of origin m_o and B_{m_o} denotes the number of days the municipality of origin m_o of individual i was attacked by NATO airstrikes. DA_{v_o} denotes distance from village of residence of individual i to the south-west Albanian border of Morina.

For the education outcomes analysis, controls include: age, ethnicity dummy (Albanian),

dummies for parental educational attainment (medium and high), number of male and female adults in a household aged 20 to 65, number of siblings, distance to school, and dummy for rural location. Similarly, for the labor market outcomes, controls include: age, dummies for marital status, ethnicity (Albanian), dummies for educational attainment (medium and high), number of male and female adults in a household aged 20 to 65, number of dependent members by age group, and dummy for rural location. I also control for pre-war socio-economic conditions by including labor-force participation and proportion of Albanians in 1991 at the municipality level.

Tables 3 and 4 present the regression coefficients of the first-stage estimation for the children’s sample and adult’s sample, respectively. The results are shown separately for each database and the reported standard errors are clustered at the village level and municipality level. A more conservative inference requires to cluster the standard errors at the municipality level. However, in this analysis this may not be sufficient since I rely on less than 30 clusters (municipalities in Kosovo). In case of few clusters, clustered-robust standard errors may be under-estimated. Hence, I correct the inference with wild bootstrap methods as suggested by Cameron, Gelbach and Miller (2008) and Cameron and Miller (2015). This procedure allows to account for the correlation in the error terms of individuals born in the same municipality with few clusters. In the Appendix, I provide the P-values resulting from wild bootstrap for the second-stage results.¹⁸

Using the 1999 Kosovo DSHS database, it seems that the instrument ($WCR_{m_o} * DA_{v_o}$) is a good predictor for displacement status, while ($B_{m_o} * DA_{v_o}$) does not seem to be a valid instrument. While, for the 2000 Kosovo LSMS database, both instruments seem to be good predictors for displacement.¹⁹ Even though these instruments are based on only 27/29 municipalities or pre-war residence, they are highly significant for both females and males. The F-statistics of the excluded instruments are always above 10 when the standard errors are clustered at the village level for both children and adults samples, but they decrease slightly when the standard errors are clustered at the municipality level.

In general, these results indicate that near the Albanian border, an increase in conflict intensity (as measured by casualties or bombing) decreases the likelihood of being displaced; while far from the Albanian border, an increase in conflict intensity increases the likelihood of being displaced. This finding is in line with the historical fact that when the war started Kosovar Albanians living further way from Albania were more likely to be expelled from their homes because towns located in the north-eastern part of the province were more likely to be targeted by the Serb forces due to their ethnic heterogeneity. Overall, these results show that conflict intensity interacted with distance to the Albanian border is a good predictor of forced displacement in the context of the 1999 Kosovo war.

The instrumental variables approach estimates the impact of displacement for those indi-

¹⁸Wild bootstrap P-values are obtained with the post-estimation command *boottest* by Roodman (2017), using Redmacher weights, assuming the null hypothesis and setting replications to 1,000.

¹⁹This difference in first-stage results is plausibly due to the different samplings in both databases. For instance, the municipalities of Zvecan and Malisevo are not included in the 1999 Kosovo DSHS database.

viduals that were induced by the conflict and the residential characteristics, such as ethnic heterogeneity, to be forcibly displaced from their homes i.e. *local average treatment effect*. In other words, in this setting *compliers* are those individuals that were more likely to be forcibly displaced because their municipalities of residence suffered more from war casualties/bombings and also because these municipalities were more ethnically heterogeneous in terms of Albanian and Serb populations (i.e. located further away from the Albanian border). While it is not possible to observe whether individuals in a given municipality decided to move in response to an increase in conflict intensity and distance to the Albanian border, Tables A-1 and A-2 shed light on which municipalities were influenced by the interaction-based instrument by examining the size of the first-stage for different sub-populations.²⁰

Column 1 reports the baseline first-stage relationship from the pooled sample of women and men for comparison purposes. Columns 2 and 3 divide the sample by whether the municipality had a higher labor force participation in 1991 than the median municipality. The correlation between the interaction-based instrument (conflict intensity * distance to the Albanian border) and conflict displacement is statistically significant in both samples but it is slightly larger in municipalities with more labor supply. Next, columns 4 and 5 divide the sample by whether the municipality had a higher percentage of its population working in agriculture in 1991 than the median municipality. In this case, the interaction-based instrument has more power in municipalities with a higher proportion of the population working in agriculture. Lastly, columns 6 and 7 divide the sample by whether the municipality had a higher percentage of the population speaking Albanian in 1991 than in the median municipality. The correlation between the instrument and conflict displacement is statistically significant in both samples, but it is larger in municipalities with less Albanian speakers in 1991.

Overall, these results document that the interaction-based instrument -conflict intensity and distance to the Albanian border- has more power in municipalities with less Albanian population in 1991 but with more labor-force participation in 1991, especially in the agricultural sector. These characteristics coincide with the north-eastern region of the province which, before the war, was characterized for being more prosperous economically and also for having a population with more ethnic diversity.

4.1.2 Isolating Plausibly Exogenous Variation

In order to argue the exogeneity of the instrument, the exclusion restriction requires that the instrument has no correlation with other factors directly affecting labor market and education outcomes other than through its impact on displacement. In other words, the instrument needs to resemble as close as possible a random assignment across municipalities. The main concern that might threaten the exogeneity assumption is that pre-war local economic conditions might

²⁰This technique has been already used in Dell (2012) in order to better understand the characteristics of the compliers.

predict local conflict intensity and distance to the Albanian border. For instance, locations closer to the Albanian border were more likely to have a higher proportion of Albanians before the war (see Figure A-8). This is of interest since ethnicity might have determined individual economic status through ethnic discrimination. While the exclusion restriction relies on the instrument being uncorrelated with unobserved determinants of the outcomes and hence is untestable, I shed light on its plausibility by providing some historical and empirical evidence.

Historical evidence on the 1998-1999 Kosovo war suggests that targeting of individuals (casualties) was not determined by the economic performance at the local level, as the primary aim of Serb attacks was an ethnically homogeneous and contiguous Serb territory (Ball et al., 2002; OSCE, 1999). Iacopino et al. (2001) study the patterns of forced displacement and human rights abuses using a household survey of 1180 ethnic Albanians living in 31 refugee camps in Macedonia and Albania during the war. They find that the majority (68%) of participants reported that their families were directly expelled from their homes by Serb Forces. In addition, a report from the Organization for Security and Co-operation in Europe on patterns of human rights and humanitarian law violations in Kosovo confirms this idea (OSCE, 1999):

“After the start of the NATO bombing on the FRY on 24 March, Serbian police and/or VJ (Yugoslav Army), often accompanied by paramilitaries, went from village to village and, in the towns, from area to area threatening and expelling the Kosovo Albanian population. Others who were not directly forcibly expelled fled as a result of the climate of terror created by the systematic beatings, harassment, arrests, killings, shelling and looting carried out across the province. Kosovo Albanians were clearly targeted for expulsion because of their ethnicity. [...] Large numbers of civilians were also deliberately targeted and killed because of their ethnicity. No-one, it seems, was immune, as people of all ages, including women and children, were killed in large numbers.”

Similarly, the bombing attacks were not based on local economic disparities between regions, as NATO’s objective was to attack strongly Serbian targets of military nature (i.e. Serbian air defence sites, communication relays, military facilities and police force headquarters, ammunition dumps and supply routes, such as roads, bridges etc) in order to limit the ethnic cleansing (Grant, 1999; ICTY, 2000). Also, in the final report by the International Criminal Tribunal for former Yugoslavia (ICTY) on NATO’s bombing campaign, it is stated that in several occasions the bombing airstrikes resulted in collateral damage, where locations were mistakenly hit due to failures in target precision. This claim gives certain randomness to the bombing intensity measure.

4.1.3 Robustness Checks

One way to check whether the proposed instrument is as good as random across municipalities/villages is to examine whether individuals differ in pre-war economic performance by the severity of the conflict and the distance to the Albanian border. The idea is that if there is no correlation between the instrument and pre-war baseline characteristics, then there should be

no systematic differences in pre-war demographic and economic characteristics across the municipalities/villages in Kosovo. In other words, in the absence of differences in conflict intensity and distance to the Albanian border, municipalities that suffered more from the war and were located further away from the Albanian border would not have been different on average from the rest of the municipalities in Kosovo.

In order to assess the validity of the IV estimates, I undertake three falsification tests on the first-stage to check if the instrument (conflict intensity * distance to the Albanian border) captures the effect of economic differences across municipalities on conflict displacement. First, I test whether the instrument can predict pre-war migration patterns, which were most likely driven by economic motives. Second, I examine whether the interaction of conflict intensity and distance to the Albanian border is correlated to labor-force participation in 1991 and also to different measures of local economic activity in 1991. Lastly, I also test whether pre-war ethnicity explains any variation in conflict intensity and distance to the Albanian border.

As a first check, I use the municipality of birth and pre-war municipality for all individuals in order to test whether the interaction term can predict pre-1999 migration patterns. Due to lack of pre-war migration data, I consider that all individuals who lived in a different municipality at birth and just before the war are pre-war migrants.²¹ In this analysis, the municipality of origin is the municipality of birth and the municipality of destination is the pre-war municipality. The control group is formed, in this case, by those individuals that had never migrated before the war, regardless of their displacement status.

The results of this falsification test are reported in Table 5 and the specifications are identical to those reported in Table 4. The effect of the instrument (conflict intensity * distance to the Albanian border) on pre-war migration is close to zero and highly insignificant in all regressions and in both databases. Overall, these results suggest that conflict intensity in the municipality of birth interacted with distance to the Albanian border does not predict pre-war migrations, which were more likely to be driven by economic reasons. This falsification exercise sheds more light on the idea that conflict intensity was not motivated by the local pre-war economic performance of the municipalities.

As a second check, I use labor force participation (LFP) in 1991 and different measures of the local economic activity 1991 as proxies for pre-war economic performance. Labor force participation in 1991 is constructed by exploiting the Labor Module of the 2000 Kosovo LSMS, which asks individuals whether they were working in 1991 and in which type of activity they were involved (e.g. professional, administrative, clerical, services and agricultural). For this measure, I use only individuals whose residence at birth is the same as their residence previous to the war (i.e. those that have never migrated from their municipality- 85% of the individuals in the 2000 Kosovo LSMS) in order to avoid any measurement error due to migration.

²¹Pre-war migrants represent 28.4% of the whole sample of adults aged 20-65 in the 1999 Kosovo DSHS, and 17.1% of the entire sample of adults in the 2000 Kosovo LSMS.

To shed light on the plausibility of the identification assumption, Tables 6 and 7 regress a variety of baseline characteristics for economic performance in 1991 on the interaction of conflict intensity and distance to the Albanian border for females and males, respectively. The sample sizes are slightly smaller compared the main specification since this variable is measured only for individuals older than 20 years old in 1991. The dependent variable in column 1 is a dummy indicating whether the individual was working in 1991. The dependent variables in columns 2 to 6 are also dummies indicating whether the individual had a professional occupation, an administrative occupation, a clerical occupation, a service occupation or an agricultural occupation.

On the one hand, the correlation between labor-force participation in 1991 and the interaction of war casualty rate with distance to the Albanian border is negative and statistically significant for both women and men, indicating that before the war economic prosperity was lower in municipalities that were located further away from Albania and that suffered more from war casualties. This result seems to be driven mostly by agricultural occupations, which accounted for 60% of employment in 1991. Similarly, female labor-force participation before the war is also lower in municipalities that received more bombings and were also located further away from Albania. On the other hand, the correlation between male labor-force participation in 1991 and the interaction of bombings with distance to the Albanian border is also negative but statistically insignificant. Overall, these results seem to suggest that the war in Kosovo was more intense in the less prosperous regions of the province.

As a third check, I test whether pre-war ethnicity is correlated to the interaction of conflict intensity and distance to the Albanian border. Tables 8 and 9 regress a dummy for being Albanian, Serbian or other ethnic group in 1991 on the interaction of conflict intensity and distance to the Albanian border for females and males, respectively. The results from these tables indicate that municipalities with higher conflict intensity and located further away from Albania were more likely to have a higher proportion of Albanians before the war. In other words, municipalities with a higher proportion of Serbs before the war were less likely to suffer from war casualties and bombings. These findings corroborate the historical evidence mentioned earlier in this Section.

Even though historical references suggest that in Kosovo there was no targeting of individuals and regions based on the local economic differences, as a result of these tests, I will report IV estimates after controlling for labor-force participation in 1991 and proportion of Albanians in 1991 at the municipality level. Even though, I control for these additional variables it is important to acknowledge that the exclusion restriction might still be violated on a number of

other dimensions.²²

5 Results

The results presented in this section are divided between the initial impacts of conflict displacement in 1999 when individuals had just returned to their homes (i.e. short-run impacts) and the post-displacement impacts in 2000 after individuals had already returned home for approximately one year (i.e. medium-run impacts). All the results are estimated separately for female and male due to substantial gender differences in education and the labor market in Kosovo. The instrumental variables approach will estimate the impact of displacement on various outcomes for those individuals that were induced by the conflict and their residence to be forcibly displaced from their homes. The first sub-section presents the impact of displacement on labor market outcomes for women and men aged 20 to 65 years old. While, the second sub-section presents the impact of displacement on schooling enrolment rates for boys and girls aged 6 to 19 years old.

5.1 Conflict Displacement and Labor Market Outcomes

Labor market outcomes are measured as dummy variables indicating whether an adult aged 20 to 65 years old is *employed*, *unemployed* or *inactive*. For cases when the individual declared being employed, I also measure employment with dummy variables indicating: work-off-farm, work-on-farm, work for somebody else, work for family and self-employed. Only for the 2000 Kosovo LSMS, weekly hours are used as an additional labor market outcome.

Table 10 and Table 11 present the OLS and IV results of the effect of displacement on female's and male's labor market outcomes, respectively. The OLS estimates in Table 10 indicate that the effect of displacement on employment for Kosovar women is negative and statistically significant in 1999, implying a fall in the probability to work by 1.8 percentage points relative to stayers. This result seems to be driven by those women who are employed by a non-family member. The effect of displacement on female employment is still negative in 2000 but not statistically significant. Displacement does not seem to have an effect on female unemployment nor inactivity.

The OLS estimates in Table 11 indicate that displacement increases Kosovar men's inactivity by 2.4 percentage points in 1999. Additionally, displacement is associated with a negative effect on employment and a positive effect on unemployment in both years, but these effects are not statistically significant. Although these OLS estimates seem to imply adverse consequences on

²²Unfortunately, I cannot perform similar tests for the school enrollment outcomes due to data availability. Basically, it is practically impossible to have pre-war data on education for children who were in primary or even in secondary school just after the 1998/99 Kosovo war. In spite of this, I do not find any reason hard to believe that educational outcomes, such as enrollment rates or schooling performance, might have had any implication on conflict intensity in Kosovo.

labor market outcomes for women and men, they should be taken with caution because they could well be biased.

Therefore, I turn next on second-stage estimates that rely on the interaction between conflict intensity and distance to the Albanian border as exogenous variation in displacement status. After correcting for the potential selection bias, I find that displacement increases the likelihood of a Kosovar woman to be inactive in 1999 by 24 percentage points. However, I also find that in medium-term Kosovar women are on average 7.5 percentage points more likely to be working off-farm compared to stayers (Table 10). In addition, the IV estimates for women do not indicate an effect on female unemployment and hours worked just after the conflict and neither one year later.

The IV estimates on the effect of displacement on Kosovar men’s labor market outcomes (Table 11), which use as instrument ($WCR * DA$) seem to be the most robust across years. Displacement is associated to a large fall in Kosovar Albanian men’s ability to be self-employed just after the war. More specifically, displaced Kosovar men are 17 percentage points less likely to work on their own account compared to those that did not move due to the war. There is also suggestive evidence of a negative impact on general employment just after the conflict and also one year later. The magnitude of the effect on employment in both years indicates that the negative effect is decreasing overtime. This negative effect of displacement is quite large and seems to be driven mostly by men who work in the agricultural sector. All these results are robust to using wild bootstrap standard errors.²³ In particular, displacement decreases the likelihood of Kosovar men to be working on-farm by 14 percentage points in 2000.²⁴ Using ($WCR * DA$) as instrument, I find no effect on unemployment and inactivity.

However, the IV estimates that use ($B * DA$) as instrument suggest that Kosovar displaced men are also more likely to work off-farm one year after the conflict. In particular, the effect of displacement on men’s work-off-farm is large and positive, associated to an increase of 23 percentage points. When analyzing this result by type of occupation, I find that the positive effect is mostly driven by Kosovar men working in the construction and public administration sectors.²⁵ The IV estimates for Kosovar men in 2000 also imply a statistically significant increase in inactivity by 22 percentage points, with no effect on unemployment and hours worked.

²³Tables A-3, A-4 and A-5 in the Appendix are a copy of Tables 12, 10 and 11, respectively, but report Quasi-F test statistics and the P-values computed using the wild bootstrap standard errors proposed by Cameron, Gelbach and Miller (2008) and Cameron and Miller (2015). In general, the statistical inference is not affected by the few clusters issue.

²⁴See Table A-6 in Appendix for an estimation of the effect of displacement on employment by type of occupation. The IV estimates by type of occupation indicate that the negative effect on employment is driven mostly by Kosovar men employed in the agricultural sector.

²⁵See Table A-7 in Appendix for an estimation of the effect of displacement on work-off-farm by type of occupation.

5.2 Conflict Displacement and School Enrollment Outcomes

Armed conflict is generally expected to adversely affect school enrollment and educational attainment. Basically, the ability of children to attend school may be negatively affected by direct youth enrollment in the military, limited mobility or school destruction among other reasons. In particular, recent research suggests that exposure to civil conflict has adverse effects on the enrollment and completion of schooling (e.g. Swee, 2015; Chamarbagwala and Morán, 2011; Shemyakina, 2011; Leon, 2012; Akresh and De Walque, 2008; Akbulut-Yuksel, 2014; Merrouche, 2011; Valente, 2013). Moreover, the schooling of girls is often affected more to worsening economic conditions than that of boys. However, the expected result that school enrollment is disrupted in conflict areas may not be well founded in the particular case of Kosovo especially due to the presence of post-war aid through refugee camps.

In this section, I analyze the impact of conflict displacement on post-war school enrollment outcomes.²⁶ Table 12 presents the OLS and IV estimates of the impact of displacement on enrolment rates. *Enrolment* is measured as a dummy variable that takes the value of one if the child is enrolled in school and zero otherwise. The OLS estimates suggest that there is no effect of conflict displacement on children’s enrolment neither in 1999 nor in 2000.

After correcting for the potential selection bias in the displacement decision, the IV estimates indicate that the effect of displacement on female enrolment in 1999 is positive, quite large and statistically significant. More specifically, displacement increases enrolment of Kosovar girls in 1999 by 18 percentage points, on average. This positive effect is mostly driven by young girls enrolled in primary school (although this effect is lower in magnitude -12.9 percentage points-), as the effect of displacement on secondary school girls is not statistically significant. However, the positive effect on female enrolment seems to disappear one year later, as none of the IV estimates is statistically significant in 2000, both for primary and secondary school girls. Also, I find no effect of displacement on enrolment for Kosovar boys, in general.

Overall, after controlling for endogeneity, young Kosovar girl’s enrollment rates respond stronger to forced displacement and high-conflict activity than boys during the post-war period. In Section 6, I examine some plausible channels through which household’s schooling decisions may have been influenced as a consequence of the forced displacement.

²⁶Two alternative identification strategies are used in this paper to increase confidence in the reliability of the education estimates: the first relies on the interaction-based instrument (conflict intensity x distance to the Albanian border) as an exogenous source of variation in the displacement decision, and the second relies on a difference-in-difference estimation which uses variation in conflict displacement exposure across birth cohorts and geographic areas (municipalities). The difference-in-difference estimation can be found in the Section A of the Appendix.

6 Mechanisms

6.1 Channels on Labor Outcomes

First, focusing on labor market outcomes, the regression analysis implies that displacement is associated to a significant and large decrease in men’s employment in the agricultural sector and men’s self-employment (which is in general also related to work in the farm). Women are also more likely to drop out of the labor-force. However, the results also indicate that, one year after the end of the war, displaced Kosovar men are also more likely to be working off-farm (i.e. construction and public administration sectors). There are two plausible channels behind these results: first, loss of assets, land and livestock in an agrarian skill-based economy and second, loss of social networks in an informal labor market.

In the immediate aftermath of the conflict, the population of Kosovo faced a complex situation where their livelihoods were radically altered: infrastructure and housing were damaged or destroyed; crops had failed and large amounts of agricultural land were left under-utilised or abandoned (Douarin, Litchfield and Sabates-Wheeler, 2012). Westley and Mikhalev (2002) describe how the war and conflict displacement created constraints across the economy where many households were unable to cultivate land on a commercial basis due to loss of equipment and livestock, damage to irrigation systems as well as limited access to their land due to security reasons, including the presence of landmines and cluster bombs. Therefore, displacement might have made very difficult post-war employment in the agriculture sector for those individuals that had to abandon their lands and livestock.²⁷ However, despite the lack of work opportunities in the agriculture sector, displaced Albanian Kosovar men might have turned to wage labour as a post-displacement measure, especially in the construction and public administration sectors as the demand for labor in these two sectors increased significantly after the war. Indeed, Douarin, Litchfield and Sabates-Wheeler (2012) find that one of the most successful post-war livelihood strategies of Kosovar Albanians was associated with access to non-farm income sources such as non-farm businesses and remittances.

In order to test this plausible channel, Panel A of Table 13 presents the effect of household displacement on assets, measured as land ownership, land size, livestock and number of livestock. First, in line with previous studies I find suggestive evidence that returnees have fewer assets after the end of the war than those who stayed during the conflict, especially in terms of both land and livestock ownership. Moreover, using the 2000 Kosovo LSMS database, I find that in the medium-term conflict displacement has a negative and statistically significant effect on the number of livestock, which reinforces the first proposed mechanism behind the labor market outcomes.

Moreover, another plausible mechanism behind these results might be the loss of informal

²⁷Bozzoli, Brueck and Muhumuza (2016) and Deininger (2003) have also found that the probability to start non-farm activities is substantially reduced for households affected by war using data from the 20-year civil conflict in Northern Uganda.

networks, such as separation from family members, relatives, friends and communities (Kondylis, 2010). Several studies in the literature on migration suggests that networks are a key entry point to informal labor markets in an informal economy. For instance, Edin, Fredriksson and Åslund (2003) finds that living in an enclave enhances the access to informal ethnic networks and improves immigrants access to employment by increasing the performance of refugee immigrants job-search. In addition, this channel may be linked to the literature that studies the role of social networks as adverse coping mechanisms in the management of violent shocks. Most of the conflicts take place in poor countries, where -in the absence of formal insurance mechanisms- social networks provide support such as informal loans and transfers to mitigate various negative shocks (Foster and Rosenzweig, 2001; Fafchamps and Lund, 2003). Therefore, conflict displacement might have decreased access to informal networks for Kosovar Albanians since not everybody might have returned to the same pre-war residence. Also, taking into account the informal nature of the agriculture sector in Kosovo, the poorer access to informal networks might have further decreased the likelihood of displaced Kosovar men to find employment relative to stayers.

In order to test this channel, I exploit the Networks Module of the 2000 Kosovo LSMS to define access to informal networks. This section contains information on who would the individuals turn to in case of economic loss (i.e bad harvest, loss of employment), with the following categories: humanitarian group, relatives, neighbours, friends, community leaders, religious leaders, others etc. Using Pistaferri (1999), I define informal networks when the individual seeks employment through relatives, neighbours or friends. Panel B in Table 13 shows the IV estimates of the effect of household displacement on informal social networks. I find that displaced households are less likely to have access to informal networks compared to stayers. This channel might be closely linked with the increase in women’s inactivity.

6.2 Channels on Education Outcomes

Second, focusing on education outcomes, the results found in this paper indicate that displacement in Kosovo had positive short-run effects on female’s school enrolment, especially for those in primary level. One possible channel through which this effect might be operating is the refugee camp experience. It is interesting to note that the likelihood of children accessing education as refugees could either increase or decrease depending on the context. For instance, in conflict-affected countries, where virtually many children are out of school, refugee children, especially if they reside in refugee camps, are much more likely to increase their access to education compared to those who still stay in the the conflict-affected areas. However, for children leaving countries with fairly good access to schooling, it is likely that their ability to access education will decrease as a refugee (Ferris and Winthrop, 2010).

Between 1991 and the late 1990s the Albanian Kosovar population received education services in an informal system parallel to the official one. As schools and faculties in Albanian language

where closed, most Kosovar Albanian students received classes outside school facilities and often in private homes. During this period, the availability of educational inputs declined significantly, and teachers were unable to update their teaching skills and methodologies (Alva, Murrugarra and Paci, 2002; Cutts, 2000). Given this precarious pre-war situation, being displaced in a refugee centre might have increased access to education for Kosovar Albanian girls. Young female refugees, especially those who were in camps, might have had better access to basic education and better conditions than the IDPs and the stayer girls. The 1999 UNHCR Global Report seems to confirm this idea:

“The Ministry of Education in Albania and Macedonia organised summer schools for refugee children to make up for the schooling lost in the winter and spring 1998/99. UNHCR and UNICEF assisted by contributing to the cost of printing school books for 150,000 refugee children of primary school age. Many also received new furniture and supplies”

In order to test this, Table 14 presents the effect of displacement in a refugee camp on enrollment outcomes in 1999 for Kosovar females using the instrumental variables technique. The IV estimates indicate that displaced Kosovar girls residing in a refugee camp are more likely to be enrolled in school after returning in Kosovo compared to those that stayed in Kosovo and also to those that were internally displaced or residing in host families. This effect is driven mostly by girls enrolled in primary level, as the effect of being displaced in a refugee camp for girls enrolled in secondary school is not statistically significant. These results suggest that since primary schooling is considered to have higher priority in refugee centres compared to secondary schooling, the refugee camp’s conditions might have been more beneficial for younger girls compared to older ones (teenagers).

7 Conclusion

This paper contributes to the literature on the impacts of conflict displacement in developing countries. More specifically, this study analyzes the impact of forced displacement on children’s schooling and adult’s labor market outcomes in the context of the post-war Kosovo. During the Kosovo war and especially during the NATO air campaign, more than a million of individuals of all ethnicities were displaced, which represented around 70% of Kosovo’s pre-war population.

Using a combination of household survey data and municipality level data on conflict intensity, I exploit the interaction between spatial variation in conflict intensity and distance to the Albanian border as a source of exogenous variation in the displacement decision. As the targeting of individuals and regions in Kosovo was not based on pre-war economic differences, it is possible to argue that the severity of the conflict, measured through war casualties and NATO bombing days per municipality, is not related to unobserved characteristics that may also affect post-war economic outcomes.

The regression analysis implies some positive but also negative impacts of displacement on labor market and education outcomes. In particular, in terms of education outcomes, the results found in this paper indicate that displacement in Kosovo had positive short-run effects on female's school enrolment, especially for those in primary level. However, there is no evidence of changes in school enrollment for Kosovar displaced boys. One possible channel behind these results could be the experience of refugee camps, in the sense that conditions in the refugee camps might have provided better conditions and access to education to young Kosovar girls compared to the pre-war access which was characterized by the "parallel" education system.

In addition, in terms of labor market outcomes, the regression analysis implies that displacement is associated to a significant and large decrease in men's employment in the agricultural sector and their capacity to work on their own account. I also find that displaced Kosovar women are more likely to drop out of the labor force. In addition, households that were displaced have significantly fewer assets, land and livestock ownership in an agrarian skill-based economy and also experienced loss of social networks in an informal labor market compared to not displaced households. However, shortly after the return home, the results also indicate that displaced Kosovar men and women are more likely to be working off-farm, especially in the construction and public administration sectors, which indicates a relatively quick recovery.

It is clear that by 2000 Kosovar displaced people were unable to completely recover from the conflict. Even though I find some suggestive evidence of a post-conflict reconstruction effort, the results found in this paper imply that there is still a role for the international community and the local government to develop and support these livelihood activities in a post-conflict context through early interventions.

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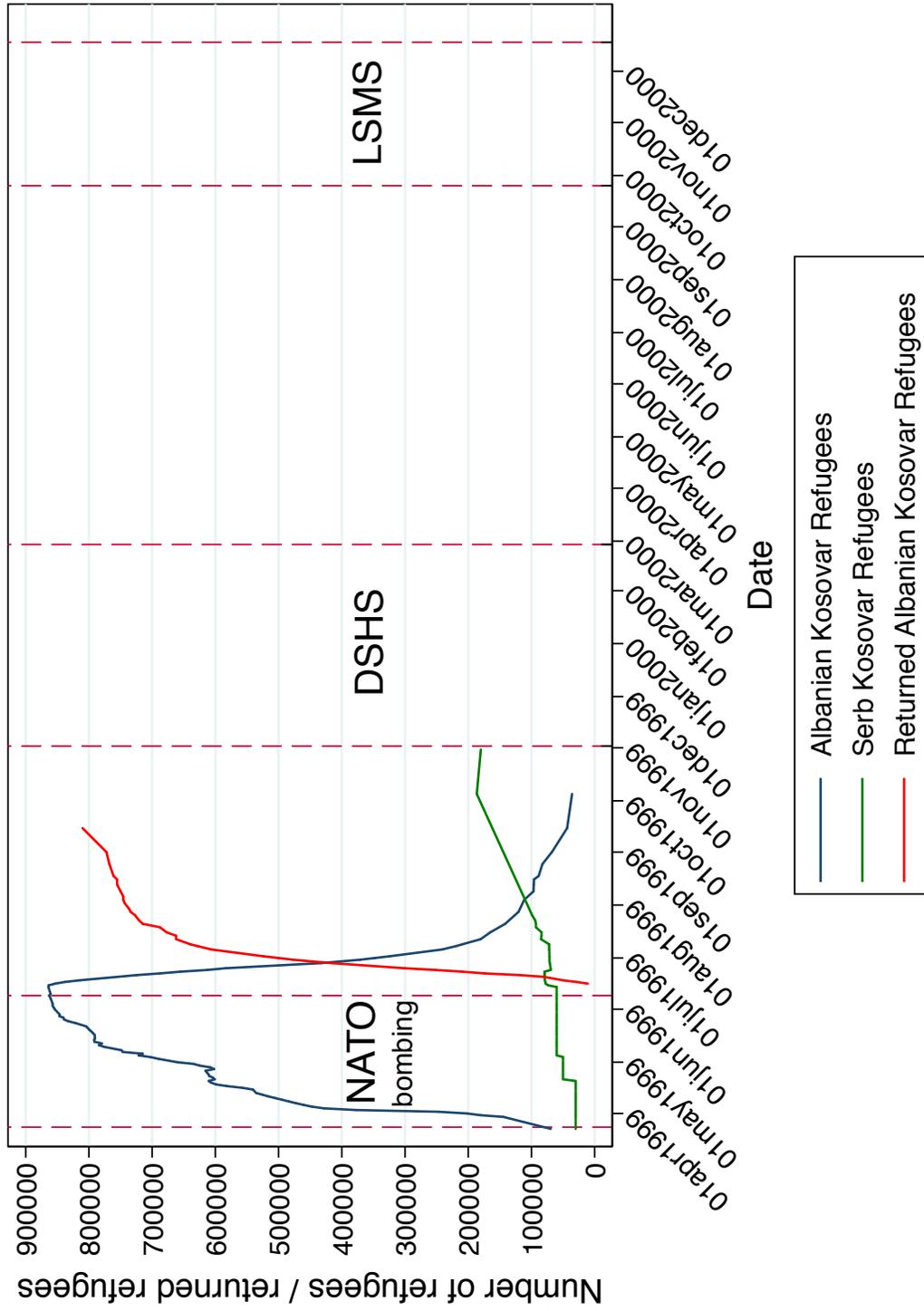
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Figure 1: Total Cumulative Kosovar Refugee, Returned Kosovar Refugee, Serbian Refugee Populations and Survey Timelines, 23 (March-October 1999)



Source: UNHCR

Figure 2: War Casualty Rate- Number of Casualties per 1,000 Inhabitants across Municipalities

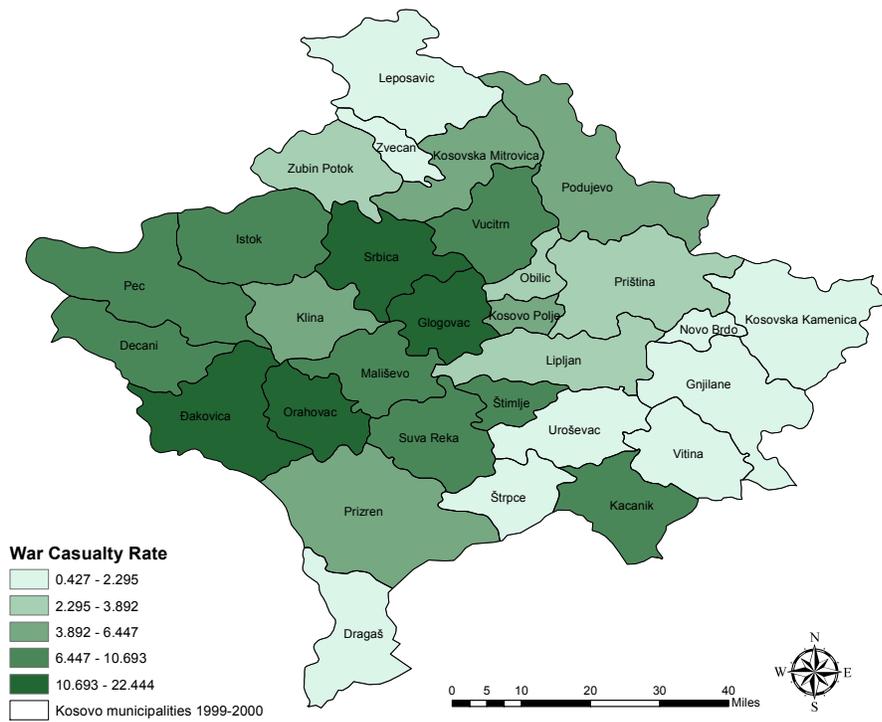
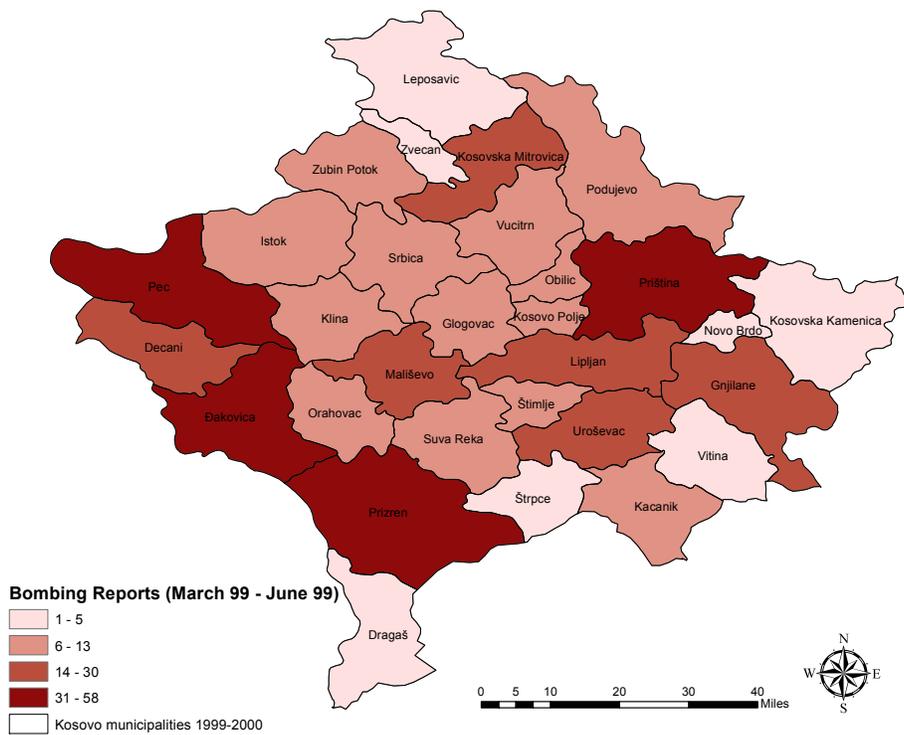


Figure 3: Bombing Intensity- NATO bombing Days across Municipalities



Notes: The war casualty rate is computed as a proportion of the 1991 population at the municipality level.
 Sources: Kosovo Memory Book (1998-2000) and Human Rights Group for Data Analysis (HRDAG)

Table 1: Descriptive Statistics of Displacement by Gender and Age Group - Kosovo (1999-2000)

Samples	1999 Kosovo DSHS		2000 Kosovo LSMS	
	Female	Male	Female	Male
Children [6 - 19 years old]				
Displaced	0.652	0.654	0.734	0.742
Move out of Kosovo	0.412	0.382	0.447	0.418
IDPs	0.223	0.224	0.279	0.282
Refugee center	0.214	0.220	—	—
Returnees*	0.851	0.854	0.961	0.951
Observations	5,919	6,385	2,616	2,716
Adults [20 - 65 years old]				
Displaced	0.652	0.654	0.734	0.742
Move out of Kosovo	0.412	0.382	0.447	0.417
IDPs	0.192	0.192	0.240	0.236
Refugee center	0.193	0.181	—	—
Returnees*	0.872	0.871	0.965	0.962
Observations	10,751	9,554	4,639	4,317

Notes: *The returnees are calculated only for the displaced individuals, therefore the number of observations is lower.

Table 2: Descriptive Statistics of Displacement Status by Ethnic Group - Kosovo (1999-2000)

Ethnicity	1999 Kosovo DSHS			2000 Kosovo LSMS		
	All %	Displaced %	Not Displaced %	All %	Displaced %	Not Displaced %
Albanian	86.14	97.66	67.97	84.83	96.33	58.95
Croat	0.03	0.03	0.03	0.16	0.09	0.31
Bosniak	2.89	1.66	4.83	1.79	0.79	4.02
Roma	1.07	0.14	2.54	1.36	0.93	2.33
Serb	8.69	0.20	22.09	10.75	1.65	31.21
Turk	0.93	0.28	1.95	1.06	0.15	3.10
Montenegrins	—	—	—	0.04	0.04	0.04
Others	0.25	0.03	0.59	0.03	0.03	0.04
Total (Observations)	40,757	24,952	15,805	16,749	11,594	5,155

Table 3: First-stage Results - Children Aged (6-19 Years Old) - Kosovo (1999-2000)

Children [6-19] Years Old	1999 Kosovo DSHS				2000 Kosovo LSMS			
	Female		Male		Female		Male	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	<i>Dependent variable: Displaced</i>							
Distance to Alb. Border	-0.0035 (0.0024) [0.0023]	0.0052 (0.0021)** [0.0025]*	-0.0033 (0.0025) [0.0021]	0.0046 (0.0020)** [0.0024]*	-0.0039 (0.0016)** [0.0024]	-0.0022 (0.0013)* [0.0019]	-0.0036 (0.0017)** [0.0024]	-0.0016 (0.0013) [0.0020]
Bombings		0.0153 (0.0294) [0.0251]		0.0132 (0.0323) [0.0246]		-0.0543 (0.0159)*** [0.0208]**		-0.0525 (0.0160)*** [0.0218]**
War Casualty Rate	-0.0670 (0.0221)*** [0.0257]**		-0.0622 (0.0217)*** [0.0242]**		-0.0547 (0.0171)*** [0.0218]**		-0.0511 (0.0192)*** [0.0207]**	
Excluded Instruments:								
Bombings x Dist. Alb.		-0.0002 (0.0003) [0.0002]		-0.0002 (0.0003) [0.0002]		0.0005 (0.0002)*** [0.0002]***		0.0005 (0.0002)*** [0.0002]**
WCR x Dist. Alb.	0.0008 (0.0002)*** [0.0003]**		0.0007 (0.0002)*** [0.0003]**		0.0007 (0.0002)*** [0.0003]**		0.0007 (0.0002)*** [0.0003]**	
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5,919	5,919	6,385	6,385	2,616	2,616	2,716	2,716
Mean dependent var.	0.651	0.651	0.653	0.653	0.734	0.734	0.741	0.741
F-stat Excluded Instruments	11.64/7.67	0.51/0.70	10.84/7.45	0.27/0.48	13.38/6.50	12.59/7.67	10.18/6.55	10.15/5.18
Number of clusters	55/27	55/27	55/27	55/27	200/29	200/29	203/29	203/29
Partial R-Squared	0.067	0.004	0.060	0.002	0.041	0.040	0.044	0.033

Notes: Standard errors clustered at the village of residence are in parentheses. Standard errors clustered at the municipality level are in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%. Controls include age, ethnicity (albanian), dummies for mothers and fathers educational attainment (medium and high), number of male and female adults in a household aged 20-65, number of children aged 0, 1-5, 6-10, 11-15, and 16-19, distance to school, dummy for rural location, municipality labor-force participation in 1991 and proportion of Albanians in 1991. LSMS sample weights are used in all the regressions. Data source: 1999 Kosovo DSHS and 2000 Kosovo LSMS

Table 4: First-stage Results - Adults (20-65 Years Old) - Kosovo (1999-2000)

Adults [20-65] Years Old	1999 Kosovo DSHS			2000 Kosovo LSMS				
	Female		Male	Female		Male		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Distance to Alb. Border	-0.0021 (0.0022) [0.0020]	0.0038 (0.0019)** [0.0023]	-0.0018 (0.0021) [0.0019]	0.0035 (0.0018)* [0.0022]	-0.0028 (0.0016)* [0.0026]	-0.0017 (0.0012) [0.0021]	-0.0037 (0.0016)** [0.0025]	-0.0014 (0.0011) [0.0021]
Bombings		0.0027 (0.0274) [0.0249]		0.0005 (0.0257) [0.0239]	-0.0527 (0.0142)*** [0.0219]**			-0.0505 (0.0148)*** [0.0214]**
War Casualty Rate	-0.0530 (0.0197)*** [0.0218]**		-0.0493 (0.0188)** [0.0201]**		-0.0439 (0.0153)*** [0.0218]*		-0.0588 (0.0141)*** [0.0220]**	
Excluded Instruments:								
Bombings x Dist. Alb.		-0.0000 (0.0002) [0.0002]		-0.0000 (0.0002) [0.0002]		0.0005 (0.0001)*** [0.0002]**		0.0005 (0.0002)*** [0.0002]**
WCR * Dist. Alb.	0.0007 (0.0002)*** [0.0003]**		0.0006 (0.0002)*** [0.0002]**		0.0006 (0.0002)*** [0.0003]*		0.0008 (0.0002)*** [0.0003]**	
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	10,751	10,751	9,454	9,454	4,639	4,639	4,317	4,317
Mean dependent var.	0.604	0.604	0.575	0.575	0.687	0.687	0.653	0.653
F-stat Excluded Instruments	9.14/6.40	0.01/0.01	7.39/5.78	0.00/0.00	10.88/3.98	11.89/5.08	18.46/6.15	9.15/4.71
Number of clusters	55/27	55/27	55/27	55/27	207/29	207/29	206/29	206/29
Partial R-squared	0.051	0.001	0.040	0.000	0.034	0.035	0.043	0.030

Notes: Standard errors clustered at the village of residence are in parentheses. Standard errors clustered at the municipality level are in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%. Controls include age, ethnicity (albanian), dummies for marital status, dummies for parental educational attainment (low and medium), number of male and female adults in a household aged 20-65, number of dependent members aged 0, 1-5, 6-10, 11-15, and 16-19, dummy for rural location, municipality labor-force participation in 1991 and proportion of Albanians in 1991. LSMS sample weights are used in all the regressions. Data source: 1999 Kosovo DSHS and 2000 Kosovo LSMS.

Table 5: Falsification Test on the First-stage Results - Adults Aged (20-65 Years Old) - Kosovo (1999-2000)

Adults [20-65] Years Old	1999 Kosovo DSHS				2000 Kosovo LSMS			
	<i>Dependent variable: Migration Status (Non-conflict)</i>							
	Female		Male		Female		Male	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Distance to Alb. Border	0.0003 (0.0019) [0.0028]	-0.0018 (0.0018) [0.0028]	-0.0001 (0.0013) [0.0018]	-0.0011 (0.0011) [0.0017]	-0.0001 (0.0009) [0.0020]	-0.0000 (0.0011) [0.0021]	-0.0002 (0.0004) [0.0006]	-0.0003 (0.0006) [0.0009]
Bombings in the municip. of birth		-0.0346 (0.0203)* [0.0297]		-0.0287 (0.0141)** [0.0172]		-0.0091 (0.0125) [0.0230]		-0.0072 (0.0099) [0.0116]
WCR in the municip. of birth	-0.0033 (0.0225) [0.0314]		-0.0088 (0.0152) [0.0208]		-0.0092 (0.0109) [0.0223]		-0.0042 (0.0077) [0.0101]	
Excluded Instruments:								
Bombings x Distance to Alb. Border		0.0003 (0.0002) [0.0003]		0.0003 (0.0002) [0.0002]		0.0001 (0.0002) [0.0003]		0.0004 (0.0001) [0.0001]
WCR x Distance to Alb. Border	0.0001 (0.0002) [0.0004]		0.0002 (0.0002) [0.0003]		0.0002 (0.0001) [0.0003]		0.0001 (0.0001) [0.0001]	
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	10,327	10,327	9,200	9,200	4,481	4,481	4,251	4,251
Mean dependent var.	0.352	0.352	0.207	0.207	0.240	0.240	0.098	0.098
F-stat Excluded Instruments	0.19/0.08	2.82	1.37/0.50	3.67/2.35	1.55/0.37	0.23/0.10	0.55/0.44	0.10/0.11
Number of clusters	55/27	55/27	55/27	55/27	201/29	201/29	201/29	201/29
Partial R-squared	0.001	0.020	0.004	0.015	0.002	0.001	0.001	0.0001

Notes: Standard errors clustered at the village of residence are in parentheses. Standard errors clustered at the municipality level are in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%. The sample includes women aged 20 to 65 in 1991. Controls include age, dummies for marital status, dummies for educational attainment (low and medium), and dummy for rural residence. LSMS sample weights are used in all the regressions. Data source: 2000 Kosovo LSMS.

Table 6: Pre-war Economic Performance and Conflict Incidence (Women) - Kosovo (1999-2000)

Sample: Female [20-65 y.o. in 1991]	Pre-war economic performance 1991					
	LFP (1)	<i>professional</i> (2)	<i>administrative</i> (3)	<i>clerical</i> (4)	<i>services</i> (5)	<i>agricultural</i> (6)
WCR x Dist. Alb.	-0.0003 (0.0001)** [0.0001]**	-0.00001 (0.00001) [0.00002]	-0.000005 (0.000004) [0.000004]	-0.00002 (0.00002) [0.00003]	0.0001 (0.00005)** [0.00009]	-0.0004 (0.0001)*** [0.0001]**
WCR	0.0211 (0.0120)* [0.0141]	0.0018 (0.0015) [0.0016]	0.0004 (0.0004) [0.0005]	0.0021 (0.0020) [0.0025]	-0.0067 (0.0039)* [0.0064]	0.0235 (0.0107)** [0.0132]*
Dist. Alb.	0.0050 (0.0010)*** [0.0009]***	0.0001 (0.0001) [0.0001]	0.00001 (0.00002) [0.00003]	0.0003 (0.0002)** [0.0002]	0.0009 (0.0004)** [0.0007]	0.0037 (0.0008)*** [0.0008]***
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,210	3,210	3,210	3,210	3,210	3,210
Mean dep. var	0.357	0.055	0.002	0.038	0.046	0.213
Number of clusters	206/29	206/29	206/29	206/29	206/29	206/29
R-squared	0.1572	0.2672	0.0196	0.1190	0.0524	0.1358
Bombings x Dist. Alb.	-0.0002 (0.0001)** [0.0001]**	-0.00002 (0.00002) [0.00002]	-0.000002 (0.000003) [0.000004]	-0.000005 (0.00002) [0.00002]	-0.00009 (0.00004)* [0.00009]	-0.0001 (0.0001) [0.0001]
Bombings	0.0188 (0.0103)* [0.0124]	0.0029 (0.0029) [0.0032]	0.0005 (0.0003) [0.0004]	-0.0002 (0.0028) [0.0028]	0.0090 (0.0051)* [0.0093]	0.0065 (0.0094) [0.0159]
Dist. Alb.	0.0054 (0.0007)*** [0.0008]***	0.0002 (0.0001) [0.0002]	-0.00001 (0.00002) [0.00002]	0.0002 (0.0001)* [0.0002]	0.0019 (0.0005)*** [0.0012]	0.0032 (0.0007)*** [0.0012]**
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,210	3,210	3,210	3,210	3,210	3,210
Mean dep. var	0.357	0.055	0.002	0.038	0.046	0.213
Number of clusters	206/29	206/29	206/29	206/29	206/29	206/29
R-squared	0.1625	0.2676	0.0225	0.1192	0.0550	0.1311

Notes: Standard errors clustered at the village of residence are in parentheses. Standard errors clustered at the municipality level are in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%. The sample includes men aged 20 to 65 in 1991. Controls include age, dummies for marital status, dummies for educational attainment (low and medium), and dummy for rural residence. LSMS sample weights are used in all the regressions. Data source: 2000 Kosovo LSMS.

Table 7: Pre-war Economic Performance and Conflict Incidence (Men) - Kosovo (1999-2000)

Sample: Male [20-65 y.o. in 1991]	Pre-war economic performance 1991					
	LFP (1)	<i>professional</i> (2)	<i>administrative</i> (3)	<i>clerical</i> (4)	<i>services</i> (5)	<i>agricultural</i> (6)
WCR x Dist. Alb.	-0.0003 (0.0001)*** [0.0001]***	-0.00005 (0.00004) [0.00003]	0.000003 (0.00002) [0.00002]	-0.0000003 (0.00003) [0.00002]	0.00001 (0.00003) [0.00004]	-0.0002 (0.0001)*** [0.0001]***
WCR	0.0152 (0.0049)*** [0.0059]**	0.0046 (0.0034) [0.0030]	-0.0013 (0.0019) [0.0019]	-0.0011 (0.0027) [0.0022]	-0.0009 (0.0036) [0.0038]	0.0140 (0.0059)** [0.0054]**
Dist. Alb.	0.0008 (0.0003)** [0.0004]**	0.0001 (0.0003) [0.0003]	-0.000005 (0.0002) [0.0002]	-0.000003 (0.0003) [0.0002]	0.000004 (0.0003) [0.0004]	0.0007 (0.0004)* [0.0004]*
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,983	2,983	2,983	2,983	2,983	2,983
Mean dep. var	0.829	0.127	0.036	0.093	0.078	0.492
Number of clusters	206/29	206/29	206/29	206/29	206/29	206/29
R-squared	0.1285	0.2054	0.0504	0.0543	0.0127	0.1831
Bombings x Dist. Alb	-0.00005 (0.00004) [0.00006]	0.00001 (0.00003) [0.00003]	0.000007 (0.00001) [0.00001]	-0.000008 (0.00003) [0.00002]	-0.00001 (0.00003) [0.00003]	-0.00004 (0.00005) [0.00005]
Bombings	0.0028 (0.0047) [0.0063]	0.0001 (0.0040) [0.0036]	0.0008 (0.0021) [0.0018]	0.0003 (0.0031) [0.0026]	0.0023 (0.0036) [0.0034]	-0.0007 (0.0058) [0.0066]
Dist. Alb.	0.0001 (0.0004) [0.0006]	-0.0004 (0.0003) [0.0004]	-0.0000 (0.0002) [0.0002]	0.00002 (0.0002) [0.0002]	0.0001 (0.0003) [0.0003]	0.0003 (0.0005) [0.0005]
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,983	2,983	2,983	2,983	2,983	2,983
Mean dep. var	0.829	0.127	0.036	0.093	0.078	0.492
Number of clusters	206/29	206/29	206/29	206/29	206/29	206/29
R-squared	0.1156	0.2057	0.0525	0.0545	0.0129	0.1812

Notes: Standard errors clustered at the village of residence are in parentheses. Standard errors clustered at the municipality level are in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%. The sample includes males aged 20 to 65 in 1991. Controls include age, ethnicity (albanian), dummies for marital status, dummies for parental educational attainment (low and medium), number of male and female adults in a household aged 20-65, number of dependent members aged 0, 1-5, 6-10, 11-15, and 16-19 and dummy for rural. LSMS sample weights are used in all the regressions. Data source: 1999 Kosovo DSHS and 2000 Kosovo LSMS.

Table 8: Pre-War Ethnicity and Conflict Incidence (Women) - Kosovo (1999-2000)

Sample: Female [20-65 y.o. in 1991]	Pre-war ethnicity 1991		
	<i>Albanian</i> (1)	<i>Serbian</i> (2)	<i>Other ethnicity</i> (3)
WCR x Dist. Alb.	0.0002 (0.0002) [0.0003]	-0.0004 (0.0001)*** [0.0002]*	0.0002 (0.0001)*** [0.0001]**
WCR	-0.0009 (0.0127) [0.0227]	0.0248 (0.0096)** [0.0176]	-0.0239 (0.0069)*** [0.0086]**
Dist. Alb.	-0.0011 (0.0013) [0.0024]	0.0042 (0.0010)*** [0.0018]**	-0.0031 (0.0007)*** [0.0010]***
Controls	Yes	Yes	Yes
Observations	3,540	3,540	3,540
Mean dep. var	0.849	0.096	0.053
Number of clusters	206/29	206/29	206/29
R-squared	0.1198	0.2127	0.1046
Bombings x Dist. Alb	0.0004 (0.0001)*** [0.0002]	-0.0002 (0.0001)** [0.0002]	-0.0001 (0.0001) [0.0001]
Bombings	-0.0350 (0.0147)** [0.0218]	0.0239 (0.0111)** [0.0164]	0.0111 (0.0085) [0.0114]
Dist. Alb.	-0.0027 (0.0011)** [0.0022]	0.0034 (0.0009)*** [0.0018]*	-0.0007 (0.0007) [0.0011]
Controls	Yes	Yes	Yes
Observations	3,540	3,540	3,540
Mean dep. var	0.849	0.096	0.053
Number of clusters	206/29	206/29	206/29
R-squared	0.0986	0.1885	0.0791

Notes: Standard errors clustered at the village of residence are in parentheses. Standard errors clustered at the municipality level are in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%. The sample includes women aged 20 to 65 in 1991. Controls include age, dummies for marital status, dummies for educational attainment (low and medium), and dummy for rural residence. LSMS sample weights are used in all the regressions. Data source: 2000 Kosovo LSMS.

Table 9: Pre-War Ethnicity and Conflict Incidence (Men) - Kosovo (1999-2000)

Sample: Male [20-65 y.o. in 1991]	Pre-war ethnicity 1991		
	<i>Albanian</i> (1)	<i>Serbian</i> (2)	<i>Other ethnicity</i> (3)
WCR x Dist. Alb.	0.0002 (0.0002) [0.0003]	-0.0004 (0.0001)*** [0.0002]*	0.0002 (0.0001)*** [0.0001]*
WCR	-0.0010 (0.0136) [0.0236]	0.0263 (0.0099)*** [0.0180]	-0.0253 (0.0079)*** [0.0105]**
Dist. Alb.	-0.0012 (0.0024) (0.0014)	0.0044 [0.0019]** (0.0010)***	-0.0032 [0.0010]*** (0.0008)***
Controls	Yes	Yes	Yes
Observations	3,293	3,293	3,293
Mean dep. var	0.842	0.104	0.052
Number of clusters	206/29	206/29	206/29
R-squared	0.0980	0.1720	0.1373
Bombings x Dist. Alb	0.0003 (0.0001)** [0.0002]	-0.0002 (0.0001)** [0.0002]	-0.0001 (0.0001) [0.0001]
Bombings	-0.0319 (0.0154)** [0.0219]	0.0260 (0.0120)** [0.0167]	0.0059 (0.0089) [0.0118]
Dist. Alb.	-0.0024 (0.0012)* [0.0023]	0.0034 (0.0009)*** [0.0018]*	-0.0011 (0.0007) [0.0012]
Controls	Yes	Yes	Yes
Observations	3,293	3,293	3,293
Mean dep. var	0.842	0.104	0.052
Number of clusters	206/29	206/29	206/29
R-squared	0.0709	0.1467	0.1045

Notes: Standard errors clustered at the village of residence are in parentheses. Standard errors clustered at the municipality level are in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%. The sample includes men aged 20 to 65 in 1991. Controls include age, dummies for marital status, dummies for educational attainment (low and medium), and dummy for rural residence. LSMS sample weights are used in all the regressions. Data source: 2000 Kosovo LSMS.

Table 10: The Effect of Conflict Displacement on Women's Labor Market Outcomes - Kosovo (1999-2000)

Female [20-65]	1999 Kosovo DSHS				2000 Kosovo LSMS				
			OLS	IV			OLS	IV	IV
	Obs.	Mean	(1)	(2)	Obs.	Mean	(3)	(4)	(5)
Employed	10,751	0.150	-0.018 (0.008)** [0.010]*	-0.056 (0.083) [0.096]	4,639	0.290	-0.015 (0.026) [0.030]	0.192 (0.197) [0.163]	0.023 (0.154) [0.098]
Work off-farm	—	—	—	—	4,639	0.078	-0.009 (0.012) [0.016]	-0.029 (0.035) [0.045]	0.075 (0.050) [0.044]*
Work on-farm	—	—	—	—	4,639	0.189	-0.010 (0.024) [0.029]	0.298 (0.215) [0.207]	-0.041 (0.166) [0.108]
Work for someone	10,751	0.135	-0.014 (0.009) [0.009]	-0.083 (0.082) [0.097]	—	—	—	—	—
Work for family	10,751	0.010	-0.005 (0.004) [0.004]	0.028 (0.029) [0.030]	—	—	—	—	—
Self-Employed	10,751	0.005	0.001 (0.002) [0.002]	-0.0004 (0.008) [0.008]	4,639	0.019	0.001 (0.006) [0.005]	-0.058 (0.039) [0.038]	0.003 (0.028) [0.024]
Unemployed	10,751	0.173	-0.014 (0.022) [0.024]	-0.184 (0.125) [0.1113]	4,639	0.070	-0.001 (0.011) [0.011]	-0.018 (0.061) [0.054]	-0.040 (0.058) [0.063]
Inactive	10,751	0.676	0.033 (0.024) [0.025]	0.239 (0.122)** [0.106]**	4,639	0.638	0.016 (0.026) [0.028]	0.174 (0.179) [0.154]	0.017 (0.127) [0.110]
Hours worked (0)	—	—	—	—	4,639	9.57	-0.596 (1.124) [1.217]	7.666 (9.205) [8.877]	10.378 (7.983) [6.580]
Hours worked	—	—	—	—	1,303	34.08	-0.561 (1.787) [1.909]	-7.459 (12.097) [16.816]	12.139 (10.923) [10.331]
Controls			Yes	Yes			Yes	Yes	Yes

Notes: Standard errors clustered at the village of residence are in parentheses. Standard errors clustered at the municipality level are in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%. Controls include: conflict intensity (casualties/bomings), distance to the Albanian border, age, ethnicity (albanian), dummies for marital status, dummies for educational attainment (low and medium), number of male and female adults in a household aged 20-65, number of dependent members aged 0, 1-5, 6-10, 11-15, and 16-19, dummy for rural location, municipality labor-force participation in 1991 and proportion of Albanians in 1991. LSMS sample weights are used in all the regressions. Data source: 1999 Kosovo DSHS and 2000 Kosovo LSMS.

Table 11: The Effect of Conflict Displacement on Men's Labor Market Outcomes - Kosovo (1999-2000)

Male [20-65]	1999 Kosovo DSHS				2000 Kosovo LSMS				
	Obs.	Mean	OLS (1)	IV (WCR* Dist.Alb) (2)	Obs.	Mean	OLS (3)	IV (WCR* Dist.Alb) (4)	IV (Bombs* Dist.Alb) (5)
Employed	9,454	0.474	-0.016 (0.029) [0.035]	-0.272 (0.176) [0.181]	4,317	0.642	-0.017 (0.021) [0.020]	-0.104 (0.101) [0.123]	-0.121 (0.160) [0.146]
Work off-farm	—	—	—	—	4,317	0.284	-0.032 (0.022) [0.024]	0.064 (0.086) [0.104]	0.234 (0.116)** [0.114]**
Work on-farm	—	—	—	—	4,317	0.248	-0.027 (0.019) [0.021]	-0.140 (0.128) [0.085]*	-0.090 (0.153) [0.174]
Work for someone	9,454	0.365	0.028 (0.025) [0.028]	-0.003 (0.145) [0.171]	—	—	—	—	—
Work for family	9,454	0.025	-0.016 (0.012) [0.014]	-0.095 (0.079) [0.066]	—	—	—	—	—
Self-Employed	9,454	0.084	-0.028 (0.019) [0.019]	-0.174 (0.113) [0.065]**	4,317	0.146	0.017 (0.021) [0.018]	0.030 (0.074) [0.088]	-0.060 (0.125) [0.160]
Unemployed	9,454	0.422	-0.008 (0.025) [0.030]	0.201 (0.172) [0.199]	4,317	0.113	0.013 (0.013) [0.016]	0.086 (0.064) [0.072]	-0.106 (0.127) [0.127]
Inactive	9,454	0.103	0.024 (0.009)** [0.010]**	0.071 (0.059) [0.050]	4,317	0.244	0.004 (0.020) [0.015]	0.018 (0.085) [0.093]	0.227 (0.122)* [0.152]
Hours worked (0)	—	—	—	—	4,317	27.74	-1.104 (1.373) [1.389]	-9.328 (5.711) [5.361]	-8.496 (8.943) [9.934]
Hours worked	—	—	—	—	2,706	44.26	-0.175 (1.269) [1.093]	3.336 (5.431) [4.643]	-8.778 (9.371) [11.659]
Controls			Yes	Yes			Yes	Yes	Yes

Notes: Standard errors clustered at the village of residence are in parentheses. Standard errors clustered at the municipality level are in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%. Controls include: conflict intensity (casualties/bomings), distance to the Albanian border, age, ethnicity (albanian), dummies for marital status, dummies for educational attainment (low and medium), number of male and female adults in a household aged 20-65, number of dependent members aged 0, 1-5, 6-10, 11-15, and 16-19, dummy for rural location, municipality labor-force participation in 1991 and proportion of Albanians in 1991. LSMS sample weights are used in all the regressions. Data source: 1999 Kosovo DSHS and 2000 Kosovo LSMS.

Table 12: The Effect of Conflict Displacement on Children's Enrollment - Kosovo (1999-2000)

	1999 Kosovo DSHS			2000 Kosovo LSMS					
	OLS	IV	OLS	IV	OLS	IV			
Children [6-19] Years Old	Obs.	Mean	(1)	(2)	Obs.	Mean	(3)	(4)	(5)
			<i>(WCR* Dist. Alb)</i>				<i>(WCR* Dist. Alb)</i>		<i>(Bombs* Dist. Alb)</i>
Sample: FEMALE									
Enrolled in school (6-19 years old)	5,919	0.749	0.014 (0.020)	0.188 (0.065)***	2,616	0.820	0.008 (0.027)	0.038 (0.116)	-0.004 (0.125)
Enrolled in school (6-14 years old)	3,709	0.864	[0.023] 0.023	[0.052]*** 0.129	1,650	0.920	[0.025] 0.029	[0.145] -0.101	[0.124] 0.019
Enrolled in school (15-19 years old)	2,210	0.556	(0.018) [0.019]	(0.041)*** [0.036]***	966	0.635	(0.024) [0.022]	(0.105) [0.106]	(0.157) [0.155]
			-0.008 (0.032)	0.118 (0.137)			-0.031 (0.045)	0.297 (0.275)	0.076 (0.195)
			[0.031]	[0.106]			[0.038]	[0.273]	[0.176]
Sample: MALE									
Enrolled in school (6-19 years old)	6,385	0.804	0.006 (0.011)	0.028 (0.044)	2,716	0.820	0.008 (0.021)	0.039 (0.099)	0.076 (0.124)
Enrolled in school (6-14 years old)	4,121	0.869	[0.010] -0.004	[0.041] 0.001	1,762	0.920	[0.016] 0.011	[0.067] -0.086	[0.106] -0.060
Enrolled in school (15-19 years old)	2,264	0.687	(0.010) [0.012]	(0.037) [0.038]	954	0.635	(0.021) [0.022]	(0.072) [0.057]	(0.122) [0.073]
			0.006 (0.025)	0.168 (0.120)			0.004 (0.039)	0.183 (0.184)	0.359 (0.227)
			[0.029]	[0.118]			[0.030]	[0.128]	[0.234]
Controls			Yes	Yes			Yes	Yes	Yes

Notes: Standard errors clustered at the village of residence are in parentheses. Standard errors clustered at the municipality level are in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%. Controls include: conflict intensity (casualties/bomings), distance to the Albanian border, age, ethnicity (albanian), dummies for mothers and fathers educational attainment (medium and high), number of male and female adults in a household aged 20-65, number of children aged 0, 1-5, 6-10, 11-15, and 16-19, distance to school, dummy for rural location, municipality labor-force participation in 1991 and proportion of Albanians in 1991. LSMS sample weights are used in all the regressions. Data source: 1999 Kosovo DSHS and 2000 Kosovo LSMS

Table 13: Channels of Conflict Displacement on Labor Market Outcomes - Kosovo (1999-2000)

Households	1999 Kosovo DSHS			2000 Kosovo LSMS			
	Obs.	Mean	IV (WCR* Dist. Alb) (1)	Obs.	Mean	IV (WCR* Dist. Alb) (2)	IV (Bombs* Dist. Alb) (3)
Panel A: Assets							
Land Owned	7,190	0.431	-0.353 (0.323) [0.190]*	2,807	0.595	0.058 (0.275) [0.292]	0.397 (0.245) [0.287]
Land Size (in ha)	7,190	0.663	-0.236 (0.660) [0.454]	2,807	1.118	0.678 (0.727) [0.702]	-0.261 (0.959) [0.734]
Livestock	7,190	0.305	-0.294 (0.225) [0.178]*	2,807	0.413	-0.063 (0.135) [0.115]	-0.084 (0.145) [0.112]
Number of Livestock	—	—	—	2,807	6.161	-13.623 (4.900)*** [5.866]**	0.999 (5.503) [6.904]
Panel B: Social Networks							
Informal Networks	—	—	—	2,807	0.620	-0.581 (0.262)** [0.449]	0.249 (0.230) [0.320]
First stage <i>Dependent variable: Displaced</i>							
Bombing x Dist. Alb							0.0004 (0.0001)*** (0.0001)**
WCR x Dist. Alb			0.0006 (0.0002)*** [0.0003]**			0.0006 (0.0002)*** (0.0003)**	
F-stat excl. Instrum.			10.00/6.17			12.48/5.66	11,43/5.41
Number of clusters			55/27			206/29	206/29
Partial R-squared			0.050			0.037	0.031
Observations			7,190			2,807	2,807
Controls			Yes			Yes	Yes

Notes: Standard errors clustered at the village of residence are in parentheses. Standard errors clustered at the municipality level are in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%. Controls include: conflict intensity (casualties/bomings), distance to the Albanian border, age, ethnicity (albanian), dummies for marital status, dummies for educational attainment (low and medium), number of male and female adults in a household aged 20-65, number of dependent members aged 0, 1-5, 6-10, 11-15, and 16-19, dummy for rural location, municipality labor-force participation in 1991 and proportion of Albanians in 1991. LSMS sample weights are used in all the regressions. Data source: 1999 Kosovo DSHS and 2000 Kosovo LSMS.

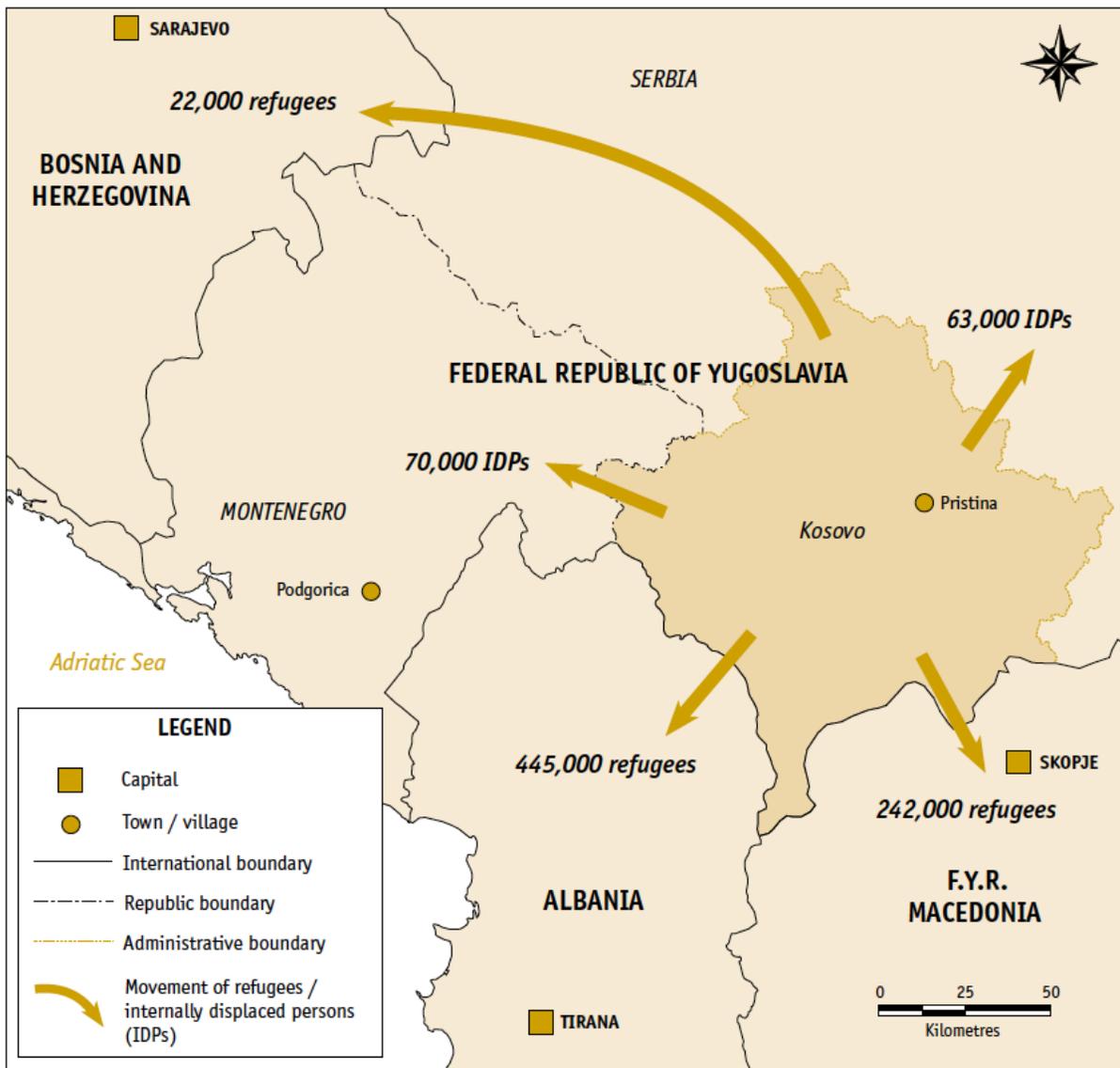
Table 14: Channels of Conflict Displacement on Education Outcomes - (IV estimation) - Kosovo (1999)

Second-stage	All		Primary Level		Secondary Level		
	[6-19] y.o.	(1)	[6-14] y.o.	(2)	[15-19] y.o.	(3)	
			<i>Dependent variable: Enrollment</i>				
		(1)	(2)	(3)	(4)	(5)	(6)
1999 Kosovo DSHS							
Sample: FEMALE							
Displaced * Out of Kosovo	0.198 (0.080)** [0.049]***		0.129 (0.050)** [0.040]***		0.135 (0.163) [0.111]		
Displaced * Refugee Camp		0.337 (0.149)** [0.093]***		0.222 (0.106)** [0.095]**		0.223 (0.264) [0.159]	
Mean Dep. Var.	0.749	0.749	0.864	0.864	0.556	0.556	
First-stage			<i>Dependent variable: Displaced * Out of Kosovo / Displaced * Refugee Camp</i>				
		(1)	(2)	(3)	(4)	(5)	(6)
WCR x Dist. Alb.	0.0007 (0.0002)*** [0.0002]**	0.0004 (0.0001)** [0.0001]**	0.0007 (0.0002)*** [0.0003]**	0.0004 (0.0001)** [0.0001]**	0.0007 (0.0003)** [0.00023]**	0.0004 (0.0001)** [0.0002]**	
Controls	Yes	Yes	Yes	Yes	Yes	Yes	
F-stat excl. Instrum.	8.30/6.72	6.70/5.00	8.97/7.36	6.25/4.87	6.39/4.84	6.75/4.75	
Number of clusters	55/27	55/27	55/27	55/27	55/27	55/27	
Partial R-squared	0.051	0.025	0.054	0.026	0.045	0.023	
Observations	5,919	5,919	3,709	3,709	2,210	2,210	

Notes: Standard errors clustered at the village of residence are in parentheses. Standard errors clustered at the municipality level are in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%. Controls include: conflict intensity (casualties/bomings), distance to the Albanian border, age, ethnicity (albanian), dummies for mothers and fathers educational attainment (medium and high), number of male and female adults in a household aged 20-65, number of children aged 0, 1-5, 6-10, 11-15, and 16-19, distance to school, dummy for rural location, municipality labor-force participation in 1991 and proportion of Albanians in 1991. LSMS sample weights are used in all the regressions. Data source: 1999 Kosovo DSHS

APPENDIX

Figure A-1: Displaced populations from Kosovo in neighbouring countries/territories, mid-June 1999



Source: UNHCR (2000)

Figure A-2: Total Cumulative refugee population in Montenegro, Albania, FYR Macedonia, Bosnia and Herzegovina and HEP, (March-October 1999)

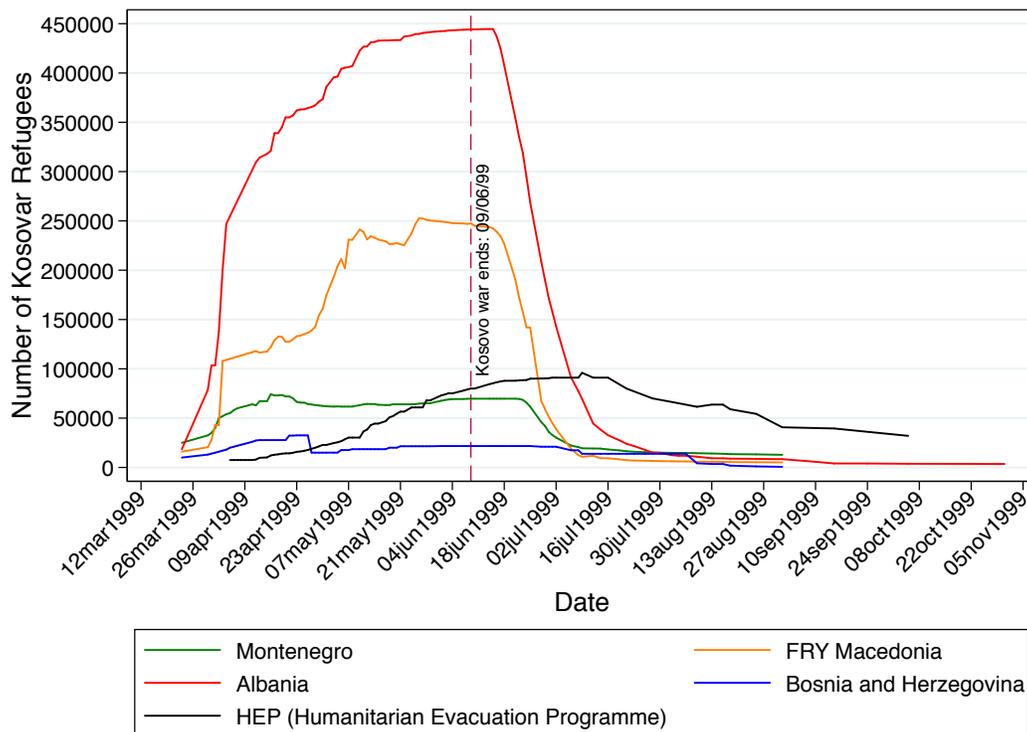
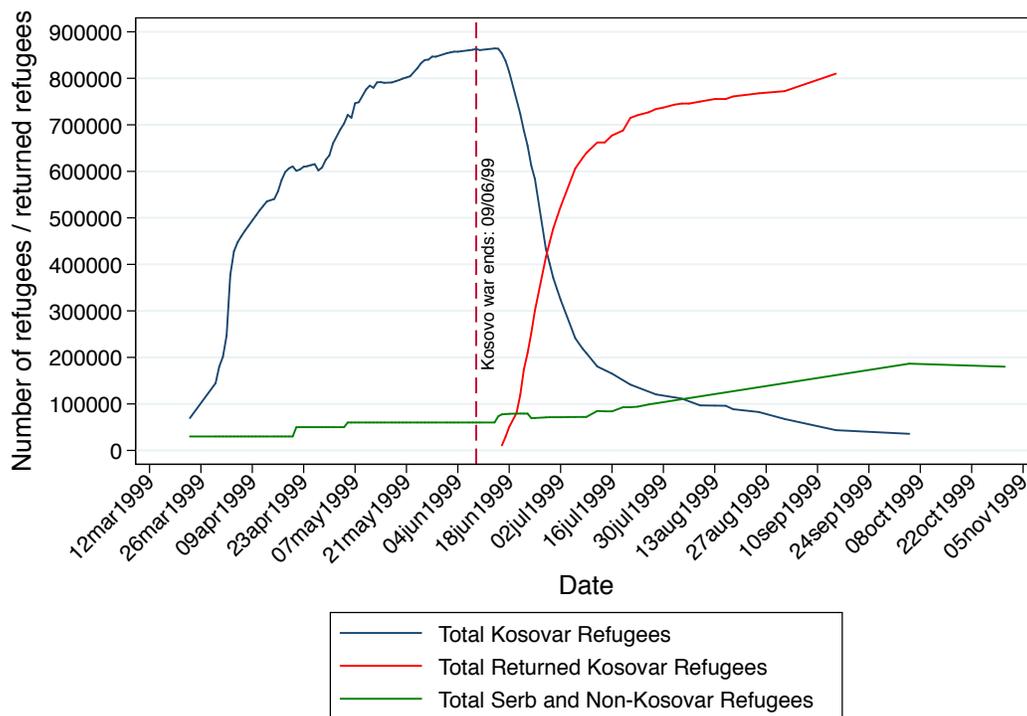
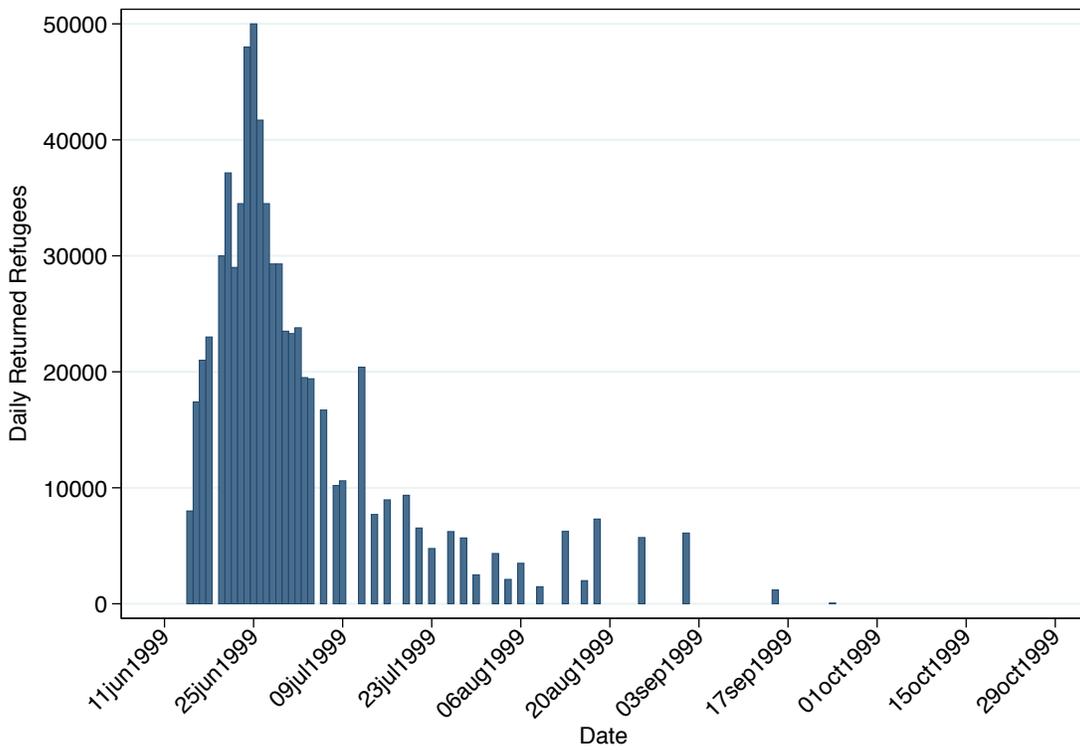


Figure A-3: Total Cumulative Albanian Kosovar Refugee, Returned Albanian Kosovar Refugee and Serbian Refugee Populations (March-October 1999)



Source: UNHCR

Figure A-4: Daily Returned Refugees (June-October 1999) - UNHCR Estimates



Source: Kosovo Emergency Update, UNHCR

Figure A-5: Month of First and Last Displacement - 1999 DSHS

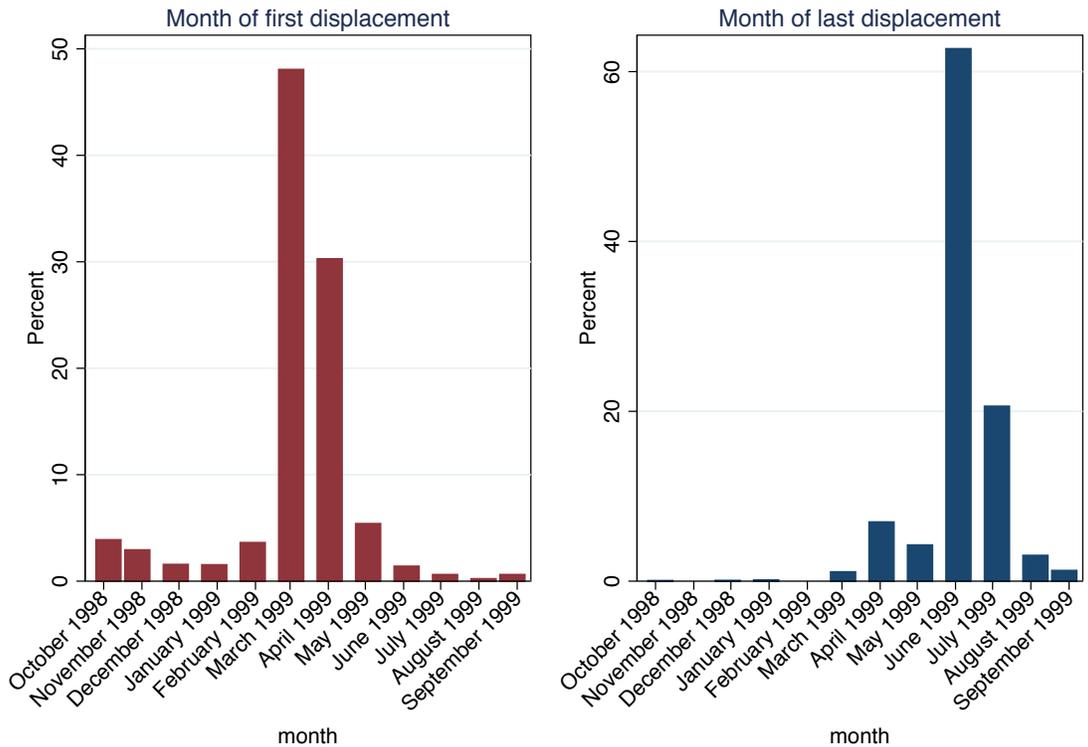


Figure A-6: Proportion of Displaced Individuals at the Municipality Level - 1999 Kosovo DSHS

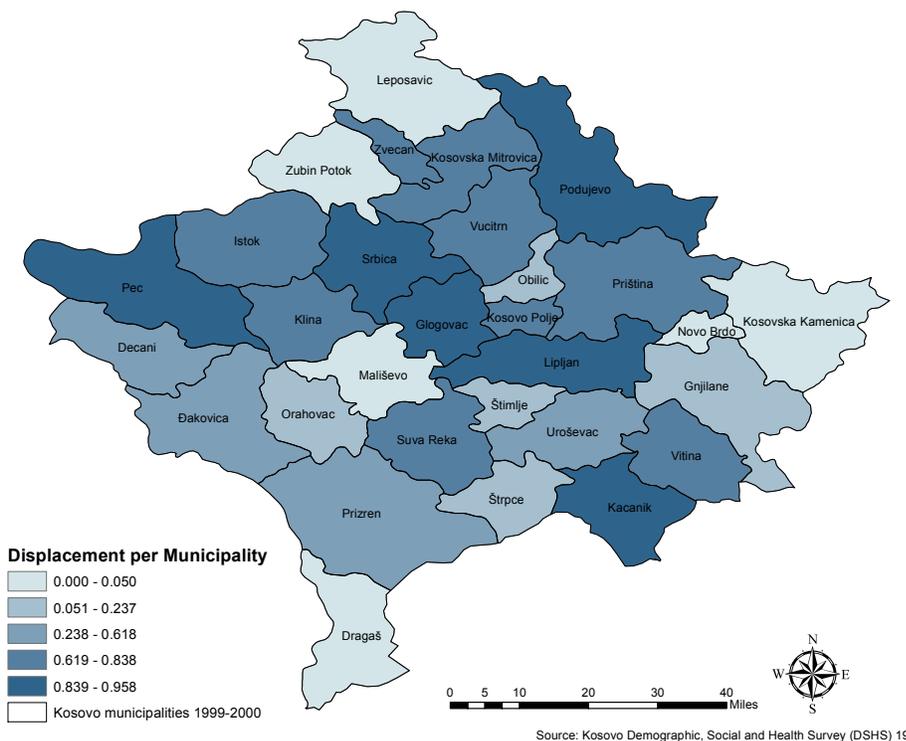
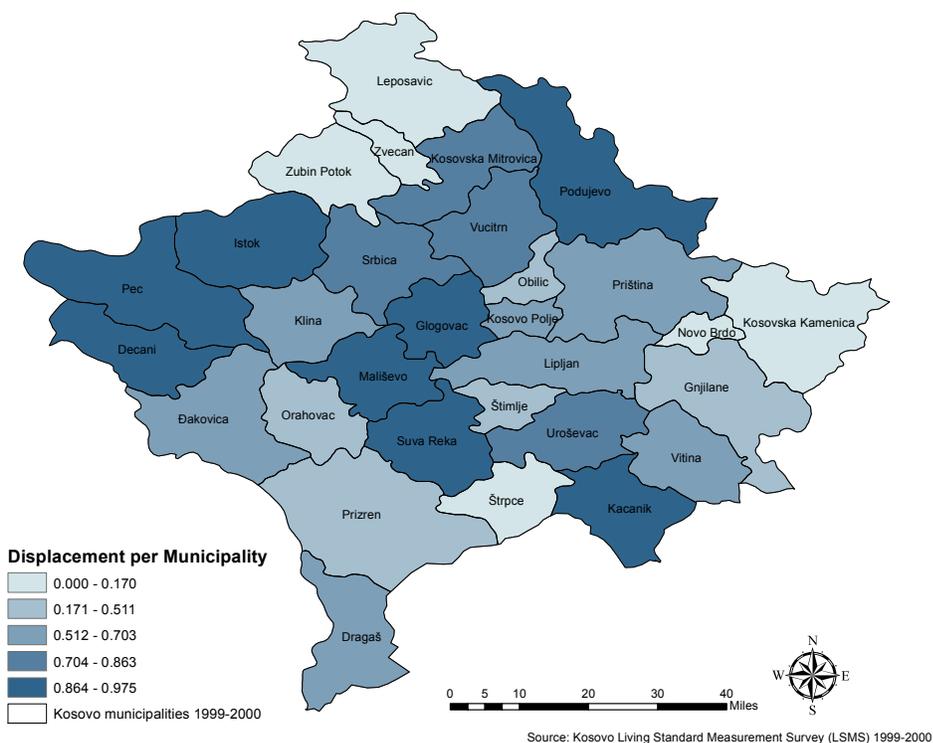


Figure A-7: Proportion of Displaced Individuals at the Municipality Level - 2000 Kosovo LSMS



Notes: Each local proportion of displaced individuals is computed as the average displaced population at the municipality level in each database. This proportion ranges from 0-95% in the 1999 DSHS and from 0-97% in the 2000 LSMS.

Figure A-8: Ethnic Majorities across Municipalities in 1991



Figure A-9: Labor Market Activity Status by Gender and Age Group - 1999 DSHS and 2000 LSMS

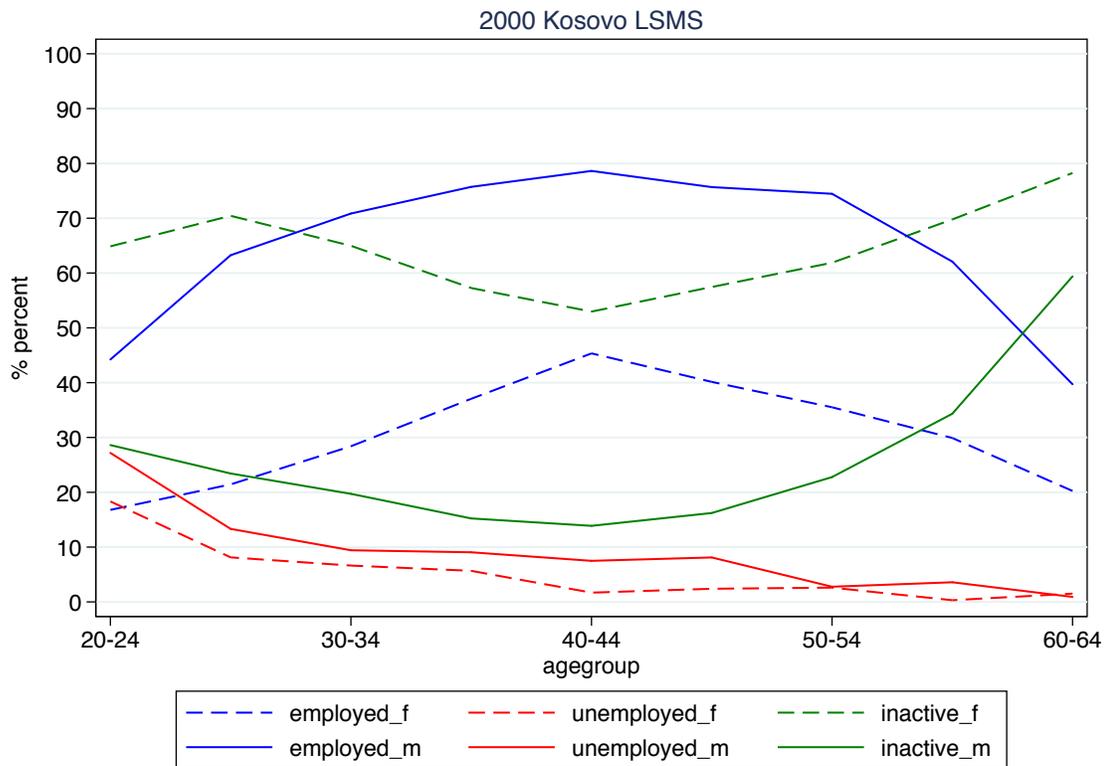
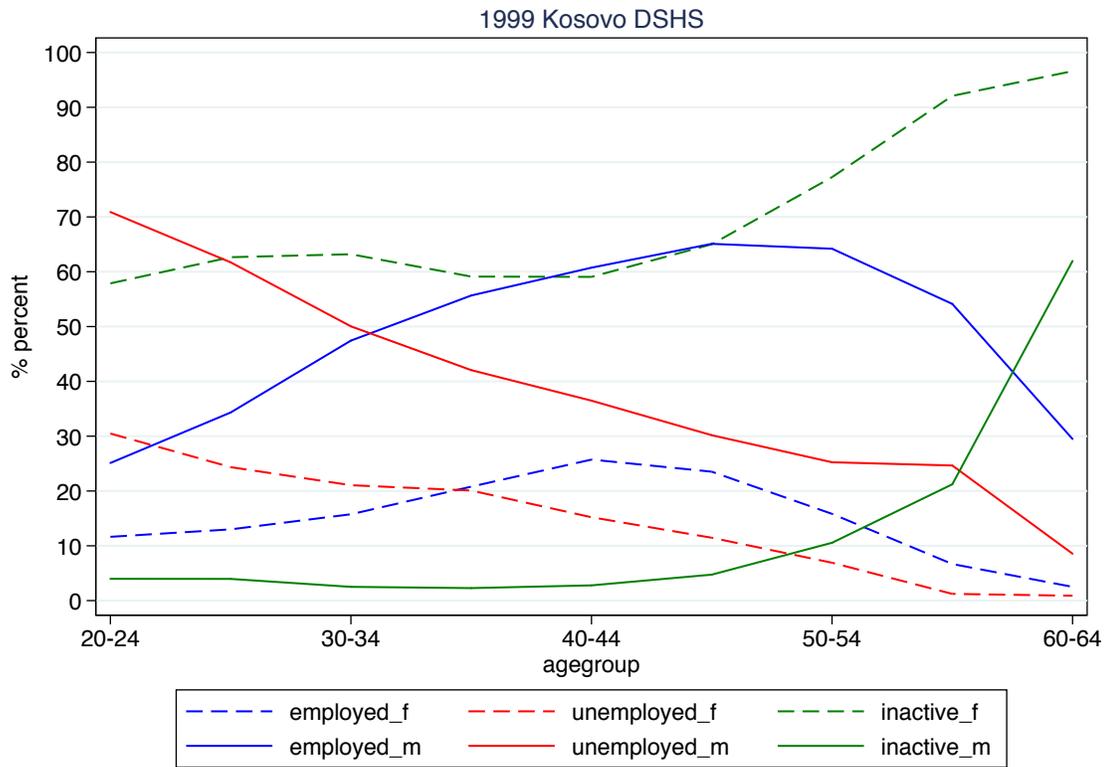


Figure A-10: Enrollment Rates by Gender and Age - 1999 DSHS and 2000 LSMS

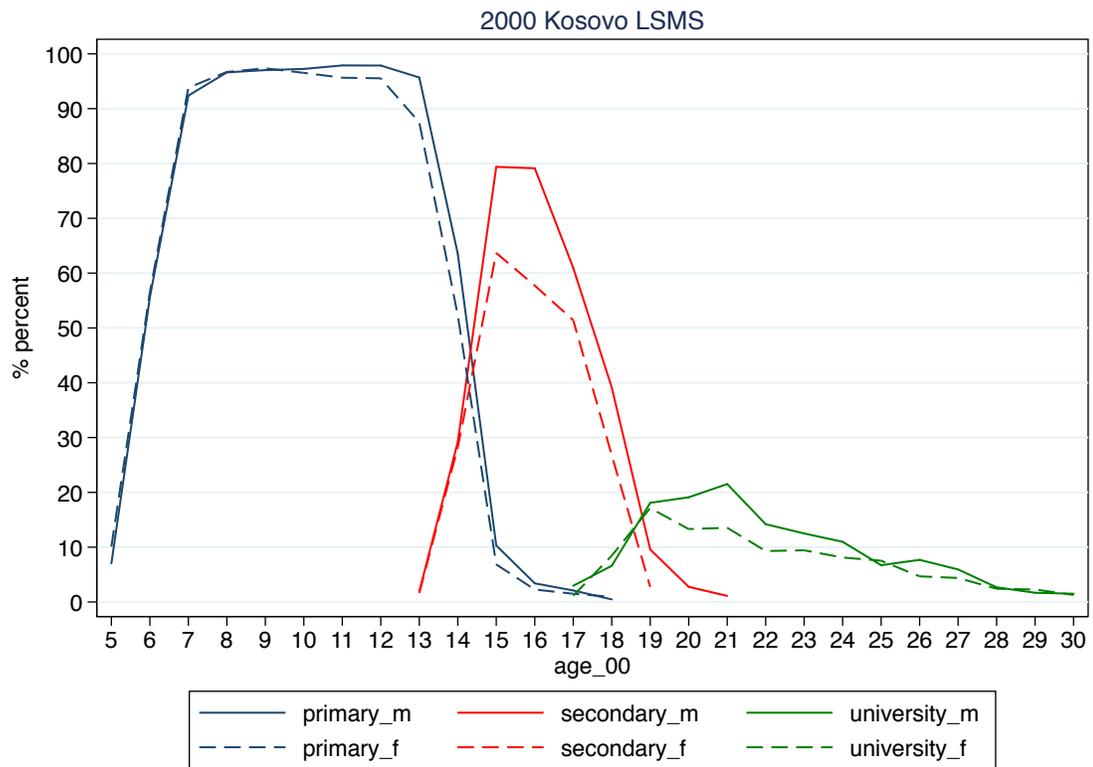
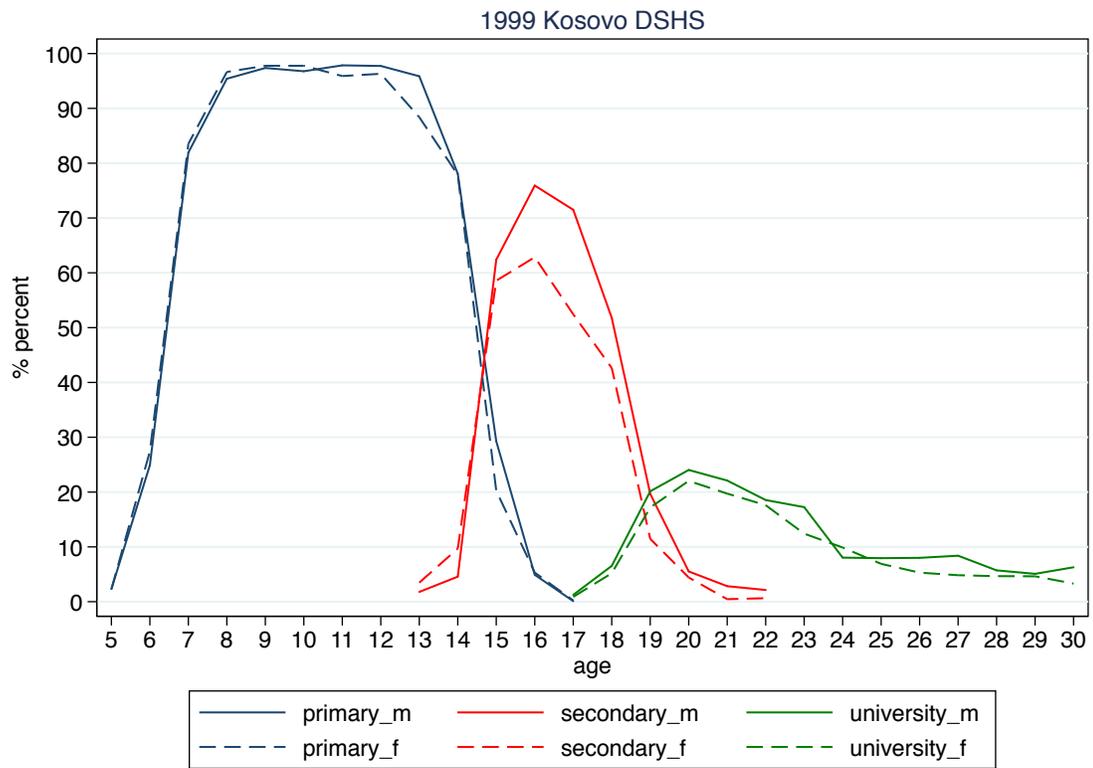
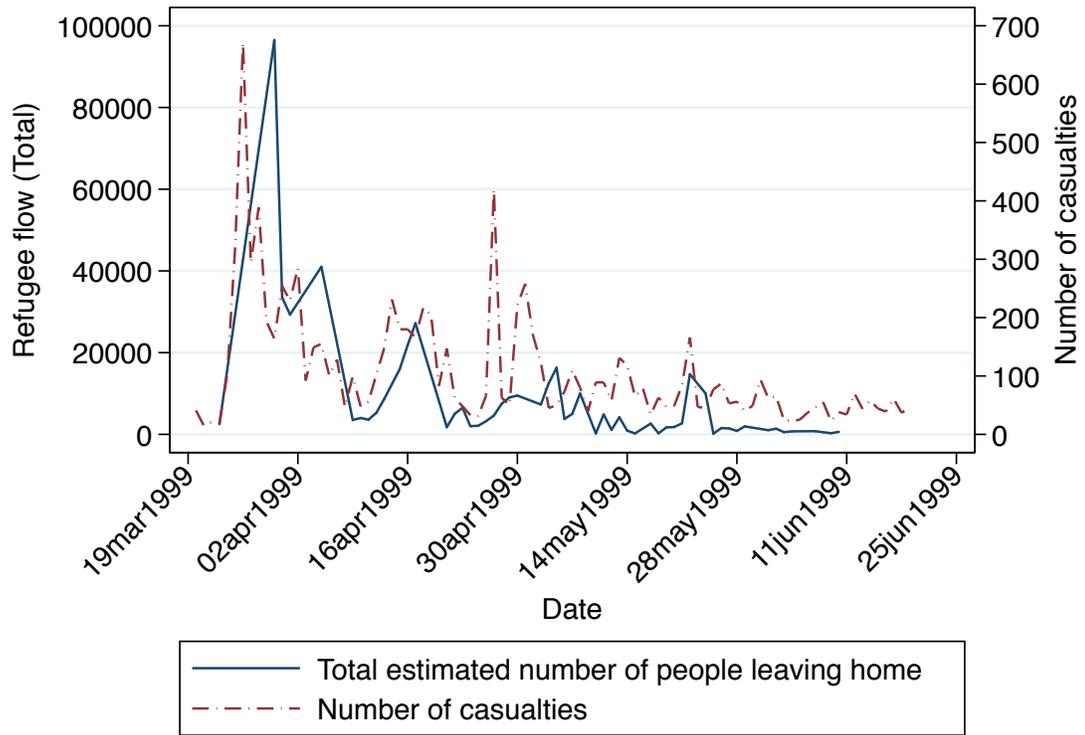
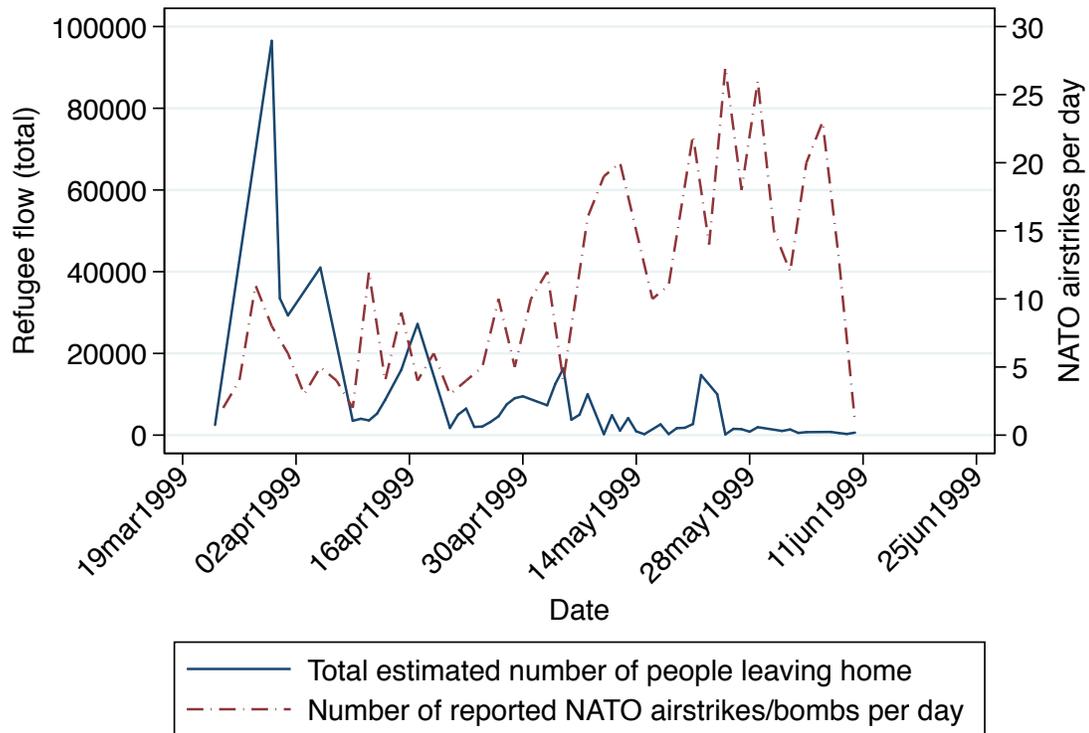


Figure A-11: Estimated Daily Refugee Displacement and Casualties (March - June 1999)



Source: 1998-2000 KMB and UNHCR

Figure A-12: Estimated Daily Refugee Displacement and NATO Bombings (March - June 1999)



Source: HRDAG and UNHCR

Table A-1: Compliers - Instrument (WCR x Distance to the Albanian Border) -

Variables	<i>Dependent variable: Displaced</i>						
	Baseline (1)	Less LFP in 1991 (2)	More (3)	Less Agricultural in 1991 (4)	More (5)	Less Albanians in 1991 (6)	More (7)
WCR x Dist. Alb	0.0007 (0.0002)*** [0.0003]**	-0.0000 (0.0002) [0.0001]	0.0018 (0.0002)*** [0.0004]***	0.0000 (0.0002) [0.0002]	0.0016 (0.0002)*** [0.0004]***	0.0011 (0.0002)*** [0.0003]***	0.0007 (0.0002)*** [0.0004]*
WCR	-0.0500 (0.0138)*** [0.0201]**	-0.0026 (0.0153) [0.0128]	-0.1150 (0.0154)*** [0.0263]***	-0.0032 (0.0168) [0.0141]	-0.1137 (0.0178)*** [0.0299]***	-0.0720 (0.0120)*** [0.0143]***	-0.0551 (0.0177)*** [0.0299]*
Dist. Alb	-0.0032 (0.0015)** [0.0022]	0.0026 (0.0016) [0.0013]*	-0.0064 (0.0014)*** [0.0023]**	0.0021 (0.0016)*** [0.0013]	-0.0077 (0.0014)*** [0.0025]***	-0.0026 (0.0011)** [0.0010]**	-0.0054 (0.0017)*** [0.0033]
Observations	8,956	4,572	4,384	4,605	4,351	4,746	4,158
R-squared	0.2573	0.2684	0.3446	0.2591	0.3359	0.3749	0.0879
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Standard errors clustered at the village of residence are in parentheses. Standard errors clustered at the municipality level are in brackets. * significant at 10%; ** significant at 5%; *** significant at 1% Controls include age, dummies for parental educational attainment (low and medium), number of male and female adults in a household aged 20-65, number of dependent members aged 0, 1-5, 6-10, 11-15, and 16-19 and dummy for rural location. Column 1 examines the full sample (pooled male and female). Municipalities that had a lower labor force participation in 1991 than the median municipality are examined in column 2, whereas municipalities that had a higher labor force participation in 1991 as compared to the median are examined in column 3. Municipalities that had a lower percentage of their population working in agriculture in 1991 than the median municipality are examined in column 4, whereas municipalities that had a higher percentage of their population working in agriculture as compared to the median municipality are examined in column 5. Municipalities in which a lower percentage of the population spoke Albanian in 1991 than in the median municipality are examined in column 6, whereas municipalities in which a higher than average percentage of the population spoke Albanian are examined in column 7. Data source: 2000 Kosovo LSMS.

Table A-2: Complifiers - Instrument (Bombings x Distance to the Albanian Border) -

Variables	<i>Dependent variable: Displaced</i>						
	Baseline (1)	Less LFP in 1991 (2)	More LFP in 1991 (3)	Less Agricultural in 1991 (4)	More Agricultural in 1991 (5)	Less Albanians in 1991 (6)	More Albanians in 1991 (7)
Bombings x Dist. Alb	0.0005 (0.0001)*** [0.0002]**	0.0003 (0.0002)** [0.0001]**	0.0006 (0.0002)** [0.0003]*	0.0001 (0.0002) [0.0001]	0.0009 (0.0003)** [0.0003]**	0.0005 (0.0001)*** [0.0001]***	0.0004 (0.0002)** [0.0003]
Bombings	-0.0578 (0.0145)*** [0.0220]**	-0.0284 (0.0176) [0.0093]***	-0.0726 (0.0240)*** [0.0302]**	-0.0046 (0.0195) [0.0161]	-0.0781 (0.0241)*** [0.0272]***	-0.0573 (0.0132)*** [0.0142]***	-0.0451 (0.0205)** [0.0326]
Dist. Alb	-0.0025 (0.0011)** [0.0021]	0.0005 (0.0010) [0.0009]	-0.0021 (0.0019) [0.0030]	0.0017 (0.0010)* [0.0010]	-0.0065 (0.0016)*** [0.0022]***	-0.0013 (0.0011) [0.0011]	-0.0028 (0.0014)** [0.0028]
Observations	8,956	4,572	4,384	4,605	4,351	4,746	4,158
R-squared	0.2516	0.2743	0.2864	0.2634	0.3192	0.3573	0.0629
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Standard errors clustered at the village of residence are in parentheses. Standard errors clustered at the municipality level are in brackets. * significant at 10%; ** significant at 5%; *** significant at 1% Controls include age, dummies for parental educational attainment (low and medium), number of male and female adults in a household aged 20-65, number of dependent members aged 0, 1-5, 6-10, 11-15, and 16-19 and dummy for rural location. Column 1 examines the full sample (pooled male and female). Municipalities that had a lower labor force participation in 1991 than the median municipality are examined in column 2, whereas municipalities that had a higher labor force participation in 1991 as compared to the median are examined in column 3. Municipalities that had a lower percentage of their population working in agriculture in 1991 than the median municipality are examined in column 4, whereas municipalities that had a higher percentage of their population working in agriculture as compared to the median municipality are examined in column 5. Municipalities in which a lower percentage of the population spoke Albanian in 1991 than in the median municipality are examined in column 6, whereas municipalities in which a higher than average percentage of the population spoke Albanian are examined in column 7. Data source: 2000 Kosovo LSMS.

Table A-3: The Effect of Conflict Displacement on Children's Enrollment - (Wild Bootstrap Inference)

Children [6-19] Years Old	1999 Kosovo DSHS				2000 Kosovo LSMS				
	OLS	IV	OLS	IV	OLS	IV	OLS	IV	
	Obs.	Mean	(1)	(2)	Obs.	Mean	(3)	(4)	(5)
			(<i>WCR*</i> <i>Dist. Alb</i>)				(<i>WCR*</i> <i>Dist. Alb</i>)		(<i>Bombs*</i> <i>Dist. Alb</i>)
Sample: FEMALE									
Enrolled in school (6-19 years old)	5,919	0.749	0.014	0.188**	2,616	0.820	0.008	0.038	-0.004
<i>quasi-F</i>			(0.392)	(13.747)			(0.095)	(0.070)	(0.349)
<i>P-val</i>			0.785	0.0250			0.771	0.839	0.592
Enrolled in school (6-14 years old)	3,709	0.864	0.023	0.129**	1,650	0.920	0.029	-0.101	0.019
<i>quasi-F</i>			(1.462)	(13.231)			(1.805)	(0.946)	(2.407)
<i>P-val</i>			0.365	0.035			0.182	0.371	0.193
Enrolled in school (15-19 years old)	2,210	0.556	-0.008	0.118	966	0.635	-0.031	0.297	0.076
<i>quasi-F</i>			(0.065)	(1.296)			(0.693)	(1.247)	(2.165)
<i>P-val</i>			0.852	0.480			0.440	0.417	0.126
Sample: MALE									
Enrolled in school (6-19 years old)	6,385	0.804	0.006	0.028	2,716	0.820	0.008	0.039	0.076
<i>quasi-F</i>			(0.424)	(0.494)			(0.270)	(0.349)	(0.546)
<i>P-val</i>			0.527	0.556			0.612	0.592	0.511
Enrolled in school (6-14 years old)	4,121	0.869	-0.004	0.001	1,762	0.920	0.011	-0.086	-0.060
<i>quasi-F</i>			(0.099)	(0.001)			(0.248)	(2.407)	(0.722)
<i>P-val</i>			0.824	0.977			0.636	0.193	0.349
Enrolled in school (15-19 years old)	2,264	0.687	0.006	0.168	954	0.635	0.004	0.183	0.359
<i>quasi-F</i>			(0.048)	(3.915)			(0.013)	(2.165)	(2.487)
<i>P-val</i>			0.872	0.251			0.911	0.126	0.150
Controls									
			Yes	Yes			Yes	Yes	Yes

Notes: Standard errors are clustered at the municipality level. The *Quasi-F* statistic shown in parenthesis is the test statistic computed using wild bootstrap with clustered standard errors. *P-val* indicates the wild bootstrap *P*-value from Cameron and Miller (2015). Wild bootstrap *P*-values are obtained with the post-estimation command *boottest* by Roodman (2015), using Rademacher weights, assuming the null hypothesis and setting replications to 1000. *** *P*-val <0.01, ** *P*-val <0.05, * *P*-val <0.1. Controls include: conflict intensity (casualties/bomings), distance to the Albanian border, age, ethnicity (albanian), dummies for marital status, dummies for parental educational attainment (low and medium), number of male and female adults in a household aged 20-65, number of dependent members aged 0, 1-5, 6-10, 11-15, and 16-19, dummy for rural location, municipality labor-force participation in 1991 and proportion of Albanians in 1991. LSMS sample weights are used in all the regressions. Data source: 1999 Kosovo DSHS and 2000 Kosovo LSMS.

Table A-4: The Effect of Conflict Displacement on Women's Labor Market Outcomes - Kosovo
(Wild Bootstrap Inference)

Female [20-65]	1999 Kosovo DSHS				2000 Kosovo LSMS				
	Obs.	Mean	OLS (1)	IV (WCR* Dist.Alb) (2)	Obs.	Mean	OLS (3)	IV (WCR* Dist.Alb) (4)	IV (Bombs* Dist.Alb) (5)
Employed	10,751	0.150	-0.018*	-0.056	4,639	0.290	-0.015	0.192	0.023
<i>quasi-F</i>			(3.619)	(0.344)			(0.264)	(1.437)	(0.057)
<i>P-val</i>			0.077	0.741			0.608	0.156	0.832
Work off-farm	—	—	—	—	4,639	0.078	-0.009	-0.029	0.075*
<i>quasi-F</i>							(0.325)	(0.426)	(2,954)
<i>P-val</i>							0.771	0.487	0.101
Work on-farm	—	—	—	—	4,639	0.189	-0.010	0.298	-0.041
<i>quasi-F</i>							(0.124)	(2.160)	(0.149)
<i>P-val</i>							0.740	0.198	0.758
Work for someone	10,751	0.135	-0.014	-0.083	—	—	—	—	—
<i>quasi-F</i>			(2.461)	(0.758)					
<i>P-val</i>			0.146	0.563					
Work for family	10,751	0.010	-0.005	0.028	—	—	—	—	—
<i>quasi-F</i>			(1.897)	(0.891)					
<i>P-val</i>			0.205	0.452					
Self-Employed	10,751	0.005	0.001	-0.0004	4,639	0.019	0.001	-0.058	0.003
<i>quasi-F</i>			(0.174)	(0.000)			(0.074)	(2.382)	(0.015)
<i>P-val</i>			0.686	0.995			0.791	0.173	0.907
Unemployed	10,751	0.173	-0.014	-0.184	4,639	0.070	-0.001	-0.018	-0.040
<i>quasi-F</i>			(0.359)	(2.753)			(0.003)	(0.117)	(0.417)
<i>P-val</i>			0.564	0.211			0.949	0.732	0.550
Inactive	10,751	0.676	0.033	0.239**	4,639	0.638	0.016	0.174	0.017
<i>quasi-F</i>			(1.699)	(5.327)			(0.334)	(1.328)	(0.024)
<i>P-val</i>			0.243	0.043			0.586	0.167	0.902
Hours worked (0)	—	—	—	—	4,639	9.57	-0.596	7.666	10.378
<i>quasi-F</i>							(0.240)	(0.775)	(2.588)
<i>P-val</i>							0.639	0.409	0.090
Hours worked	—	—	—	—	1,303	34.08	-0.561	-7.459	12.139
<i>quasi-F</i>							(0.086)	(0.173)	(1.454)
<i>P-val</i>							0.758	0.805	0.177
Controls			Yes	Yes			Yes	Yes	Yes

Notes: Standard errors are clustered at the municipality level. The *Quasi-F* statistic shown in parenthesis is the test statistic computed using wild bootstrap with clustered standard errors. *P-val* indicates the wild bootstrap P-value from Cameron and Miller (2015). Wild bootstrap P-values are obtained with the post-estimation command *boottest* by Roodman (2015), using Rademacher weights, assuming the null hypothesis and setting replications to 1000. *** P-val < 0.01, ** P-val < 0.05, * P-val < 0.1. Controls include conflict intensity (casualties/bomings), distance to the Albanian border, age, ethnicity (albanian), dummies for marital status, dummies for parental educational attainment (low and medium), number of male and female adults in a household aged 20-65, number of dependent members aged 0, 1-5, 6-10, 11-15, and 16-19, dummy for rural location, municipality labor-force participation in 1991 and proportion of Albanians in 1991. LSMS sample weights are used in all the regressions. Data source: 1999 Kosovo DSHS and 2000 Kosovo LSMS.

Table A-5: The Effect of Conflict Displacement on Men's Labor Market Outcomes - Kosovo (Wild Bootstrap Inference)

Male [20-65]	1999 Kosovo DSHS				2000 Kosovo LSMS				
	Obs.	Mean	OLS (1)	IV (WCR* Dist.Alb) (2)	Obs.	Mean	OLS (3)	IV (WCR* Dist.Alb) (4)	IV (Bombs* Dist.Alb) (5)
Employed	9,454	0.474	-0.016	-0.272	4,317	0.642	-0.017	-0.104	-0.121
<i>quasi-F</i>			(0.214)	(2.345)			(0.717)	(0.750)	(0.719)
<i>P-val</i>			0.672	0.223			0.437	0.529	0.419
Work off-farm	—	—	—	—	4,317	0.284	-0.032	0.064	0.234*
<i>quasi-F</i>							(1,773)	(0.396)	(4.429)
<i>P-val</i>							0.238	0.599	0.090
Work on-farm	—	—	—	—	4,317	0.248	-0.027	-0.140*	-0.090
<i>quasi-F</i>							(1.620)	(2.685)	(0.274)
<i>P-val</i>							0.223	0.096	0.635
Work for someone	9,454	0.365	0.028	-0.003	—	—	—	—	—
<i>quasi-F</i>			(1.023)	(0.000)					
<i>P-val</i>			0.373	0.990					
Work for family	9,454	0.025	-0.016	-0.095	—	—	—	—	—
<i>quasi-F</i>			(1.303)	(2.152)					
<i>P-val</i>			0.424	0.364					
Self-Employed	9,454	0.084	-0.028	-0.174**	4,317	0.146	0.017	0.030	-0.060
<i>quasi-F</i>			(2.317)	(7.550)			(0.960)	(0.121)	(0.145)
<i>P-val</i>			0.201	0.067			0.365	0.750	0.771
Unemployed	9,454	0.422	-0.008	0.201	4,317	0.113	0.013	0.086	-0.106
<i>quasi-F</i>			(0.066)	(1.064)			(0.700)	(1.516)	(0.724)
<i>P-val</i>			0.796	0.447			0.443	0.367	0.429
Inactive	9,454	0.103	0.024	0.071	4,317	0.244	0.004	0.018	0.227
<i>quasi-F</i>			(5.922)	(2.119)			(0.059)	(0.038)	(2.328)
<i>P-val</i>			0.021	0.242			0.807	0.872	(0.143)
Hours worked (0)	—	—	—	—	4,317	27.74	-1.104	-9.328	-8.496
<i>quasi-F</i>							(0.962)	(0.054)	(0.918)
<i>P-val</i>							0.377	0.832	0.413
Hours worked	—	—	—	—	2,706	44.26	-0.175	3.336	-8.778
<i>quasi-F</i>							(0.025)	(0.538)	(0.591)
<i>P-val</i>							0.868	0.512	0.410
Controls			Yes	Yes			Yes	Yes	Yes

Notes: Standard errors are clustered at the municipality level. The *Quasi-F* statistic shown in parenthesis is the test statistic computed using wild bootstrap with clustered standard errors. *P-val* indicates the wild bootstrap P-value from Cameron and Miller (2015). Wild bootstrap P-values are obtained with the post-estimation command *boottest* by Roodman (2015), using Rademacher weights, assuming the null hypothesis and setting replications to 1000. *** P-val <0.01, ** P-val <0.05, * P-val <0.1. Controls include conflict intensity (casualties/bomings), distance to the Albanian border, age, ethnicity (albanian), dummies for marital status, dummies for parental educational attainment (low and medium), number of male and female adults in a household aged 20-65, number of dependent members aged 0, 1-5, 6-10, 11-15, and 16-19, dummy for rural location, municipality labor-force participation in 1991 and proportion of Albanians in 1991. LSMS sample weights are used in all the regressions. Data source: 1999 Kosovo DSHS and 2000 Kosovo LSMS.

Table A-6: The Effect of Displacement on Labor Market Outcomes by Occupation Type

Men [20-65] Years Old	1999 Kosovo DSHS			2000 Kosovo LSMS			
	Obs.	Mean	IV (WCR* Dist. Alb) (1)	Obs.	Mean	IV (WCR* Dist. Alb) (2)	IV (Bombs* Dist. Alb) (3)
Agricultural/Livestock	9,455	0.064	-0.450 (0.150)*** [0.121]***	4,317	0.208	-0.133 (0.111) [0.087]	-0.227 (0.132)** [0.162]
Industry and Mining	9,455	0.076	-0.105 (0.092) [0.122]	4,317	0.009	0.004 (0.019) [0.017]	0.025 (0.024) [0.018]
Construction	9,455	0.050	0.042 (0.060) [0.072]	4,317	0.093	0.063 (0.053) [0.051]	0.081 (0.084) [0.064]
Artisanry	9,455	0.041	0.092 (0.053)* [0.049]	4,317	0.012	0.012 (0.017) [0.012]	0.014 (0.022) [0.016]
Electricity and Water Supply	9,455	0.033	0.008 (0.017) [0.021]	4,317	0.025	0.005 (0.020) [0.023]	0.013 (0.032) [0.033]
Education	9,455	0.053	0.010 (0.028) [0.026]	4,317	0.044	-0.109 (0.041)*** [0.055]**	-0.025 (0.043) [0.041]
Public Administration	9,455	0.060	-0.001 (0.038) [0.037]	4,317	0.057	-0.007 (0.044) [0.059]	0.086 (0.071) [0.053]*
Trade	9,455	0.077	0.061 (0.047) [0.041]	4,317	0.072	0.002 (0.034) [0.031]	-0.023 (0.058) [0.043]
Transport	—	—	—	4,317	0.036	-0.003 (0.030) [0.023]	-0.003 (0.043) [0.033]
Finance and Banking	9,455	0.010	-0.012 (0.009) [0.009]	4,317	0.010	0.014 (0.012) [0.011]	-0.001 (0.016) [0.017]
Health	9,455	0.024	0.036 (0.026) [0.024]	4,317	0.011	0.015 (0.015) [0.018]	-0.004 (0.018) [0.020]
Housekeeping	—	—	—	4,317	0.001	0.0001 (0.002) [0.002]	0.004 (0.007) [0.004]
Turism	9,455	0.011	0.005 (0.008) [0.008]	—	—	—	—
Controls			Yes			Yes	Yes

Notes: Standard errors clustered at the village of residence are in parentheses. Standard errors clustered at the municipality level are in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%. Controls include conflict intensity (casualties/bomings), distance to the Albanian border, age, ethnicity (albanian), dummies for marital status, dummies for parental educational attainment (low and medium), number of male and female adults in a household aged 20-65, number of dependent members aged 0, 1-5, 6-10, 11-15, and 16-19, dummy for rural location, municipality labor-force participation in 1991 and proportion of Albanians in 1991. LSMS sample weights are used in all the regressions. Data source: 1999 Kosovo DSHS and 2000 Kosovo LSMS.

Table A-7: The Effect of Displacement on Labor Market Outcomes by Occupation Type (Only Work off-farm)

Men [20-65] Years Old	2000 Kosovo LSMS			
	Obs.	Mean	(WCR* Dist. Alb) (1)	(Bombs* Dist. Alb) (2)
Agricultural/Livestock	4,317	0.008	0.004 (0.017) (0.017)	0.004 (0.015) (0.015)
Industry and Mining	4,317	0.006	-0.017 (0.016) (0.017)	0.014 (0.015) (0.015)
Construction	4,317	0.068	-0.004 (0.015) (0.017)	0.111* (0.064) (0.015)
Artisanry	4,317	0.006	0.060 (0.040) (0.017)	-0.009 (0.018) (0.015)
Electricity and Water Supply	4,317	0.016	-0.004 (0.015) (0.017)	0.015 (0.025) (0.015)
Education	4,317	0.043	-0.078* (0.042) (0.017)	-0.013 (0.036) (0.015)
Public Administration	4,317	0.037	0.046 (0.035) (0.017)	0.084* (0.045) (0.015)
Trade	4,317	0.025	0.023 (0.024) (0.017)	0.029 (0.023) (0.015)
Transport	4,317	0.022	-0.039 (0.024) (0.017)	-0.021 (0.025) (0.015)
Finance and Banking	4,317	0.009	0.026 (0.016) (0.017)	0.009 (0.016) (0.015)
Health	4,317	0.010	0.016 (0.012) (0.017)	-0.005 (0.015) (0.015)
Housekeeping	4,317	0.0009	0.001 (0.001) (0.017)	0.009 (0.006) (0.015)
Controls			Yes	Yes

Notes: Standard errors clustered at the village of residence are in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. Controls include conflict intensity (casualties/bomings), distance to the Albanian border, dummies for marital status, ethnicity (albanian), dummies for educational attainment (medium and high), number of male and female adults in a household aged 20–65, number of dependent members aged 0, 1-5, 6-10, 11-15, and 16-18, individual age-group dummies (four years by four years from 23 to 62, and one for 63 to 65), rural location and dummy for land ownership. LSMS sample weights are used in all the regressions. Data source: 2000 Kosovo LSMS.

A Alternative Identification Strategy

A-1 Identification: Difference-in-Difference (DID) Strategy

Additionally, I also use a difference-in-difference (DID) empirical strategy. This strategy exploits two sources of variation in order to isolate the effect of forced displacement on schooling completion: the spatial variation in municipality displacement and the birth cohorts of children - which determines whether they were in primary or secondary school during the forced displacement from Kosovo. Using the cross-sectional data of the 1999 Kosovo DSHS and 2000 Kosovo LSMS, I compare primary and secondary schooling completion outcomes across birth cohorts.

This identification strategy uses the characteristics of the education system of Kosovo till the year 2000 which regulated 8 years of mandatory or primary level schooling between the ages 6-14, and 4 years of secondary schooling between the ages 15-18 (SOK, 2001).²⁸ Therefore, for each education level, I define as pre-displacement or unaffected cohorts those that completed primary/secondary schooling before the conflict displacement, that is, before September 1998. While, displacement or affected cohorts are those that should have completed the last year of primary/secondary schooling during or after the conflict displacement, that is, after June 1999.

Table A-8 presents the composition of the samples used to identify cohort effects on schooling completion outcomes. The samples are restricted to observations of boys and girls, whose cohort characteristics of schooling completion are observed before or after the 1999 Kosovo displacement. Sample A concentrates on primary schooling completion. The unaffected cohort contains children born between 1979-1983, which ensures that the child is at least 15 years old before the start of the conflict displacement and has already finished primary school. In contrast, the affected cohort contains children born between 1984-1986, which ensures that the child is younger than 15 years old in 1999. This means that her primary schooling was interrupted by the conflict displacement. Similarly, Sample B presents the unaffected and affected cohorts for the secondary school completion. Children born between 1975-1979 belong to the pre-displacement cohorts, as they finished secondary school in peacetime. While, all children born between 1980-1982 have experienced conflict displacement during their schooling.

Here, the identification of conflict displacement relies on the assumption that differences in schooling completion between affected and unaffected cohorts would have been equal across municipalities in the absence of forced displacement. For the DID estimation, the regression

²⁸From 2002 school year, compulsory education in Kosovo was extended to 9 years and divided into 5 years of primary education and 4 years of lower secondary education.

model is specified as follows:²⁹

$$Schooling_{ijkt} = \alpha(MDisp_j * A_t) + \lambda X'_{ijkt} + \gamma_j + \delta_k + c_t + \epsilon_{ijkt} \quad (A-1)$$

where $Schooling_{ijkt}$: is the schooling outcome variable for child i of birth cohort t residing in municipality j before displacement (and in k after displacement), $MDisp_j$ is proportion of the population that was displaced in municipality j , A_t is a dummy indicating whether child born in cohort t was affected by the 1999 displacement, X'_{ijkt} is set of control variables (ethnicity, parental schooling completion, household demographics and rural dummy), γ_j are pre-displacement municipality fixed-effects; δ_k are post-displacement municipality fixed-effects; c_t are birth cohort fixed-effects and ϵ_{ijkt} is the error term. The two sets of municipality fixed effects capture municipal heterogeneity in schooling conditions. The parameter of interest which estimates the effect of conflict displacement on schooling outcomes is thus α . Standard errors are clustered at the village and municipality level.

A-2 Endogeneity in Municipality Displacement

Even though the municipality fixed effects take care of endogeneity arising from unobserved pre- and post-war municipal conditions, the identification assumption could still be violated by self-selection due to unobserved individual heterogeneity such as ability, social networks, risk aversion etc.³⁰ In order to control for this, I use conflict intensity -as measured by casualties and bombings at the municipality level- interacted with distance to Albanian border as an instrument for municipality displacement. The identifying assumption underlying this alternative estimation strategy is that the change in schooling outcomes over cohorts are similar across municipalities that suffered different conflict intensities and were located near of far from the Albanian border, in the absence of forced displacement.

The first-stage specifications are thus described by the following equations:

$$(M\hat{D}isp_j * A_t) = \beta_1(WCR_j * D_v * A_t) + \beta_2(WCR_j * D_v) + \lambda_1 X'_{ijkt} + \gamma_j + \delta_k + c_t + \epsilon_{ijkt} \quad (A-2)$$

$$(M\hat{D}isp_j * A_t) = \beta_1(B_j * D_v * A_t) + \beta_2(B_j * D_v) + \lambda_1 X'_{ijkt} + \gamma_j + \delta_k + c_t + \epsilon_{ijkt} \quad (A-3)$$

²⁹Similar difference-in-difference regression models have been used earlier in the literature to assess the effect of armed conflict on child schooling (e.g. [Swee, 2015](#); [Chamarbagwala and Morán, 2011](#); [Shemyakina, 2011](#); [Leon, 2012](#); [Akresh and De Walque, 2008](#); [Akbulut-Yuksel, 2014](#); [Merrouche, 2011](#); [Valente, 2013](#); [Pivovarova and Swee, 2015](#)). All these models have been influenced by earlier applications of cross-sectional difference-in-difference models by Esther Duflo in different research settings (see [Duflo \(2001, 2003\)](#).)

³⁰This endogeneity issue can potentially be overcome by accounting for individual fixed-effect using panel data and assuming that the unobserved attribute is time-invariant. However, this is clearly infeasible since in this case the data are cross-sectional.

More precisely, I predict the interaction of municipality displacement and affected cohort ($MDisp_j * A_t$) with interactions of municipality conflict intensity -measured as casualties (WCR_j) and bombings (B_j)- with distance to the Albanian border (D_v) and affected cohort (A_t). On the one hand, conflict intensity and distance to the Albanian border are good predictors for displacement. On the other hand, the interaction of these variables ($WCR_j * D_v$) with affected cohort (A_t) should be uncorrelated with unobserved individual characteristics in the schooling equation.

Tables A-9 and A-10 show the regression coefficients of the first-stage estimation for the primary and secondary school children, respectively. In the same line as the findings with the IV strategy, these results indicate that further away from the Albanian border, an increase in conflict intensity leads to higher municipality displacement for the affected cohorts. Both specifications are statistically significant at conventional levels. In particular, the interaction between war casualty rate and distance to the Albanian border seems to be a stronger predictor for municipality displacement in both databases. In other words, affected children located further away from the Albanian border and in municipalities with more casualties are more likely to experience forced displacement.

Similarly, the second specification which uses the interaction between bombing intensity and distance to the Albanian border as instrument also shows that further way from the Albanian border, an increase in bombing intensity leads to higher municipality displacement. However, the F-statistic of the excluded instruments is below 10 in most of the cases, which makes this instrument less strong and subject to bias.

A-3 Displacement and Schooling Completion Outcomes

This Section presents the estimation results following the difference-in-difference strategy outlined previously. I estimate the impact of conflict displacement on schooling outcomes of Kosovar children after the 1999 Kosovo war. I first present the impact of conflict displacement on female schooling completion in Table A-11 and then, in Table A-12, I present the effect of conflict displacement on male schooling completion. The primary (secondary) level sample comprises children aged 13-20 (17-24) in 1999. The average primary schooling completion is quite equal across genders, for boys around 87% and for girls 85%. The average secondary schooling completion for boys drops to around 60-65%, while for girls the drop is much more pronounced being around 45-50%, suggesting clear inequality in secondary school attainment across genders.

For each schooling outcome, I run three sets of difference-in-difference regressions - first, OLS; second, IV using ($WCR * DistAlb$) as instrument and third, IV using ($Bombings * DistAlb$) as instrument-. Each cell in Tables A-11 and A-12 presents the coefficients of interest, the interaction of belonging to the affected cohort and living in a municipality with high displacement. Since statistical inference when using difference-in-difference models is vulnerable to serial correlation that possibly produces a downward bias, I apply standard errors clustered at the village

and municipality level.

By and large, I find no evidence of municipality displacement effects on neither primary nor secondary schooling completion for boys and girls in general. These results suggest that there are no significant patterns of cohort-specific displacement intensity effects. In particular, only the specification that uses (*Bombings*DistAlb*) as instrument shows a negative and statistically significant effect of displacement on children's secondary schooling completion in 1999. However, this result is subject to bias due to the weakness of this instrument in the first-stage.

Table A-8: Identification of Displacement Affected Cohorts and Unaffected Cohorts by Schooling Completion Outcomes

	Sample A		Sample B	
	<i>Primary Schooling Completion</i>		<i>Secondary Schooling Completion</i>	
	Pre-Displacement (Unaffected)	Displacement (Affected)	Pre-Displacement (Unaffected)	Displacement (Affected)
1999 Kosovo DSHS				
Birth cohort	1979 - 1983	[1984 - 1985]	[1975 - 1979]	[1980 - 1981]
Age	>15	[14 - 15]	>19	[18 - 19]
2000 Kosovo LSMS				
Birth cohort	[1979 - 1983]	[1984 - 1986]	[1975 - 1979]	[1980 - 1982]
Age	>16	[14 - 16]	>20	[18 - 20]

Table A-9: First-stage Results for Primary School Completion Outcome - (Difference-in-Difference Estimation)

Cohorts: [14-21] Years Old	1999 Kosovo DSHS			2000 Kosovo LSMS				
	Dependent variable: Affected cohort (aged 14-15 in 1999) * Municipality Displacement		Female		Male		Male	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
WCR * Dist.Alb.	-0.0002 (0.0001)** [0.0001]**		-0.0002 (0.0001)** [0.0001]**		-0.0002 (0.0001)** [0.0001]**		-0.0002 (0.0001)** [0.0001]**	
Affected cohort * WCR *	0.0005 (0.0001)** [0.0002]**		0.0005 (0.0001)** [0.0001]**		0.0004 (0.00005)** [0.0001]**		0.0004 (0.00006)** [0.0001]**	
Dist.Alb								
Bombings * Dist.Alb.		0.00001 (0.00003) [0.00002]		-0.00004 (0.00007) [0.00007]		-0.0001 (0.0001) [0.0000]		0.0001 (0.0001) [0.0001]
Affected cohort * Bombings *		0.0001 (0.00004)** [0.00004]**		0.0002 (0.0001)** [0.0001]**		0.0002 (0.0001)** [0.0001]**		0.0002 (0.0001)** [0.0001]**
* Dist.Alb.								
Observations	2,314	2,314	2,458	2,458	1,196	1,196	1,292	1,292
Number of clusters	55/27	55/27	55/27	55/27	190/29	190/29	198/29	198/29
F-stat Excluded Instruments	15.96/9.40	7.20/9.45	15.35/7.93	16.40/13.03	30.27/5.89	6.20/1.94	25.54/6.63	4.61/5.96
Partial R-squared	0.358	0.107	0.410	0.140	0.107	0.125	0.313	0.105
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Birth cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Pre-displacement municipality FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Post-displacement municipality FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Standard errors clustered at the village of residence are in parentheses. Standard errors clustered at the municipality level are in brackets.* significant at 10%; ** significant at 5%; *** significant at 1%. The samples in both surveys contain individuals aged 14 and above in 1999 for the primary schooling completion and individuals 18 and above in 1999 for the secondary schooling completion. Individual controls include ethnicity (=1 if Albanian), parental secondary schooling completion, number of siblings and dummy for rural residence. Data source: 1999 Kosovo DSHS and 2000 Kosovo LSMS.

Table A-10: First-stage Results for Secondary School Completion Outcome - (Difference-in-Difference Estimation)

Cohorts: [18-25] Years Old	1999 Kosovo DSHS				2000 Kosovo LSMS			
	Female		Male		Female		Male	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
WCR * Dist.Alb.	-0.0001 (0.00007)** [0.00006]**		-0.0001 (0.0001) [0.0001]		-0.0001 (0.00008)* [0.00008]*		-0.0001 (0.00008)*** [0.00007]***	
Affected cohort * WCR * * Dist.Alb.	0.0005 (0.0001)*** [0.0002]***		0.0005 (0.0001)*** [0.0001]***		0.0004 (0.0001)*** [0.0001]***		0.0005 (0.0001)*** [0.0001]***	
Bombings * Dist.Alb.		-0.0001 (0.0001) [0.0001]*		0.0001 (0.0001) [0.0001]		-0.0001 (0.0001) [0.0001]		-0.00003 (0.00008) [0.00006]
Affected cohort * Bombings * * Dist.Alb.		0.0002 (0.0001)*** [0.0001]***		0.0001 (0.0001)** [0.0001]**		0.0001 (0.00004)*** [0.0001]*		0.0002 (0.0001)*** [0.0001]*
Observations	1,687	1,687	1,919	1,919	799	799	1,113	1,113
Number of clusters	55/27	55/27	55/27	55/27	172/29	172/29	192/29	192/29
F-stat Excluded Instruments	12.68/12.68	4.50/4.19	12.33/41.29	2.94/2.80	31.67/6.61	6.37/2.76	30.80/6.80	6.00/1.83
Partial R-squared	0.392	0.120	0.410	0.091	0.358	0.082	0.426	0.124
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Birth cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Pre-displacement municipality FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Post-displacement municipality FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Standard errors clustered at the village of residence are in parentheses. Standard errors clustered at the municipality level are in brackets.* significant at 10%; ** significant at 5%; *** significant at 1%. The samples in both surveys contain individuals aged 14 and above in 1999 for the primary schooling completion and individuals 18 and above in 1999 for the secondary schooling completion. Individual controls include ethnicity (=1 if Albanian), parental secondary schooling completion, number of siblings and dummy for rural residence. Data source: 1999 Kosovo DSHS and 2000 Kosovo LSMS.

Table A-11: The Effect of Municipality Displacement on Female's Schooling Attainment - Kosovo (1999-2000)

Dependent Variable:	Completed Primary School			Completed Secondary School		
	DID	DID-IV (<i>WCR*</i> <i>Dist.Alb</i>)	DID-IV (<i>Bombs*</i> <i>Dist.Alb</i>)	DID	DID-IV (<i>WCR*</i> <i>Dist.Alb</i>)	DID-IV (<i>Bombs*</i> <i>Dist.Alb</i>)
	(1)	(2)	(3)	(4)	(5)	(6)
Sample: FEMALE	1999 Kosovo DSHS					
Affected cohort (14-15 in 1999)	0.002	0.043	0.047			
* Municipality Displacement	(0.057) [0.042]	(0.069) [0.052]	(0.122) [0.126]			
Affected cohort (18-19 in 1999)				0.066	0.126	-0.474
* Municipality Displacement				(0.062) [0.067]	(0.101) [0.086]	(0.159)*** [0.158]***
Mean of dep. variable	0.840	0.840	0.840	0.476	0.476	0.476
Observations	2,314	2,314	2,314	1,687	1,687	1,687
Number of clusters	55/27	55/27	55/27	55/27	55/27	55/27
R-squared	0.308	0.304	0.294	0.325	0.289	0.323
Sample: FEMALE	2000 Kosovo LSMS					
Affected cohort (14-15 in 1999)	-0.010	-0.029	0.134			
* Municipality Displacement	(0.058) [0.049]	(0.165) [0.062]	(0.228) [0.113]			
Affected cohort (18-19 in 1999)				0.085	0.085	-0.108
* Municipality Displacement				(0.083) [0.078]	(0.126) [0.075]	(0.193) [0.167]
Mean of dep. variable	0.851	0.851	0.851	0.414	0.414	0.414
Observations	1,196	1,196	1,196	799	799	799
Number of clusters	190/29	190/29	190/29	172/29	172/29	172/29
R-squared	0.225	0.224	0.225	0.329	0.331	0.341
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Birth cohort FE	Yes	Yes	Yes	Yes	Yes	Yes
Pre-war municipality FE	Yes	Yes	Yes	Yes	Yes	Yes
Post-war municipality FE	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Standard errors clustered at the village of residence are in parentheses. Standard errors clustered at the municipality level are in brackets.* significant at 10%; ** significant at 5%; *** significant at 1%. The samples in both surveys contain individuals aged 14 and above in 1999 for the primary schooling completion and individuals 18 and above in 1999 for the secondary schooling completion. Individual controls include ethnicity (=1 if Albanian), parental secondary schooling completion, number of siblings and dummy for rural residence. Schooling attainment is a binary indicator. Data source: 1999 Kosovo DSHS and 2000 Kosovo LSMS.

Table A-12: The Effect of Municipality Displacement on Male's Schooling Attainment - Kosovo

Dependent Variable:	Completed Primary School			Completed Secondary School		
	DID	DID-IV (WCR* Dist.Alb)	DID-IV (Bombs* Dist.Alb)	DID	DID-IV (WCR* Dist.Alb)	DID-IV (Bombs* Dist.Alb)
	(1)	(2)	(3)	(4)	(5)	(6)
Sample: MALE	1999 Kosovo DSHS					
Affected cohort (14-15 in 1999)	-0.012	-0.078	0.146			
* Municipality Displacement	(0.058) [0.053]	(0.066) [0.077]	(0.114) [0.106]			
Affected cohort (18-19 in 1999)				-0.013	-0.015	-0.255
* Municipality Displacement				(0.060) [0.052]	(0.069) [0.064]	(0.103)** [0.093]***
Mean of dep. variable	0.861	0.861	0.861	0.645	0.645	0.645
Observations	2,458	2,458	2,458	1,919	1,919	1,919
Number of clusters	55/27	55/27	55/27	55/27	55/27	55/27
R-squared	0.370	0.365	0.371	0.232	0.229	0.236
Sample: MALE	2000 Kosovo LSMS					
Affected cohort (14-15 in 1999)	0.001	-0.218	0.207			
* Municipality Displacement	(0.067) [0.071]	(0.150) [0.166]	(0.172) [0.189]			
Affected cohort (18-19 in 1999)				-0.048	0.026	-0.085
* Municipality Displacement				(0.080) [0.098]	(0.135) [0.126]	(0.200) [0.141]
Mean of dep. variable	0.887	0.887	0.887	0.594	0.594	0.594
Observations	1,292	1,292	1,292	1,113	1,113	1,113
Number of clusters	198/29	198/29	198/29	192/29	192/29	192/29
R-squared	0.343	0.316	0.335	0.227	0.219	0.221
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Birth cohort FE	Yes	Yes	Yes	Yes	Yes	Yes
Pre-war municipality FE	Yes	Yes	Yes	Yes	Yes	Yes
Post-war municipality FE	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Standard errors clustered at the village of residence are in parentheses. Standard errors clustered at the municipality level are in brackets.* significant at 10%; ** significant at 5%; *** significant at 1%. The samples in both surveys contain individuals aged 14 and above in 1999 for the primary schooling completion and individuals 18 and above in 1999 for the secondary schooling completion. Individual controls include ethnicity (=1 if Albanian), parental secondary schooling completion, number of siblings and dummy for rural residence. Schooling attainment is a binary indicator. Data source: 1999 Kosovo DSHS and 2000 Kosovo LSMS.