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**Conflict-Induced Displacement and
Labour Market Outcomes: Evidence from
Post-War Bosnia and Herzegovina**

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Abstract

This study uses a longitudinal data source to study the effects of conflict-induced displacement on labour market outcomes for Bosnians in post-war Bosnia and Herzegovina. To account for endogeneity in the displacement status, I exploit the fact that the level of violence in the pre-war residence likely affected the displacement decision for Bosnians and yet is not associated to economic performance. I find evidence of positive selection into displacement, i.e. more "able" individuals in terms of labour market outcomes are more likely to be displaced, and that displaced Bosnians men and women are less likely to be in work relative to stayers. Interestingly, whereas this translates into higher unemployment for men, it decreases women's participation with no effect on unemployment once selection is accounted for. The informality of the labour market in BiH and the destruction of networks are not only the most plausible candidates to explain the high cost of displacement in terms of labour market outcomes, but they also help rationalise the lack of an effect on participation for displaced men. However, differences in selection suggest that the experience of war was highly contrasted along gender lines and that sociological and cultural factors may also play a significant role.

Keywords: civil conflict, labour market, migration, panel data

JEL Classifications: C33, C81, J60, O15, R23

Data: 2001 Living Standards Measurement Survey (LSMS) cross-section of BiH, and the 2002-04 Living in BiH (LBiH) panel

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1 Introduction

One direct consequence of armed conflicts is population displacement. Those parts of the population who are uprooted from their original place of residence are likely to experience particularly stark socio-economic vulnerability during and after the period of conflict (CIET International, 1997). The unique characteristics of the 1992/95 Bosnia and Herzegovina (BiH) conflict and the devastating consequences on the Bosnians¹ in particular present an analytical opportunity with both academic and policy relevance. First, the path of the war was determined by the non-economic desire of the Serbs to spatially separate the ethnic groups. Second, the Bosnian civilian population suffered the brunt of the war as 64,036 of the casualties were Bosnian (or about 3 percent of the pre-war Bosnian population) of whom only 52 percent were soldiers, compared to 24,905 for the Serbs of whom 84 percent were soldiers (Ball *et al.*, 2007). Finally, displacement was widespread –approximately 1.3 million people were displaced during the conflict and 1 million resettled in BiH after the conflict.

This study documents the nature of selection into displacement and the labour market effects of conflict displacement in the context of the 1992/95 BiH war. I use longitudinal post-conflict household survey data containing rich information on labour market outcomes, migration and status and other individual characteristics to estimate the effect of displacement on a number of labour market outcomes of the displaced Bosnians relative to their stayer counterparts.² I account for potential endogeneity between displacement and individual labour market outcomes by using a method of instrumental variable (IV) estimation.

The results of this study contribute to two strands of literature: individual selection into conflict-induced migration and the cost of conflict at the microeconomic level. While individual selection into economic migration is well researched³, the literature offers no empirical evidence on the nature of the selection into conflict displacement, most likely due to the scarcity of adequate sources of identification.⁴ This study contributes to filling this gap by documenting the nature of the selection into displacement in a context of civil conflict.

A growing number of studies have emerged that offer a measure of the cost of conflict at the microeco-

¹By Bosnians, I refer to muslim Bosnians, as opposed to Serb and Croat Bosnians to whom I refer to as Serbs and Croats respectively.

²This study therefore does not assess the extent of ethnic discrimination in BiH nor is it concerned with the process of cultural assimilation by any of the main ethnic groups represented on the territory. For a contribution on the topic of cultural assimilation of foreign immigrants and language in the US context, see Lazear (1999).

³For instance, Chiswick (1999) outlines why we should expect economic migrants to be positively selected. Borjas (1987) documents that immigrants to the US can be negatively selected when the earning distribution is more unequal in the home country than in the host country. De Coulon and Piracha (2005) show that Albanian immigrants returning to Albania are negatively selected relative to the stayers.

⁴Interestingly, however, Chiswick (1999) notes that (positive) selection is likely to be less prominent in the case of non-economic migrants such as "refugees".

conomic level.⁵ For instance, Blattman (2006) and Shemyakina (2006) find that civil conflicts in Uganda and Tajikistan significantly reduced school attendance and grade completion.⁶ Kondylis (2007a) assesses the cost of conflict at the household level with regard to agricultural productivity following the conflicts in Rwanda. In addition, a number of microeconomic studies suggest a causal link between poverty, the lack of economic prospects in particular, and the likelihood of joining a militia (Deininger, 2003; Bigombe *et al.*, 2000; Verwimp, 2005). By providing an analysis of post-conflict economic performance, this study also contributes to this strand of literature on conflict prevention.

This is the first study to analyze the nature of selection into displacement during a conflict and to assess the effect of conflict-induced displacement on the labour market outcomes of the displaced. The effect of displacement is measured on a number of individual labour market outcomes, including indicators of work, unemployment, inactivity, wages and hours worked, controlling for individual characteristics, displacement status and municipality of destination fixed effects.⁷ Exploiting the longitudinal nature of the data, I control for individual unobserved heterogeneity by including an individual random-effect error component in my regression models. The labour market outcomes of the displaced are compared to those of stayers. Displacement status is defined using the date of the last migration: a person who reports having migrated during the period of the conflict or soon after –while resettlement and returns were still occurring on a large scale– is considered a displaced person. Since a displaced person’s decision to resettle in her municipality of origin as opposed to moving to a new municipality of destination constitutes an outcome variable, the effect of displacement measured in this study is averaged over those who returned to their municipality of origin and those who did not.

Typically, displacement as such is contaminated by problems of self-selection that could potentially lead to endogeneity issues when used as a regressor on individual labour market outcomes. Therefore, using an OLS or GLS with random-effect error component regression framework to estimate the effect of displacement would likely produce inconsistent estimates. To account for this potential source of endogeneity, I exploit spatial variations in the level of violence against Bosnians during the 1992/95 war to provide IV estimates of the cost of displacement on labour market outcomes.

As local violence is likely to serve as a good predictor for the displacement of Bosnians, it can be

⁵A large body of literature also establishes the link between civil conflicts and a country’s socioeconomic performance at a macroeconomic level using cross-country comparisons. Miguel *et al.* (2004) find a positive causal relation between economic under-performance and the likelihood of civil strife in Africa. Collier (2003) finds supportive evidence of a ‘conflict trap’, whereby low aggregate levels of physical as well as human capital correlate to the likelihood of conflict resurgence.

⁶Blattman’s (2006) study uses arguably random abduction of children by the militia to measure the long-term costs of child soldiering for boys in Northern Uganda. Shemyakina (2006) finds significant and negative effects on girls though, interestingly, her results suggest no effect for boys.

⁷Municipalities are the fourth and last level of political division, below entities, districts, and cantons. There were 115 municipalities in 1991 BiH, and some were divided after the war to form 137 municipalities. In 1991, the median population in the municipalities was 31577, and the mean was 44439, with a maximum of 195,139 and a minimum of 4,162.

used as an instrumental variable to purge the estimates of the impact of displacement on labour market outcomes of potential inconsistency and shed some light on the selection process. The pattern of the Serb invasions in the 1992/95 BiH war was not governed by an economic purpose but by the will to create an ethnically homogenous and contiguous Serb territory (UN, 1994; UNHCR, 1998; Burg and Shoup, 1999; Nation, 2003; Toal and Dahlman, 2004). There is, therefore, no reason *a priori* to expect pre-war economic performance and the levels of violence endured in a given municipality to be systematically associated. A particularly attractive feature of the data used is that the municipality of residence before the war, or "municipality of origin", is recorded for all adults. Individuals can, therefore, be matched to their municipality of origin and can be assigned the level of violence in their location of origin, using population loss data also available at the municipality level (RDCS, 2007). This allows me to exploit variations in the level of violence across municipalities of origin for identification. Since the assumption of zero correlation between economic performance and the level of violence at a local level is central to this analysis, I perform a number of robustness and falsification exercises to assess its accuracy given the data at hand. All results corroborate the notion that this is a reasonable assumption.

An advantage of including both those who returned to their municipality of origin and those who moved to a new municipality of destination in the sample of displaced is that I can include municipality of destination fixed effects in the model even when IV is used. Non-random sorting of individuals into their municipality of origin poses a potential threat to the consistency of the regression estimates. If the choice of municipality of destination is correlated with unobserved determinants of individual labour market performance, this might lead to biased estimates of the effect of displacement on labour market outcomes. Hence, in the absence of a credible instrument for the assignment of individuals to various municipalities of destination, conditioning on municipality of destination fixed-effects will capture the potential non-random location of individuals within BiH.

My results consistently corroborate the idea that displacement negatively impacted the labour market outcomes of Bosnian men and women particularly in terms of access to employment. Interestingly, the effect of lower employment on participation in the labour market varies across genders: whereas for men it entirely translates into higher unemployment, it implies lower participation for women once selection is accounted for. The results obtained when displacement is instrumented substantially exceed the one-step estimates, implying that Bosnian men and women positively selected into displacement, *i.e.* that the more "able" were more likely to migrate. While the results suggest some significant patterns of assimilation of displaced women into the labour market over time, they also suggest that it is a slow process and that displaced women do not "catch-up" with their stayer counterparts. In all gender groups, I find no additional effect of education on labour market outcomes for the displaced. I further run a number

of robustness checks and find that my results cannot be attributed to disruption in schooling or to displacement along the new 1995 border. The informality of the labour market in BiH and the destruction of networks are not only the most plausible candidates to explain the high cost of displacement in terms of labour market outcomes, but they also help rationalise the lack of an effect on participation for displaced men. However, differences in selection suggest that the experience of war was highly contrasted along gender lines and that sociological and cultural factors may also play a significant role.

The next subsection introduces some background on the war and the post-war reconstruction in BiH. In the second section I present the data and some descriptive evidence on the main variables of interest. The empirical strategy is detailed in the third section. The econometric results are presented in the fourth section and discussed in the fifth section. A sixth section briefly concludes.

1.1 Background on Bosnia and Herzegovina

BiH is a former territory of ex-Yugoslavia that became independent with the fall of the communist regime in 1992. The population of BiH in 1992 was 4.4 million people and was composed of 40 percent Bosnians, 37 percent Serbs, and 17 percent Croats. Most Bosnians are Muslim, whereas the Serbs are essentially Orthodox Christian and the Croats Catholic. Although I do not, to this date, have access to comprehensive pre-conflict socioeconomic household data, there is no evidence that pre-1992 economic prosperity differed systematically across ethnic lines.

Shortly after independence in 1992 a war broke out among the Serbs, the Bosnians and the Croats. The Bosnian-Croat war lasted from 1993 to 1994. The Bosnian-Serb and Croat-Serb conflicts lasted longer, but in 1994, NATO used its air force to bomb Serb strongholds and, in December 1995, the Dayton Peace Agreement ended four years of ethnic conflict in BiH. The agreement initiated the partitioning of the territory into 2 distinct entities: the Bosnian and Croat-led Federation of Bosnia Herzegovina (FBH) and the Serb-led Republika Srpska (RS). Each entity makes up for roughly a half of the total territory with the new borders established on the 1995 front lines (Burg and Shoup, 1999; Toal and Dahlman, 2004).

The conflict and partitioning created widespread displacement. Reports by the International Criminal Tribunal for the former Yugoslavia (ICTY) estimate that 102,000 people were declared missing or dead⁸, and the UNHCR reports that 1.3 million people were displaced either internally or abroad. Between 1996 and 2004, over 1 million of the displaced ‘resettled’ in BiH with two peaks in 1996 and 2001.⁹ The

⁸Most estimates did not previously take into account possible overlapping of the casualties data and had a tendency to overestimate the number of deaths. The municipality level population losses data used in this study is in line with the ICTY estimate.

⁹As documented by Angrist and Kugler (2003), the Balkan wars resulted in an important wave of immigration to western Europe. This is of concern, as the displaced who resettled in BiH might consist of a selected sample. As a check, I compare the education attainment of the displaced in our sample to that reported by Angrist and Kugler. I find that 31 percent of our sample of men is in the equivalent of their low education group (ISCED levels 0-2) against 39 in their sample. Therefore, if anything, our sample of displaced is positively selected, which implies that my results are conservative estimates of the

displaced were free to resettle anywhere in the territory; however, most displaced Bosnians were found to resettle in the FBH and most Serbs chose the RS.¹⁰

Although the conflict caused massive infrastructure destruction, large amounts of aid were put into the reconstruction effort. Of the 1,295,000 housing units in the country (of which 80% were privately owned houses), 500,000 were subject to destruction either partial or total (UNHCR). The amount of damage and destruction as a fraction of the total stock of housing units by entity is as follows: 50% damaged and 6% of destroyed in the FBH against 24% damaged and 5% destroyed in the RS. In order to help the country rebuild and cope with the displaced returnees crisis, the Priority Reconstruction Program was put into place in 1995/99 by the UNHCR, the World Bank, and the European Union. The programme mainly aimed to provide help and/or materials to re-habilitate housing units. There was no individual selection into the programme and availability was the only criterion to determine the allocation of material and aid. The UN found an occupancy rate of re-built houses of about 77 percent overall, including those who returned to abandoned re-built houses and not their own. It promoted the rebuilding of approximately 10-15 percent of houses per affected village in order to encourage non-programme households to return or relocate in areas which suffered badly from destruction, hence attenuating population density in relatively less blighted areas. The average expenditure on re-habilitating a house was between US\$1,000 and US\$3,000 according to the extent of the damage. An estimate of the total cost of damage to houses is put at US\$ 4 billion (UNHCR), and the Priority Reconstruction Program channelled about US\$ 693 million toward re-construction. This programme likely created some transitory job-rich economic growth. However, as its intensity decreased over time and stopped in 1999, well before the first wave of the panel was collected, this should not affect the estimates of the impact of displacement on time use.¹¹

2 Data

This study exploits detailed longitudinal household survey data, the 2001/04 Living in BiH (LBiH) panel, as well as municipality-level data on war casualties published by the Research and Documentation Centre in Sarajevo (RDCS, 2007). The 1991 BiH population census is also used to document the total pre-war

cost of conflict.

¹⁰As the displaced were not forced back into their pre-war residence, the issue arises of whether the decision to return to their original residence or not consists of an outcome variable *per se*. In 1999 the Commission for Real Property Claims of Displaced Persons and Refugees of the UNHCR carried out a survey of the return intentions among displaced persons and refugees still internally displaced and asked those willing to return to their homes (76 percent in the FBH and 34 percent in the RS) their main reason for wanting to return to their pre-war residence. The main self-reported reason was that "this was their home" (59 percent), whereas the second most quoted factor was that "their current housing situation was unacceptable" (proportion not reported). I further discuss the implications this has on this study's empirical methodology later as I describe the empirical framework.

¹¹All figures given above on the destruction during the war and the extent of the reconstruction programme were issued by the UNHCR (1998). For a thorough description of the pattern of returns to pre-war residence in post-war BiH, see Toal and Dahlman (2004).

population at the municipality level.

The 2001/04 LBiH panel randomly sampled households in BiH and recorded information on demographics, labour activities, migration, education, and other characteristics on all individuals aged 15 and above in the selected households. The sampling scheme of the panel was stratified as follows. First, the 137 municipalities of BiH were split into 6 strata (using a created Master Sample): by entity, and type (rural, urban, and "mixed"). Municipalities were independently sampled from each of the 6 strata. 25 municipalities were then selected with probability proportional to their estimated population size within each stratum (11 in the RS, 14 in the FBH).¹² From these municipalities, 5400 households were interviewed between September and November in 2001, and half were then re-interviewed each year from 2002 to 2004 to form a panel (in this study the sample used is only composed of those households followed into the panel). In the end, the panel samples about 4800 individuals from all ethnic backgrounds, between 70 to 442 individuals in each municipality, aged 18-64 in each wave. A unique identifier allows us to follow individuals from the cross-section to the panel. The attrition across the waves of the panel is modest, on the order of 4% *per* wave, as households were followed when they moved geographically.¹³ The panel is unbalanced, with individuals moving in and out of households, and households and individuals changing municipality across waves. This has implications on the computation of the standard errors, as clustering cannot be used at the household nor at the municipality-level. Robust standard errors are reported in all subsequent regressions. It is also worth noting that, since ethnicity was only ascertained from 2002 onward, I drop those individuals who only appear in 2001.

The RDSCS population losses data (which is in line with the ICTY total estimate of the casualties) and the 1991 census are used to build the proportion of the pre-war population that went missing in each municipality as a result of the conflict. The number of casualties are recorded by municipality of suffering as opposed to municipality of origin. This offers a measure of the severity of the conflict at the local level, which is used to provide an exclusion restriction in subsequent instrumental variable estimation.¹⁴

2.1 A Measure of Displacement

The UNHCR estimates that the 1997 to 2001 period saw large numbers of displaced people (internally displaced and refugees alike) resettling in the territory of BiH. Figure 2 illustrates the patterns of mi-

¹²The population of a municipality is subject to large variations across municipalities: it ranges from approximately 5000 to 200,000 individuals. The municipalities included in the sample are the following: Visoko, Gradačac, Kakanj, Zavidovići, Vogosća, Breza, Posušje, Grude, Novi Grad, Modriča, Srbac, Šamac, Višegrad, Srpska Iidža, Kneževno, Čajniče, Travnik, Novi Grad, Tuzla, Novo Sarajevo, Prijedor, Banja Luka, Zvornik, Centar, and Zenica. A map of BiH is presented in Figure 1.

¹³As individuals are followed when they change residence across waves of the panel, the number of sampled municipalities increases from the original 25 in the 2001 LSMS to 44 in 2004 (21 in the RS and 33 in the FBH).

¹⁴Although the census also contains pre-war information on ethnicity at the municipality level, ethnicity of the victims is considered too sensitive for public release and is not available in the population losses data.

igrations for Bosnians by year of arrival in the municipality of destination as recorded in the 2001/04 LBiH panel. It is clear that migrations intensified in 1992-2001. I define individual displacement status using information on the last migration recorded at the individual level for all individuals aged 15 and above in the LBiH panel data. The year the individual left her municipality of origin is not observed in the data; however, the date the individual moved in her current residence ("year moved into current place of residence") is recorded and I use it to define whether the migration occurred in the context of the 1992-95 war. Consistent with the evidence shown above, all resettlements that occurred between 1992 and 2001 are categorized as conflict-induced displacement. Robustness checks on the definition of war-related displacement by narrowing the definition down to the 1992-96 period indicate that parameter constancy cannot be rejected across definitions (Kondylis, 2007*b*).

A remarkable feature of the LBiH panel is that the municipality of residence before the war (or municipality of origin) is recorded for all individuals, whether they report having migrated or not. This allows me to attribute the level of local violence experienced in the pre-war municipality of residence (municipality of origin) to each individual regardless of her displacement status, using the casualties data from the RDCS as a proxy for local violence.¹⁵

There are three main limitations in measuring the effect of displacement using the LBiH. First, 'refugees' (displaced persons who went into exile abroad during the time of the conflict) and 'internally displaced' (persons who resettled in camps within BiH during the conflict) cannot be separately identified. No information is held on the place of residence in the period between the time a displaced person left her municipality of origin and the time she resettled in her municipality of destination. Hence 'displaced' as used in this study includes both refugees and internally displaced. Second, the definition of displacement only includes those who declared that they were living in BiH just before the war.¹⁶ Finally, only the date of the last resettlement is recorded. Consequently, the duration of the initial displacement is not observed in the data and I cannot use the period spent in camps as a source of variation in the treatment.

The definition of displacement used in this study does not take into account the individual decision to return to the municipality of origin or to resettle in a new municipality of destination. Indeed, the decision to return or not to the same municipality constitutes an outcome variable in itself. Therefore, consistent estimates of the effect of displacement cannot be obtained on the selected sample of those displaced who returned to the municipality of origin. This study compares displaced persons' labour market outcomes to stayers' averaging across the displaced who moved to a new municipality and those

¹⁵Although I do not condition the displacement status on self-reported outcomes, I further test the relevance of the definition of displacement using self-reported individual information from the panel: the main reason for the last migration and the individual "status" in her current residence. More details on those checks are provided in the data appendix.

¹⁶Only 66 people (1% of our total sample) declared living abroad when the war started. Those individuals are likely to be quite different to those living in BiH before the war and are not included in the treatment group.

who returned to their municipality of origin. The implications this has on the identification is further discussed below as I present the empirical strategy.

2.2 Descriptive Evidence

2001 BiH was populated by about 3.9 million people, 48.3% Bosnian, 34% Serb, 15.4% Croat, and 2.3% from other ethnic backgrounds. The gross national income was very low, about US\$1,290 *per capita*.¹⁷ The economy is highly informal. The World Bank estimates that the share of informal employment was about 37% in 2001 and 42% in 2004 (respectively 33 and 36 percent in the FBH and 41 and 49 in the RS). 40% of those working in the informal sector are employed in agriculture, 19% in construction, 9% in manufacturing and 9% in trade (Bank, 2005a). The public sector represents a large share of total employment, but this share is decreasing over time (from 52% in 2001 to 42% in 2004) due to a rate of job creation lower than the rate of retirement and to a tentative privatization of state-owned enterprises. Although employment in the private sector has been on the rise between 2001 and 2004 (from 34 to 40%), the Bank concludes that most of the job creation over the 2001-2004 period originated from the informal sector. The high level of informality on the labour market in BiH is likely to impact on the labour market outcomes of the displaced upon their resettlement within BiH. However, the only measure of informality one could extract from the LBiH data would only be partial.¹⁸ Furthermore this study's focus is to look on the differentials in labour market outcomes as a whole between the population of stayers and that of the displaced.

Tables 3 and 4 describe labour market status by gender, age group, ethnicity and region as reported in the LBiH panel. In both tables, the reported sample means are averaged over all four waves of the panel. The analysis is restricted to men and women aged 18-64. Labour market outcomes for men by entity is reported in the lower part of Table 3. Bosnian men in the RS experience a higher unemployment rate than the average level in the FBH (48.0% against 19.2%), but a similar level of participation (inactivity rates are 17.2% in the RS against 19.2% in the FBH). The descriptive analysis of labour market status by entity for women provide similar results as for men. Regional stigmatisation of the ethnic minority is likely to account for higher worklessness in the RS.

Looking at disparities in labour market outcomes across displaced and stayers using simple descriptive analysis gives us a sense of the labour market cost of displacement (lower panels, Tables 3 and 4). Bosnian men's time use by displacement status (Table 3) displays significant disparities in employment rates of

¹⁷World Development Indicators, World Bank (2000).

¹⁸Indeed, the labour part of the individual questionnaire does not allow for an evaluation of the informality of the work occupied. The only information record of informality surveyed was the "non-agricultural owned businesses" part of the cross-sectional 2001 LSMS and only refers to those households who actually own a business. In addition, the informality of the non-owner employees is not available.

about 14 percentage points. Nevertheless, this does not translate into higher inactivity but into higher unemployment for the displaced relative to the stayers. Although observed and unobserved characteristics need to be controlled for to procure robustness to these estimates, it seems that, on average, displaced Bosnian men's access to work is notably worse than that of stayers, despite a higher level of labour market participation. As shown in Table 4, displaced Bosnians are less likely to be in work by about 7 percentage points and more likely, by a similar amount, to be in unemployment relative to their stayer counterparts. Overall, this descriptive exercise suggests that, although displacement has a large negative effect on employment rate for both men and women, it does not lead to significant disparity in labour market participation.

Finally, Table 5 reports descriptive statistics of educational attainment by gender, age, and displacement status. Differences in education across displacement status are mostly insignificant and, where significant, small suggesting that, if anything, displaced individuals are less educated than their stayer counterparts. Education is controlled for in all subsequent regressions.

3 Empirical strategy

This section outlines the identification strategy employed to measure the effect of displacement on labour market outcomes and then discusses and test possible sources of inconsistency in this strategy.

3.1 Individual Heterogeneity and Displacement

Measuring the effect of conflict-induced displacement on labour market outcomes at the individual level presents the challenge that displacement status is likely correlated to labour market outcomes through the unobserved ability component. The main regression model estimated in this study is the following

$$y_{it} = \beta_1' X_{it} + D_i \gamma_1 + \eta_i + \omega_{it}, \quad (1)$$

where y_{it} is the outcome of interest (labour market outcomes) for individual i in year t , X_{it} a vector of exogenous individual characteristics, D_i is a dummy for individual (time invariant) displacement status, and η_i is the unobserved individual heterogeneity. I assume that displacement status is a function of personal characteristics Z_i , the incidence of conflict in the municipality of origin C_o , economic conditions in the municipality of origin relative to "the rest of the world" p_o , a component of unobserved individual heterogeneity ν_i and a random shock u . Subscripts i and o respectively designate individual specific characteristics and municipality of origin characteristics. I denote the discrete choice function associated

to displacement status as

$$D_i = F(Z_i, C_o, p_o, \nu_i, u) = \mathbb{1}\{E[U_D(Z_i, C_o, p_o, \nu_i, u) - U_S(Z_i, C_o, p_o, \nu_i, u)] > 0\}. \quad (2)$$

Individuals base their displacement decision on the expected net variation in utility (noting as $U_D(\cdot)$ and $U_S(\cdot)$ the respective utility functions of a displaced and of a stayer). The comparative static on $F(\cdot)$ in the various parameters is *a priori* ambiguous except in relative local economic performance p . Intuitively, $\partial(U_D - U_S)/\partial p < 0$ since good local economic conditions are likely to act as a "pull" factor, all else being equal.

It seems plausible that (unobserved) parameters p and ν partly determine post-conflict labour market outcomes and, therefore, estimating (1) using OLS will likely produce inconsistent estimates of the effect of displacement. Moreover, this source of endogeneity cannot be addressed by exploiting the longitudinal nature of the LBiH dataset. First, displacement is a time invariant variable and therefore its impact on labour market outcomes cannot be computed using fixed-effect estimates. Second, using the random component model requires that the component of unobserved heterogeneity η_i be uncorrelated to all parameters in (1), but this assumption is likely to be violated, causing the estimates to be biased. The displacement decision as estimated in a linear probability model is

$$D_i = \beta_2' Z_i + C_o \delta + p_o \varphi + \nu_i + u. \quad (3)$$

Suppose that a is the coefficient obtained when estimating a linear regression of ν_i on η_i (such that $\nu_i = \eta_i a + \epsilon$), the bias in the unconditional OLS estimate of γ_1 in (1) can be written as

$$p \lim \gamma_{1OLS} = \gamma_1 + a(\sigma_{\mu_i}^2 / \sigma_{D_i}^2).$$

Assuming that displacement has a negative effect on work and that higher ability is positively correlated to a higher propensity to be displaced ($a > 0$), then using simple OLS/GLS to estimate (1) results, in absolute terms, in a downward biased estimate of the effect of displacement. Conversely, if ability is negatively correlated to the propensity to choose displacement, then the OLS/GLS estimates produce (in absolute terms) an upward biased estimate of the negative effect of displacement on work.

3.2 Displacement and Violence across Municipalities

A way to address the problem of endogeneity between the displacement decision and labour market outcomes is to instrument for displacement. From (2), an obvious candidate to serve as instrumental variable is the incidence of conflict in the municipality of origin C_o . Casualties are used in this study as

they are likely to constitute a good proxy for the level of violence against Bosnians and are available at the municipality level (RDCS, cf. data Appendix).¹⁹

For C_o to be a valid exclusion restriction, it needs to be exogenous to labour market outcomes. Of particular concern is that local economic performance p_o might have affected local conflict incidence. Assume that the level of casualties is a linear function of local economic performance plus an error term ($C_o = cp_o + \epsilon$) and that economic performance in the municipality of origin is (positively) correlated to post-war labour market outcomes through the component of unobserved heterogeneity η_i : ($\eta_i = bp_o + u$, where $b > 0$ and u is an error term). The probability limit of the IV estimator of the unconditional effect of displacement using C_o as an instrument for displacement is

$$p \lim \gamma_{1IV} = \gamma_1 [1 + b/(\varphi + \delta c)].$$

The sign of the bias is *a priori* ambiguous and depends on the values taken by φ and c . Notice that the first stage equation is now

$$D_i = \beta_2' Z_i + C_o(\delta + \varphi/c) + u.$$

Assuming that, in line with the idea that a higher level of violence resulted in higher displacement, $(\delta + \varphi/c) > 0$. Then, if $c > 0$ and violence is positively correlated to economic performance, the IV estimates will be, in absolute terms, upward biased. Conversely, if $c < 0$ and violence is negatively correlated to economic performance, the IV will produce a downward biased estimate of γ_1 .

Historical evidence suggests, however, that casualties were not determined by economic performance at the local level, as Serb attacks primarily aimed at territorial separation and ethnic cleansing of their acquired territories. The evolution of the front lines between 1992-95 clearly suggests that violence followed a geo-strategic course from the Serbian border to the West of the country (Burg and Shoup, 1999). Similarly, a UN report on the pattern of Serb attacks confirms this idea (UN, 1994, as cited in Bulutgil, 2004), :

The method by which the campaign of “ethnic cleansing” was carried out ensured that, comparatively, the most brutal and inhumane treatment of those detained occurred within the geographic arc following the Sava and the Drina Rivers of the former Yugoslavia. [...] For it is within this region of Bosnia Herzegovina that the Serbs required absolute control in order to establish a separate nation with contiguous borders and an uncompromised geographic link with Serbia and Montenegro. That control required the subjugation, if not the disappearance, of the non-Serb populations of the area.

¹⁹The total number of casualties is 64,036 for Bosnians and 24,905 for Serbs, of which soliders constituted 52 and 84 percent respectively.

Bulutgil's (2004) attempt to formally documents this claim using data on ethnicity from the 1991 census and other sources of data on strategic position (distance to Serbian border, elevation, the geography of Serb attacks and areas of control) corroborates this notion.

The economic part of the 1991 Census is not available as of now and thus cannot be used to verify this assumption. However, I carry out two robustness checks on the validity of this assumption.

3.2.1 First stage estimates

In this subsection I present the first-stage estimates, regressing a dummy for displacement status on the level of casualties in the municipality of origin. In formulas,

$$D_i = \beta_2'X + Casualties_o\delta + \epsilon, \quad (4)$$

where D_i is a binary variable indicating individual displacement status and X some observed individual characteristics. The data and computations employed to build $Casualties_o$ are detailed in the data appendix. Table 6 presents the results of the first stage estimation.²⁰

Overall, these results confirm that the intensity of the conflict as measured by casualties is a good predictor of the individual propensity to migrate and that a higher level of casualties results in an increase in the propensity to migrate for Bosnians. The F-statistics for the unconditional specification (with standard errors clustered at the level of the municipality of destination) are 23 and 31 for men and women respectively.

3.2.2 Robustness Checks

Falsification Exercise on the First-Stage Estimates First, I perform a falsification exercise on the first-stage. Should 1992-95 casualties explain pre-war migrations, then this would suggest that my instrument is picking up economic disparities across municipalities rather than the real effect of violence as a "push" factor in the displacement decision. I use the fact that the municipality of birth and the last migration to date, whether in the 1992-2001 period or earlier, are recorded for all individuals in the data. I use the group of pre-1992 migrants to check whether the level of casualties in their municipality of birth (assuming this was their municipality of origin) can predict pre-war migration patterns. This

²⁰As the treatment variable is binary, the interpretation of the coefficient on displacement measured is not directly obvious. As exposed by Manning (2004), in order for the estimation to capture the ATE, the predicted values of the treatment conditional on the instruments need to be concentrated around 0 and 1. The support of the first-stage predictions (Figure not reported, see Kondylis, 2007b) suggests that it is the case. Moreover, in the presence of heterogenous treatment effects, the relationship between the mean of the dependent, conditional on the instrument, and the treatment variable, also conditioned on the instrument, is by construction non-linear. In the absence of an adequate functional form to model this non-linearity, stringent distributional assumptions would have to be made on the treatment variable to retrieve an instrument-independent measure of the treatment on the treated and of the ATE. Hence, the identification strategy proposed in this study captures an instrument-dependent measure of the ATE and only has internal validity.

is a particularly powerful test to verify that the conflict did not particularly target some areas based on economic performance, simply "accelerating" economic migrations that would have happened in the longer run in the absence of violence.

All individuals who report having ever moved, including those displaced persons whose pre-war municipality is not the same as their municipality of birth, are included into the group of non-war migrants. The proportion of non-war migrants thus obtained is 23 percent of the whole sample. The municipality of destination is, in this framework, set to be the pre-war municipality for the groups of non-war migrants, war displaced and stayers alike. The control group now consists of the stayers and the displaced who never moved before being displaced.²¹ In formulas

$$M_i = \beta_3'X + Casualties_B\delta_2 + \epsilon',$$

where M_i is a dummy for non-conflict migration and $Casualties_B$ is the level of casualties in the municipality of origin, in this case the municipality of birth. The results corroborate the idea that pre-war economic performance did not determine conflict incidence as proxied by local war casualties and therefore cannot predict (mostly economic) pre-war migrations (Table 7). The regression specifications are identical as those reported in Table 6 except for the change in dependent variable. The effect of casualties is negative, small and insignificant in all regressions, except when municipality of destination fixed-effects are included, when the coefficients are significant but virtually equal to zero. The R-squared associated to the unconditional specifications (columns 1 and 4) is 0.

Local Educational Attainment and Casualties Second, I check whether casualties can predict pre-war educational attainment for those individuals who were 18 years-old and above in 1992. Insofar as educational attainment is a good proxy for local prosperity, this provides a more direct check on the assumption that pre-war local economic performance does not predict war casualties.

To this effect, I regress the level of violence in the pre-war municipality of residence, as proxied by the proportion of casualties (*Casualties*) on educational attainment at the individual level for those aged 27 and above in 2001. A set of dummies is used to indicate the level of violence. Namely, the distribution of the proportion of casualties over the total population in the municipality of origin is split into 5 groups: 0-20th, 20-40th, 40-60th, 60-80th, and 80-100th percentiles (as compared to national levels of casualties).²² I use two dummies for educational attainment: one for medium education (complete or incomplete high school, *Educ_Medium*) and one for high education (above complete high school, *Educ_High*) measured

²¹I also ran the same regression restricting the control group to stayers and obtain the same results.

²²For instance, the "Violence 0-20 percentile" takes value 1 if the individual's pre-war municipality experienced a level of casualties in the first 20 percentiles of the distribution and zero otherwise.

relative to low education (primary school completed and below). Individual characteristics (X) are also included. In formulas,

$$Casualties = \alpha + Educ_Medium\beta_1 + Educ_High\beta_2 + \gamma'X + \epsilon.$$

The results reported in Table 8 reinforce the historically documented idea that the intensity of the conflict was determined more by geo-strategic motives rather than economic motives.²³ The coefficients on the two education dummies are significant in most specifications (cols. 4-6). For each specification, the coefficients on medium and high education bear the same sign, which tends to suggest that those specifications are picking up genuine regional variations in wealth. However, there is no linear effect (col. 1) and the signs vary across the range of the distribution of violence (cols. 2-6), indicating that the relationship between wealth and conflict incidence is not monotonic across ranges of the distribution of violence.

3.3 Displacement and Municipality of Destination

There are three concerns related to the spatial sorting of the displaced population: self-selection in the municipality of destination, the impact of inflows of displaced, and the impact of the local violence on economic performance. A displaced person is likely to self-select into her municipality of destination based on observed and unobserved characteristics, and the instrumental variable strategy proposed in this study does not address this issue. In the absence of a credible instrument I purge the estimates of this source of inconsistency by including municipality of destination fixed-effects in all regressions. Since less than 50 percent of displaced individuals resettled in their municipality of origin, the coefficient on the effect of displacement using variations in violence across municipalities of origin in the first stage is still identified when municipality of destination fixed-effects are added in the second stage.

Inflows of displaced may also impact the economic performance of the municipality of destination. In this study, stayers are used as a control group to measure the effect of displacement on the displaced after resettlement in BiH. Although the impact of (net) inflows of displaced on the population of stayers is not directly measured, this effect is implicitly contained in the estimates of displacement proposed in this study.²⁴ As there are substantial variations in the inflow of displaced and returnees across municipalities,

²³I also run the same set of regressions splitting the sample along gender lines and find that the coefficients are not affected (results not reported for brevity).

²⁴Numerous studies document the effect of immigrant inflows on the natives' labour market outcomes. For instance, Card (1990) finds that the Mariel boat-lift had no impact on local wages and unemployment rate, even among the population of immigrants from earlier waves of migration, and argues that this is due to the capacity of Miami's labour market to adjust to this increase in immigrant labour force. Dustmann *et al.* (2005) look at immigration to the UK and find it had no overall significant effect on the natives. Conversely, Hunt (1992) looks at the impact of the massive waves of repatriation from Algeria into France after the independence war, and finds a negative effect on the non-repatriates' labour market outcomes. Interestingly, she finds no evidence of a decrease in immigration to places where the proportion of repatriates were high.

including municipality of destination fixed-effects should account for local disparities in the inflow of displaced persons, together with other local labour market conditions. The effect of high of migration inflows is ambiguous, as those inflows have both supply and demand effects that are likely to go in opposite directions. A large inflow of displaced people might have a negative impact on the stayers' labour market outcomes by creating an over-supply of labour, which would lead the estimates to understate the (negative) effect of displacement in those regions more affected. Additionally, that some displaced persons return in higher number to their municipality of origin is likely to have a positive effect on their labour market outcomes by enhancing their ability to rely on her pre-war informal networks. There also are important effects on the demand side, as higher levels of in-migration also increase the demand for labour.

Finally, an additional source of concern is that the number of casualties during the war might determine the economic performance of a given municipality. Particularly, in the case of displaced persons who returned to their municipality of origin, then the instrumented displacement status would be correlated to the municipality of destination fixed-effect in the second stage. Since casualties and economic performance are likely to be negatively correlated, this would cause the IV estimates of the effect of displacement to be, in absolute terms, downward biased in the case of a positive effect and upward bias in the case of a negative effect.²⁵ As discussed in section 1.1, a massive construction effort was undertaken in the years immediately after the end of the war. I use the fact that interviewers recorded housing conditions (good, incomplete, devastated, bad) for each household they visited to run regressions of housing conditions on level casualties in the municipality of destination at the household level (results not reported). I find that casualties have no explanatory power in all specifications except for the "incomplete" category. However, the associated R-squared is below 0.1 percent. Moreover, only 1.81 and 1.61 percent of the total sample of Bosnian households have a house in "incomplete" and "devastated" conditions respectively, implying that reconstruction was to a large extent successful. This reinforces the idea that casualties and municipality of destination fixed-effects should not be strongly associated in the labour market specifications.

Angrist and Kugler (2003) look at the impact of immigration from the Balkans and into Europe on natives' labour market outcomes. Although they find no overall effect, their results suggest that the effect of immigration in more protective states is significantly negative. Dustmann *et al.* (2005) and Glitz (2006) also find a heterogenous effect across levels of educational attainment.

²⁵In the results section, I show that the effect of displacement on work is negative. As the bias in the GLS and this potential source of bias go in the same directions, the GLS and IV estimates hence offer "bounds" to the true value of the coefficient.

4 Results

4.1 Displacement and Labour Market Performance

In this section, I turn to the central investigation of the effect of displacement on the labour market outcomes of the displaced as measured from the 2001/04 LBiH panel data.²⁶ The sample is restricted to 18-64 year olds Bosnian and split along gender lines. A number of labour market outcome variables (work, unemployment and inactivity status, the natural log of hourly wage, and hours worked, including and excluding zeros) are regressed on a dummy for displacement status, controlling for a variety of observed and unobserved individual and municipality characteristics.²⁷ This amounts to estimating the equation

$$y_{it} = \beta_1' X_{it} + D_i \gamma_1 + \mu_t + \eta_i + \omega_{it}, \quad (5)$$

where the error term contains a time-invariant individual heterogeneity component and in some specifications X_{it} includes municipality of destination fixed-effects. Tables 9 and 10 report the GLS RE and G2SLS RE estimates of the impact of displacement on work, unemployment, inactivity, wage, and hours for men and women respectively. Columns (1) to (3) show the results of GLS RE estimation and G2SLS RE estimates are reported in columns (4) to (6). Columns (1) and (4) present the unconditional effect of displacement, while the estimates conditional on exogenous individual characteristics and on municipality of destination fixed-effects are reported in columns (2) and (5) and columns (3) and (6) respectively.

The unconditional effect of displacement on work for Bosnian men is large, negative, and significant, implying a fall in the probability to be in work by 10 percentage points (Table 9, col. 1). Controlling for individual characteristics increases the point estimates (col. 2), and although the inclusion of municipality fixed-effects washes out part of the effect (now 0.071), the coefficient on displacement remains negative and significant (col. 3). It is quite important to note that, although the coefficient of interest varies sensibly across specifications, the standard errors on the parameter of interest are virtually unaffected by the inclusion of municipality fixed-effects. This suggests that adding municipality of destination fixed-effects, while controlling for unobserved local conditions, does not absorb all the variations in the effect of displacement.

The effect of displacement on men's unemployment is large, positive, and significant in all specifications (cols. 1-3), associated to an increase in unemployment ranging from 10 to 15 percentage points. Parameter constancy cannot be rejected across specifications. These results suggest that, despite a fall in

²⁶Since IV is used for a binary endogenous covariate, using a linear probability model is the correct way to estimate the system. I compare results from GLS and 2G2SLS estimation with the pooled ordinary least squares estimation and find similar point estimates and standard errors.

²⁷Controls include a time trend, dummies for household status, dummies for marital status, individual age-group dummies (four years by four years from 23 to 62 and one for 63-64), household composition variables (number of dependent members aged 0, 1-5, 6-10, 11-15, and 16-17), and dummies for educational attainment (medium and high, relative to low).

employment, displacement has no effect on Bosnian men’s participation rate. I find no significant effect on wage and hours worked.²⁸

The estimates of displacement on work for Bosnian women are qualitatively similar to those for Bosnian men, although of a lower magnitude, implying a fall in work on the order of 5 to 7 percentage points (Table 10). However, the coefficient on unemployment is only significantly positive in columns (1) and (2), and the inclusion of municipality fixed-effects indicates that the effect of displacement on unemployment for this group is entirely attributable to local labour market characteristics (col. 3). As with the men, I find no significant effect of displacement on wage and hours of work for Bosnian women.

G2SLS Estimates

The effect of displacement on labour market outcomes is now estimated using the Balestra and Varadharajan-Krishnakumar (1987) generalised two-stage least squares (G2SLS) estimation for the one-way error component model. Displacement is instrumented using the level of casualties in the municipality of origin (equation 4) as shown in Table 6. The results are presented, as described above, in columns (4) to (6) of Tables 9 and 10 for men and women respectively.

Although qualitatively in line with the one-step estimates of displacement in most specifications, the results from the IV estimates for the men provide evidence of selection into displacement amongst Bosnian men and women. Indeed, the IV estimates of the effect of displacement on work and unemployment are in absolute terms systematically above those obtained with the one-step GLS, implying a positive correlation between the latent effect of displacement and the probability of work. For Bosnian men, displacement is now associated to a fall in work by 10 to 22 percentage points and to an increase in unemployment by 15 to 30 percent across specifications (cols. 4-6), although parameter constancy cannot be rejected. There still is no significant effect of displacement on Bosnian men’s participation, wage, and hours.

For Bosnian women, the IV estimates indicate significant positive selection into displacement, both on work and inactivity. Indeed, rather interestingly, and in contrast with the results for men, the estimates of the effect of displacement for Bosnian women now imply a fall in work by 14-15 percentage points, an increase in inactivity by 11-18 percentage points, with no effect on unemployment. These results indicate that the latent effect of displacement is, in the case of Bosnian women, not only positively correlated to a higher probability of being in work but also to higher participation in the labour market.

²⁸The effect on hours is only significant in the unconditional model when zeros are included, which suggests that the effect is entirely attributable to a difference in employment across groups and to observable characteristics and local labour market conditions.

4.2 Patterns of Assimilation

Tables 11 and 12 report patterns of assimilation of the displaced into the labour market for men and women respectively. The empirical framework is straightforward: a dummy for displacement status is interacted with a years-since-return variable (YSR) and its square.²⁹ YSR is measured as the number of years the person reports having spent in her current place of residence. In the data, the mean of YSR is 5.4 years for displaced men and 4.6 for women. Year of return cohort effects are also controlled for by including year-of-return cohort dummies (YOR).³⁰ The structure of Tables 11 and 12 is similar to that of Tables 9 and 10. For brevity only 2 specifications are reported: one including all controls and municipality fixed-effects and another further adding YOR fixed-effects. Hence the following equation is now estimated:

$$y_{it} = \beta'_1 X_{it} + D_{it}\gamma_{11} + D_{it}D'_{it} * YSR.\gamma_{12} + D_{it}D'_{it} * YSR^2.\gamma_{13} + YOR_i.\delta + u_{it}, \quad (6)$$

where the error term contains a time-invariant individual heterogeneity component and in some specifications X_i includes municipality fixed-effects.

The results for Bosnian men and women exhibit appreciable differences across methods of estimation. Overall, the one-step estimates fail to isolate any pattern of assimilation of the displaced into the labour market, with the exception of a convex-shaped decrease in inactivity over-time with no initial differential. The effects of displacement on work and unemployment upon arrival (not interacted) are of a similar magnitude to those obtained in Table 9. As displacement and its interactions are instrumented (lower panel), all estimates are imprecise, and the non-interacted coefficient on displacement is only significant in the unemployment specification. This suggests the power of the instrument is insufficient to allow for identification of the interactions.

The results for Bosnian women imply a significant and positive relationship between YSR and the probability of work when IV is used (cols. 7, 8). However, the estimates are too imprecise to establish the nature of the transition. Overall, those results tend to suggest that, although significant patterns of assimilation are found for women, the instrument is not powerful enough to provide precise estimates of assimilation patterns.

²⁹Since some sorting might have taken place across years, one would ideally want to instrument for years since return (YSR). However, in the absence of a valid instrument, only $d_{it}d'_{it} * YSR$ and its square are instrumented using interactions between the instruments and YSR and its square.

³⁰This empirical strategy is identical to that used by Borjas (1987) and Hu (2000) to look at immigrants' assimilation patterns. I use a simple concave function of labour market outcomes in years since return, although differences in the rate of assimilation across years of return cannot be measured given the size of the samples and the potential issue of low power of the instrument. Instead, year-of-return fixed-effects are included, as suggested by Hu (2000) and Borjas (1987). Hence, these results provide a measure of the "average" rate of assimilation across all return-cohorts.

4.3 The Effect of Schooling

Tables 13 and 14 investigate the effect of education on the labour market outcomes of the displaced for men and women respectively. Empirically, a variety of labour market outcomes are regressed on a dummy for displacement, a dummy for having medium or high education (*Med_High_Educ*, relative to low), and the interaction between the displacement and education dummies.³¹ The structure of Tables 13 and 14 is similar to that of Tables 9 and 10. For brevity the results for the unconditional specification are not reported. In formulas,

$$y_{it} = \beta' X_{it} + D_{it} \cdot \gamma + Med_High_Educ \cdot \delta_{11} + D_{it} D'_{it} * Med_High_Educ \cdot \delta_{12} + u_{it}, \quad (7)$$

where the error term contains a time-invariant individual heterogeneity component and in some specifications X includes municipality fixed-effects.

The results show that education, while significant in affecting labour market outcomes in all specifications, does not have any additional effect for the displaced. Although the interaction between the dummy for education and the dummy for displaced status is significant in the one-step work and unemployment estimations for men (Table 13, col. 1), this result is not robust to the inclusion of municipality fixed-effects (cols.2, 4). As noted above, those results corroborate the notion that the power of our instrument does allow precise identification of interactions terms.

4.4 Robustness Checks

4.4.1 Border Municipalities

The municipalities now situated on the border between the FBH and the RS might not be a representative sample before or after the war. Therefore, it is of concern that the population who originated from these municipalities could systematically differ from the rest of BiH or that the fighting in these regions was particularly intense relative to the rest of the country.³² For instance, as the distance across entity is small along the border, it might be that displacement out of these municipality was unrepresentative of the rest of BiH. Moreover, these regions' infrastructures might have suffered more war damages than the rest of the territory and have triggered particularly massive out-migration. These differences would affect the first-stage and results overall. As a check, I remove all individuals whose municipality of origin was

³¹In the absence of a credible instrument for education the estimates of the returns to education cannot be purged from the (positive) correlation between the latent effect of education and labour market outcomes (Card, 2001; Hausman and Taylor, 1981). In this exercise, however, measuring those returns is not the main endeavour. In contrast, this specification is estimated to test whether the displacement interaction bears any significance. Hence my estimates are likely to be flawed, either upwardly biased as a consequence of unobserved ability or downwardly biased resulting from a supply-side effect (Card, 2001).

³²As documented by Burg and Shoup (1999), the Dayton borders were placed on the 1994 front lines.

situated on the Dayton border and who have moved as a result of the conflict.³³ The results are presented in Tables 15 and 16 for men and women respectively. Although the large reduction in sample sizes affects the precision of the estimates in some specifications, the point estimates are remarkably similar relative to the full sample (Tables 9 and 10) parameter constancy can never be rejected at conventional levels.

4.4.2 Disruption in Schooling

Another source of concern is that the effect of the conflict is likely to be heterogenous across age groups. For instance, in the case of an individual still of schooling age, the conflict is likely to disrupt her study and/or delay her entry on the labour market. Conflict related interruptions are, therefore, likely to have different long term effects across age groups, and it is of interest to check whether removing the subsample who was of age 18 and below in 1992 changes the results substantially.³⁴ The results are presented in Tables 17 and 18. The results for Bosnian men and women are remarkably similar across the full and restricted samples. These results suggest no strong disparities in the effect of displacement across age groups and that the negative effect of displacement measured on the full sample is not attributable to long term effects associated to disruption in schooling for the youngest age cohorts.

5 Discussion

5.1 The Nature of Conflict-Induced Displacement in BiH

The first main contribution of this study is to the understanding of displacement in a context of conflict by formally documenting the selection into displacement. The IV estimates support the idea that displaced Bosnians positively self-selected into displacement, meaning that those who were "more able" in labour-market terms were more likely to decide to out-migrate. "More able" does not specifically refer to higher cognitive abilities, but also to a better access to social networks outside the pre-war residence, which is likely to enhance post-displacement job prospects. This is rather intuitive since, as displacement is likely associated to a substantial loss of assets, having good post-displacement employment prospects is likely to increase the probability of displacement by providing a form of insurance.

That the latent effect of displacement is positively correlated to inactivity for Bosnian women is also rather interesting. One possibility is that male household members' labour market abilities weigh more than female members' in the household displacement decision. Intra-households allocations might operate in such a way that male members of the household engage in labour market participation while

³³In reality, conditioning both on originating from and moving to a border municipality would constitute a better check. However, since the choice of the municipality of destination is an outcome variable in itself, it would lead to biased results.

³⁴Another way to check for heterogeneity of the effect of displacement across age groups would be to interact dummies for age groups and displacement. However, the power of our instrument would not allow for the interactions to be precisely identified.

female members devote themselves to household production, thus appearing as inactive under the ILO definition.³⁵ However that does not mean that they are not part of an active search, since male members might include them in their job-search. By isolating the marked disparities in the effect on labour outcomes across gender lines, this study suggests that the nature of the conflict as well as cultural and sociological channels play important roles in determining the resettlement experience for the displaced.

5.2 The Cost of Displacement

The second main contribution of this study is to measure the cost of displacement in terms of labour market outcomes for displaced Bosnians. The results imply a significant and large cost, as displaced Bosnians, men and women alike, are less likely to be in work by about 15 percentage points.

Numerous studies suggest that networks are likely to play an important role in providing access to informal labour markets and credit in an informal economy and/or in a context of displacement. Edin *et al.* (2003) find that living in an enclave is likely to enhance the access to informal ethnic networks and improve immigrants' access to employment by improving the performance of refugee immigrants' job-search. Damm (2006) exploits a change in the Danish policy for immigrants' settlement to isolate the effect of living in an ethnic enclave on immigrants' labour market outcomes and finds evidence of negative self-selection into segregated neighbourhoods together with positive returns to living in 'ghettos'. The literature on migration network also isolates some positive effect of having more developed migration networks in the place on migration on immigrants' labour market outcomes (cf. Bauer *et al.*, 2000). More specifically, the literature on informality and vulnerability in post-conflict BiH (Bank, 1999) leads us to interpret these findings as a consequence of displaced persons having poorer access to social networks, although this assumption cannot be tested formally with the data at hand.

The inefficient nature of the formal labour market and the high levels of informality in BiH are also good candidates to rationalize the lower access to employment measured for Bosnians. Institutional design is the main reason raised by the Bank to explain the inefficiencies of the informal labour market (Bank, 2002).³⁶ The absence of an additional effect of education tends to confirm the existence of such inefficiencies, insofar as it shows that displaced educated workless individuals cannot use their additional skills to increase the efficiency of their search within the existing unemployment infrastructures. Moreover, looking at descriptive statistics on the sectors of occupation (primary, secondary, and tertiary) and the

³⁵Displacement and the lack of formal property rights are also likely to be associated. Field (2002) suggests that in the absence of property rights a household's labour supply decreases. As mentioned earlier, our specifications cannot account for housing conditions.

³⁶Despite the existence of Employment Institutes (EI) at the canton level, responsible for job counseling and job brokerage in BiH, the Bank reports that those structures are not used by either side of the market. Indeed, and although the direction of the causality is unclear, the Bank reports that formal job-seekers do not rely on their local EI to find work, and neither do formal businesses use these structures to post their openings. Moreover, qualitative evidence on the unemployed in BiH indicates that job-seekers rely on their informal networks as their main source of job offers.

types of jobs (self-employment, paid employment, and family help) for those in work, as reported in the LBiH panel (Table 19), whereas the displaced and the stayers who are in work are equally represented in various sectors, the displaced are more likely to be self-employed and less likely to be in paid employment relative to stayers. Although the inference cannot be drawn from this descriptive evidence, this indicates two things. First, that they are similarly represented across sectors reinforces the idea that displaced persons have the same qualifications as stayers. Second, it corroborates the notion that the displaced have poorer access to informal networks and, therefore, are less likely to be in paid employment.

The finding that, in the case of Bosnian men, lower employment does not translate into a higher probability of inactivity relative to their stayer counterparts but into higher unemployment, is open to a number of interpretations. One is that displaced Bosnian men, having lost relatively more assets during the war than their stayer counterparts, cannot "afford" idleness. Another explanation, which links back to the idea that there are large inefficiencies and informality in the labour market, is that a displaced person's job search is of a different nature in a mostly informal labour market than that of a stayer. As Wahba and Zenou (2005) document for Egypt, a well-connected workless person is more likely to engage in "hidden" or "passive" unemployment, *i.e.* to rely on her employed relations to inform her of job opportunities and, thus, less likely to be categorised as unemployed according to the ILO definition. Conversely, a non-connected person cannot rely on a "passive" job-search and is more likely to be categorised as unemployed. Hence, that the participation rate for stayers is lower relative to that of their displaced counterparts might be an artefact and simply reflect the different natures of the job search across displacement status. Since displaced individuals are, all else being equal, less likely to be in work, this nonetheless indicates that the quality of a displaced person's search is poorer than that of a stayer and that conducting an "active" job search does not enhance access to employment. Such mechanisms would help explain the high levels of inactivity among men (on the order of 20 percent). Overall, these results raise particular concern for the economic vulnerability of displaced persons in BiH.

Employment interruption could also be an explanation for the findings of poorer job-access for displaced Bosnians. When a person is displaced, she might be more likely to become workless and to remain so during her exile. Some studies have suggested that employers might implement a "ranking" system, whereby those unemployed for longer periods of time are, all else equal, less likely to be hired (Diamond and Blanchard, 1994). As the duration of the exile is not observed, but only the date of return, this assumption cannot be formally tested. Moreover, it is *a priori* not obvious that the 1992-95 war was a less disruptive experience for displaced than for stayers in terms of employment disruption.

6 Conclusion

The last 40 years have seen an increase in the incidence and the average length of civil conflicts (Azam *et al.*, 2001). As the link between conflict resurgence and poverty is well established in the literature, promoting sustainable economic growth in a post-conflict context is a compelling priority because displacement is associated to high economic vulnerability. Studying access to the labour market for the displaced seems particularly important.

The central contributions of this study to the literature on the economics of civil conflict are twofold: first, it documents the nature of the selection of Bosnian men and women into displacement during the 1992/95 BiH war; and second, it offers a measure of the effect of displacement on the post-war labour market outcomes of the displaced. Furthermore, this study highlights the differing selection into displacement along gender lines and the impact of informal job markets on participation for the displaced.

A Data Appendix: Constructed Variables

Conflict induced displacement

Two self-reported outcomes are used to further check for coherence in the definition of displacement: "what was the main reason for moving?" with the categories: war, property occupied, property devastated, security, no adequate living conditions, family reasons, job, health, other, and "what is your status in your current place of residence?" with the categories: permanent residence-with no moving during the war, permanent residence: displaced person/returnee, permanent residence: refugee/returnee, temporary residence: displaced person, temporary residence: refugee/displaced person, temporary residence: refugee, temporary residence: other. The suggested categories are rather wide, and using those self-reported outcomes to define displacement is not desirable. As a robustness check I exclude from the group of displaced those who declared having moved due to family or economic reasons as well as those who reported that their current status in their residence was "permanent, with no move during the war". I find this does not affect the results.

Labour Market Outcomes

Our definition of "work" corresponds to those having reported doing any work during the survey week. Unemployment status is defined using the ILO definition³⁷, *i.e.* those having taken any step towards finding a job in the last month as opposed to referring to those registered within the unemployment bureau.³⁸ The inactive are those neither in work, unemployed, nor attending school. I use reported usual weekly hours to measure hours of work and exclude zeros in all subsequent computations. The hourly wage rate is built using reported usual hours of work and the last salary received for a given period of work. Log-linear regressions are reported for the wage effects.

Proxies for local level of violence

The proportion of casualties as a proportion of the total pre-war population (*Casualties*) is computed at the municipality level using the RDCS population loss data (by municipality of suffering) and the 1991 population census. The RDCS used records the number of casualties by municipality of suffering. However, using the municipality of origin of the municipality of suffering only affects the figures substantially

³⁷In the data, among those who qualified as unemployed using the ILO definition, only 65.8% were registered with the unemployment bureau. Moreover, among those in work, 33.3% declared being registered as well, compared to only 13.7% of the inactive. The access to unemployment benefits (UB) in BiH is virtually inexistent. Indeed, only 0.22% of those registered with the unemployment bureau in the first wave (the only wave where UB were surveyed) reported benefiting from UB in the form of a cash transfer.

³⁸Fares and Tiongson (2007) report a "routing" error in the data that prevents them from exploiting transitions from and into unemployment variable for 2003 wave of the panel. As we do not exploit job history but current occupation, this does not affect us. I check that our calculations are unchanged whether I include that year or not, and that the unemployment rate remains remarkably stable across waves.

for Srebrenica. This casualty data is matched to the panel by pre-war municipality of residence.

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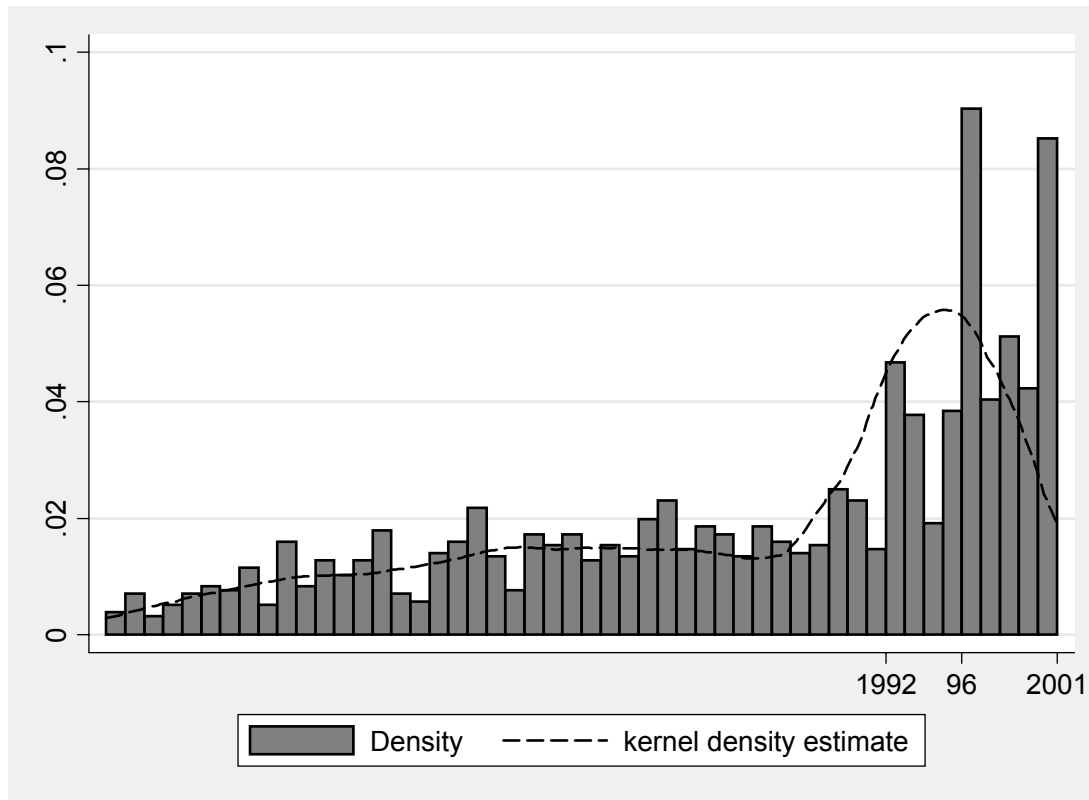


Figure 2: Histogram and kernel density estimates of the patterns of return migration over-time for Bosnians in BiH.

Table 1: Sample sizes, by gender, age group, entity and ethnicity (wave 1 of the panel only).

<i>Age group</i>	<i>All entities and ethnicity</i>	<i>Federation</i>				<i>Republic</i>			
		All	Bosnian	Serb	Croat	All	Bosnian	Serb	Croat
<i>Men</i>									
[18 ; 25]	376	202	144	2	36	174	15	157	.
[26 ; 40]	816	447	360	9	60	369	24	332	3
[41 ; 60]	1063	565	430	22	84	498	26	466	2
[61 ; 64]	174	85	59	4	21	89	8	78	1
<i>Women</i>									
[18 ; 25]	307	171	142	1	24	136	19	116	.
[26 ; 40]	829	494	407	8	60	335	14	308	2
[41 ; 60]	1162	629	476	20	90	533	37	484	7
[61 ; 64]	229	126	77	13	30	103	8	90	2

Table 2: Proportion of war migrants by gender, age group, entity and ethnicity (wave 1 of the panel only).

<i>Age group</i>	<i>All entities and ethnicity</i>	<i>Federation</i>			<i>Republic</i>		
		All	Bosnian	Serb	All	Bosnian	Serb
[18 ; 25]	0.246	0.150	0.146	0.000	0.349	0.067	0.281
[26 ; 40]	0.223	0.168	0.157	0.005	0.286	0.037	0.249
[41 ; 60]	0.218	0.140	0.125	0.007	0.295	0.040	0.255
[61 ; 64]	0.206	0.106	0.094	0.013	0.291	0.042	0.249
Total	0.224	0.149	0.138	0.005	0.302	0.044	0.257

Table 3: Men's time use - sample means.

<i>Bosnian Men</i>	Sample Size	Work	Unemp.	Inactive	Hours
<i>By Age</i>					
[18 ; 25]	689	0.363	0.464	0.173	42.8
[26 ; 40]	1525	0.675	0.238	0.087	43.0
[41 ; 60]	1845	0.693	0.125	0.182	41.5
[61 ; 64]	301	0.146	0.037	0.817	38.0
[18 ; 64]	4360	0.597	0.212	0.191	42.2
<i>By entity</i>					
Republic	296	0.348	0.480	0.172	43.4
Federation	4064	0.615	0.192	0.192	42.1
t of difference	--	9.132	11.862	-0.850	0.68
<i>By displacement status</i>					
Stayers	3557	0.623	0.180	0.197	42.4
Displaced	803	0.483	0.352	0.164	40.7
t of difference	--	7.32	-10.93	2.13	1.75

Table 4: Women's time use - sample means.

<i>Bosnian Women</i>	Sample Size	Work	Unemp.	Inactive	Hours
<i>By Age</i>					
[18 ; 25]	641	0.229	0.438	0.332	41.4
[26 ; 40]	1655	0.302	0.280	0.419	38.5
[41 ; 60]	2074	0.237	0.118	0.645	37.7
[61 ; 64]	356	0.037	0.006	0.958	30.6
[18 ; 64]	4726	0.243	0.210	0.547	38.4
<i>By entity</i>					
Republic	310	0.219	0.261	0.519	40.2
Federation	4416	0.245	0.206	0.549	38.3
t of difference	--	-1.022	2.314	-1.010	0.99
<i>By displacement status</i>					
Stayers	3442	0.262	0.193	0.546	38.6
Displaced	970	0.194	0.255	0.555	36.1
t of difference	--	4.81	-4.70	-0.30	2.72

Table 5: Educational attainment by gender, ethnicity, and displacement status. (wave 1 only).

	No schooling	Low education	Medium education	High education
Men				
All	0.017	0.275	0.616	0.092
By displacement status				
Stayers	0.012	0.273	0.605	0.088
Displaced	0.025	0.309	0.565	0.072
t of the difference	-2.67	-2.03	2.05	1.49
Women				
All	0.073	0.533	0.353	0.041
By displacement status				
Stayers	0.058	0.532	0.347	0.048
Displaced	0.091	0.528	0.350	0.019
t of the difference	-3.99	0.28	-0.16	4.48

Table 6: First-stage estimates: The effect of the incidence of conflict at the municipality level on individual displacement decision.

<i>First-stage estimates</i>	<i>Men</i>			<i>Women</i>		
Dependent: Displaced	(1)	(2)	(3)	(4)	(5)	(6)
Instrument:						
Proportion Missing/Killed	7.769** (1.581)	7.840** (1.532)	7.236** (1.049)	5.642** (1.002)	5.733** (1.009)	5.786** (0.928)
Controls		✓	✓		✓	✓
Municipality Fixed-effect			✓			✓
Sample Size	1066	1066	1066	1180	1180	1180
R-squared	0.18	0.21	0.38	0.15	0.24	0.34

Note: The Table reports the first-stage coefficients of the G2SLS RE regression (linear probability model), where displacement status is the dependent variable. Reported are the coefficients on Casualties (Proportion Missing/Killed) in a number of specifications. The sample is restricted to Bosnian men (left panel) and women (right panel) aged 18-64. Time trend and a constant are included in all specifications; Controls include: dummies for household status, dummies for marital status, individual age-group dummies (four years by four years from 23 to 62, and one for 63-64), household composition variables (number of dependent members aged 0, 1-5, 6-10, 11-15, and 16-17), dummies for educational attainment (medium and high); Standard errors in brackets. ** significant at 1%, * significant at 5%, † significant at 10%.

Table 7: Results of the Falsification Test on the first-stage estimates.

<i>First-stage estimates</i>	<i>Men</i>			<i>Women</i>		
Dependent: non-conflict migration status	(1)	(2)	(3)	(4)	(5)	(6)
Instrument:						
Proportion Missing/Killed	-0.099 (0.548)	-0.147 (0.540)	-0.000** (0.000)	-0.031 (0.438)	-0.310 (0.450)	-0.000** (0.000)
Controls		✓	✓		✓	✓
Municipality Fixed-effect			✓			✓
Sample Size	1066	1066	1066	1180	1180	1180
R-squared	0.00	0.08	0.31	0.00	0.05	0.26

Note: The Table reports the placebo first-stage coefficients of the OLS regression of non-war migrant status on casualties in the municipality of birth; non-war displacement is the dependent variable and non-migrants (stayers) are the control group. Reported are the coefficients on Casualties (Proportion Missing/Killed) in a number of specifications. The sample is restricted to Bosnian men (left panel) and women (right panel) aged 18-64. See also Note to Table 9.

Table 8: Conflict incidence and educational attainment.

Dependent:	(1)	(2)	(3)	(4)	(5)	(6)
	Proportion Missing/Killed	Violence 0-20 pctiles	Violence 20-40 pctiles	Violence 40-60 pctiles	Violence 60-80 pctiles	Violence 80-100 pctiles
Bosnians						
Educ. med	-0.001 (0.001)	0.033 (0.024)	-0.133** (0.021)	0.130** (0.022)	-0.031+ (0.016)	-0.001 (0.001)
Educ. high	-0.000 (0.001)	-0.045 (0.040)	-0.198** (0.035)	0.298** (0.037)	-0.049+ (0.028)	-0.000 (0.001)
Observations	2144	2144	2144	2144	2144	2144

Note: This table reports the effect of educational attainment of the incidence of conflict in the municipality, at the individual level, using the first wave of the LiBH panel. The sample is restricted to Bosnian men and women aged 27 and above in 2001. The dependent variables are: the proportion of killed/missing (or "casualties", col.1), and five dummies indicating what range of the distribution of casualties the individual's pre-war municipality belongs to: 0-20th, 20-40th, 40-60th, 60-80th, and 80-100th percentiles in cols. (2) to (6) respectively. "Educ. med" indicates complete or incomplete high school, and "Educ. high", above complete high school (low education - primary school completed and below - is the excluded category). Individual characteristics are also included (see also Note to Table 9).

Table 9: The effect of displacement on men's labour market outcomes.

<i>Bosnian Men</i>	<i>GLS RE</i>				<i>G2SLS RE</i>			
	(1)	(2)	(3)	Sample Size (indiv.)	(4)	(5)	(6)	Sample Size (indiv.)
Dependent:								
Work	-0.102** (0.033)	-0.125** (0.028)	-0.071* (0.030)	4350 (1183)	-0.304** (0.079)	-0.216** (0.065)	-0.149+ (0.079)	4350 (1183)
Unemp	0.149** (0.027)	0.154** (0.023)	0.096** (0.025)	4350 (1183)	0.233** (0.058)	0.229** (0.051)	0.191** (0.062)	4350 (1183)
Inactive	-0.046+ (0.026)	-0.029 (0.020)	-0.027 (0.023)	4350 (1183)	0.062 (0.063)	-0.016 (0.048)	-0.053 (0.060)	4350 (1183)
Ln(wage)	0.054 (0.052)	0.057 (0.047)	0.055 (0.048)	2366 (833)	-0.049 (0.128)	0.002 (0.116)	-0.171 (0.137)	2366 (833)
Hours (zeros included)	-5.597** (1.605)	-1.438+ (0.778)	-0.897 (0.866)	4261 (1132)	-13.409** (3.799)	-1.217 (1.841)	-2.491 (2.259)	4261 (1132)
Hours (zeros excluded)	-0.651 (1.362)	-1.263 (1.310)	-1.367 (1.344)	2425 (854)	3.299 (3.028)	1.102 (2.933)	-1.428 (3.481)	2425 (854)
Controls		✓	✓	--		✓	✓	--
Municipality Fixed-effect			✓	--			✓	--

Note: The Table reports the GLS RE (left panel) and G2SLS RE (right panel) regression coefficients on displacement. The dependent variables are dummies for work, unemployment, inactivity, the natural log of the monthly wage and weekly hours (with zeros included or not). The sample is restricted to Bosnian men aged 18-64. Time trend and a constant are included in all specifications; Controls include: dummies for household status, dummies for marital status, individual age-group dummies (four years by four years from 23 to 62, and one for 63-64), household composition variables (number of dependent members aged 0, 1-5, 6-10, 11-15, and 16-17), dummies for educational attainment (medium and high); Standard errors in brackets. ** significant at 1%, * significant at 5%, † significant at 10%.

Table 10: The effect of displacement on women's labour market outcomes.

<i>Bosnian Women</i>	<i>GLS FE</i>				<i>G2SLS</i>			
	(1)	(2)	(3)	Sample Size (indiv.)	(4)	(5)	(6)	Sample Size (indiv.)
Dependent:								
Work	-0.073** (0.022)	-0.059** (0.021)	-0.052* (0.023)	4740 (1274)	-0.147* (0.064)	-0.137* (0.059)	-0.152* (0.068)	4740 (1274)
Unemp	0.049* (0.021)	0.037* (0.019)	0.025 (0.020)	4740 (1274)	0.044 (0.053)	0.044 (0.047)	-0.015 (0.054)	4740 (1274)
Inactive	0.024 (0.027)	0.023 (0.021)	0.026 (0.023)	4740 (1274)	0.109 (0.071)	0.110* (0.056)	0.183** (0.066)	4740 (1274)
Ln(wage)	-0.090 (0.077)	-0.048 (0.074)	-0.016 (0.075)	973 (389)	0.378 (0.281)	0.326 (0.245)	0.158 (0.226)	973 (389)
Hours (zeros included)	-3.711** (0.924)	-0.465 (0.324)	-0.481 (0.363)	4673 (1241)	-7.675** (2.646)	-0.475 (0.892)	-0.337 (1.044)	4673 (1241)
Hours (zeros excluded)	-1.409 (1.608)	-1.798 (1.483)	-2.343 (1.468)	1074 (458)	4.396 (5.045)	-1.469 (4.436)	-9.793* (4.581)	1074 (458)
Controls		✓	✓	--		✓	✓	--
Municipality Fixed-effect			✓	--			✓	--

Note: The Table reports the GLS RE (left panel) and G2SLS RE (right panel) regression coefficients on displacement. The dependent variables are dummies for work, unemployment, inactivity, the natural log of the monthly wage and weekly hours (with zeros included or not). The sample is restricted to Bosnian women aged 18-64. See also Note to Table 9.

Table 11: Assimilation Patterns: The effect of Years Since Return on displaced men's labour market outcomes.

Bosnian Men	GLS RE						IV-G2SLS RE					
	Work		Unemployed		Inactive		Work		Unemployed		Inactive	
Dependent:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Displaced	-0.084+ (0.045)	-0.084 (0.057)	0.080+ (0.046)	0.100+ (0.053)	-0.004 (0.037)	-0.027 (0.044)	0.043 (0.537)	-0.057 (0.687)	0.933* (0.464)	0.943+ (0.530)	0.180 (0.689)	1.185 (1.320)
Displaced * YSR	0.010 (0.016)	0.013 (0.021)	0.019 (0.017)	0.029 (0.022)	-0.026+ (0.013)	-0.035* (0.017)	-0.064 (0.145)	-0.126 (0.120)	-0.201 (0.127)	-0.099 (0.104)	0.352 (0.446)	0.305 (0.221)
Displaced * YSR^2	-0.001 (0.001)	-0.002 (0.002)	-0.001 (0.001)	-0.002 (0.002)	0.002* (0.001)	0.003* (0.001)	0.005 (0.010)	0.010 (0.007)	0.013 (0.009)	0.004 (0.007)	-0.035 (0.062)	-0.020 (0.027)
Municipality Fixed-effect	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
YOR Fixed-effects		✓		✓		✓		✓		✓		✓
Sample Size (Indiv.)	4350 (1183)	4350 (1183)	4350 (1183)	4350 (1183)	4350 (1183)	4350 (1183)	4350 (1183)	4350 (1183)	4350 (1183)	4350 (1183)	4350 (1183)	4350 (1183)

Note: The Table reports the GLS RE (left panel) and the G2SLS RE (right panel) regression coefficients on displacement, years since return (YSR), and its square, instrumenting for displacement and its interactions with YSR in the G2SLS. The dependent variables are binary variables for work, unemployment and inactivity. The sample is restricted to Bosnian men aged 18-64. Controls and dummies for year of return added in all specifications; municipality fixed-effects added in columns (2), (4), (6), (8), (10), (12). See also Note to Table 9.

Table 12: Assimilation Patterns: The effect of Years Since Return on displaced women's labour market outcomes.

Bosnian Women	GLS RE					IV-G2SLS RE						
	Work (1)	(2)	(3)	Unemployed (4)	Inactive (5)	(6)	Work (7)	(8)	Unemployed (9)	Inactive (10)	(11)	(12)
Dependent:												
Displaced	-0.064+ (0.035)	-0.048 (0.038)	0.019 (0.032)	0.005 (0.033)	0.036 (0.036)	0.039 (0.039)	-0.417+ (0.245)	-0.873 (0.739)	0.073 (0.300)	-0.325 (0.563)	-3.878 (44.512)	0.314 (0.995)
Displaced * YSR	0.008 (0.012)	0.025 (0.016)	-0.003 (0.012)	-0.027 (0.019)	0.002 (0.013)	-0.001 (0.018)	0.059* (0.030)	0.084* (0.035)	-0.018 (0.061)	-0.026 (0.036)	2.174 (7.540)	-0.291 (0.624)
Displaced * YSR^2	-0.001 (0.001)	-0.002 (0.001)	0.000 (0.001)	0.003 (0.002)	-0.001 (0.001)	-0.000 (0.002)	-0.004+ (0.002)	-0.004* (0.002)	0.001 (0.004)	0.003 (0.002)	-0.191 (0.421)	0.025 (0.053)
Municipality Fixed-effect	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
YOR Fixed-effects		✓		✓		✓		✓		✓		✓
Sample Size (indiv.)	4740 (1274)	4740 (1274)	4740 (1274)	4740 (1274)	4740 (1274)	4740 (1274)	4740 (1274)	4740 (1274)	4740 (1274)	4740 (1274)	4740 (1274)	4740 (1274)

Note: The Table reports the GLS RE (left panel) and the G2SLS RE (right panel) regression coefficients on displacement, years since return (YSR), and its square, instrumenting for displacement and its interactions with YSR in the G2SLS. The dependent variables are binary variables for work, unemployment and inactivity. The sample is restricted to Bosnian women aged 18-64. See Note to Tables 9 and 11.

Table 13: The effect of education on displaced men's labour market outcomes.

	<i>Bosnian men</i>					
	Work		Unemployed		Inactive	
	(1)	(2)	(3)	(4)	(5)	(6)
<hr/>						
GLS RE	<hr/>					
Displaced	-0.197**	-0.090+	0.227**	0.122**	-0.027	-0.033
	(0.050)	(0.053)	(0.044)	(0.047)	(0.040)	(0.044)
Med_High Ed	0.101**	0.137**	-0.033+	-0.050*	-0.069**	-0.089**
	(0.024)	(0.024)	(0.019)	(0.020)	(0.020)	(0.021)
Displaced *	0.107+	0.029	-0.108*	-0.039	-0.002	0.007
Med_High Ed	(0.059)	(0.059)	(0.052)	(0.051)	(0.045)	(0.046)
Controls	✓	✓	✓	✓	✓	✓
Municipality		✓		✓		✓
Fixed-effects	<hr/>					
IV-G2SLS RE	<hr/>					
Displaced	-0.192	-0.031	0.319**	0.215	-0.117	-0.179
	(0.135)	(0.173)	(0.106)	(0.135)	(0.099)	(0.130)
Med_High Ed	0.129**	0.172**	-0.032	-0.056*	-0.094**	-0.114**
	(0.034)	(0.036)	(0.027)	(0.028)	(0.025)	(0.027)
Displaced *	-0.052	-0.161	-0.110	-0.018	0.146	0.160
Med_High Ed	(0.152)	(0.166)	(0.120)	(0.130)	(0.112)	(0.124)
Controls	✓	✓	✓	✓	✓	✓
Municipality		✓		✓		✓
Fixed-effects	<hr/>					
Observations	4350	4350	4350	4350	4350	4350
Individuals	1183	1183	1183	1183	1183	1183

Note: This table reports the effects, for men, of displacement, education, and the additional effect of education for the displaced, on the following labour market outcomes: work, unemployment, and inactivity. The upper panel presents the results from GLS RE regressions, and the lower from the G2SLS RE regressions, instrumenting for displacement. The sample is restricted to Bosnian men aged 18-64. See also notes to Table 9.

Table 14: The effect of education on displaced women's labour market outcomes.

	<i>Bosnian Women</i>					
	Work		Unemployed		Inactive	
	(1)	(2)	(3)	(4)	(5)	(6)
<hr/>						
GLS RE	<hr/>					
Displaced	-0.039 (0.024)	-0.030 (0.027)	0.040+ (0.022)	0.021 (0.024)	-0.003 (0.027)	0.005 (0.029)
Med_High Ed	0.251** (0.024)	0.235** (0.025)	0.062** (0.019)	0.045* (0.020)	-0.319** (0.021)	-0.286** (0.022)
Displaced *	-0.064 (0.045)	-0.058 (0.045)	-0.001 (0.038)	0.013 (0.039)	0.072+ (0.042)	0.051 (0.043)
Controls	✓	✓	✓	✓	✓	✓
Municipality		✓		✓		✓
Fixed-effects	<hr/>					
IV-G2SLS RE	<hr/>					
Displaced	-0.099 (0.071)	-0.124 (0.086)	0.051 (0.056)	0.006 (0.069)	0.062 (0.067)	0.131 (0.083)
Med_High Ed	0.260** (0.038)	0.237** (0.041)	0.071* (0.031)	0.066* (0.033)	-0.337** (0.037)	-0.308** (0.040)
Displaced *	-0.108 (0.125)	-0.068 (0.131)	-0.032 (0.103)	-0.066 (0.107)	0.151 (0.120)	0.138 (0.128)
Controls	✓	✓	✓	✓	✓	✓
Municipality		✓		✓		✓
Fixed-effects	<hr/>					
Observations	4740	4740	4740	4740	4740	4740
Individuals	1274	1274	1274	1274	1274	1274

Note: This table reports the effects, for women, of displacement, education, and the additional effect of education for the displaced, on the following labour market outcomes: work, unemployment, and inactivity. The upper panel presents the results of GLS RE regressions, and the lower, of G2SLS RE regressions, instrumenting for displacement. The sample is restricted to Bosnian women aged 18-64. See also notes to Table 9.

Table 15: The effect of displacement on men's labour market outcomes: robustness check on border municipalities.

<i>Bosnian Men</i>	<i>GLS RE</i>			<i>G2SLS RE</i>				
	(1)	(2)	(3)	Sample Size (indiv.)	(4)	(5)	(6)	Sample Size (indiv.)
Dependent:								
Work	-0.063 (0.047)	-0.099** (0.038)	-0.072 (0.044)	2752 (780)	-0.352** (0.129)	-0.223* (0.102)	-0.206 (0.134)	2752 (780)
Unemp	0.118** (0.037)	0.131** (0.032)	0.123** (0.036)	2752 (780)	0.214* (0.093)	0.248** (0.082)	0.357** (0.108)	2752 (780)
Inactive	-0.059+ (0.034)	-0.034 (0.025)	-0.051+ (0.028)	2752 (780)	0.128 (0.102)	-0.022 (0.073)	-0.156 (0.096)	2752 (780)
Controls		✓	✓	--		✓	✓	--
Municipality Fixed-effect			✓	--			✓	--

Note: Robustness check – This table replicates the regression results reported in Table 9 when the sample is restricted to Bosnian men aged 18-64 whose pre-war place of residence was not situation of the post-Dayton border between the RS and the FBH. See also notes to Table 9.

Table 16: The effect of displacement on women's labour market outcomes: robustness check on border municipalities.

<i>Bosnian Women</i>	<i>GLS RE</i>			<i>G2SLS RE</i>				
	(1)	(2)	(3)	Sample Size (indiv.)	(4)	(5)	(6)	Sample Size (indiv.)
Dependent:								
Work	-0.062* (0.029)	-0.047+ (0.027)	-0.038 (0.030)	3086 (892)	-0.146+ (0.081)	-0.118 (0.075)	-0.159+ (0.087)	3086 (892)
Unemp	0.045 (0.028)	0.028 (0.026)	0.008 (0.027)	3086 (892)	0.025 (0.068)	0.037 (0.061)	-0.016 (0.069)	3086 (892)
Inactive	0.015 (0.035)	0.020 (0.028)	0.032 (0.031)	3086 (892)	0.130 (0.090)	0.108 (0.071)	0.201* (0.084)	3086 (892)
Controls		✓	✓	--		✓	✓	--
Municipality Fixed-effect			✓	--			✓	--

Note: Robustness check – This table replicates the regression results reported in Table 10 when the sample restricted to Bosnian women aged 18-64 whose pre-war place of residence was not situation of the post-Dayton border between the RS and the FBH. See also notes to Table 9.

Table 17: The effect of displacement on men's labour market outcomes: robustness check on schooling age in 1992.

<i>Bosnian Men</i>	<i>GLS RE</i>				<i>G2SLS RE</i>			
	(1)	(2)	(3)	Sample Size (indiv.)	(4)	(5)	(6)	Sample Size (indiv.)
Dependent:								
Work	-0.117** (0.036)	-0.134** (0.031)	-0.075* (0.034)	3662 (975)	-0.324** (0.085)	-0.238** (0.071)	-0.157+ (0.085)	3662 (975)
Unemp	0.142** (0.027)	0.145** (0.025)	0.094** (0.027)	3662 (975)	0.230** (0.056)	0.218** (0.053)	0.181** (0.063)	3662 (975)
Inactive	-0.023 (0.030)	-0.010 (0.022)	-0.019 (0.024)	3662 (975)	0.084 (0.071)	0.015 (0.052)	-0.035 (0.063)	3662 (975)
Controls		✓	✓	--		✓	✓	--
Municipality Fixed-effect			✓	--			✓	--

Note: Robustness check – Sample restricted to Bosnian men aged 27 and above in 2001. See also notes to Table 9.

Table 18: The effect of displacement on women's labour market outcomes: robustness check on schooling age in 1992.

<i>Bosnian Women</i>	<i>GLS RE</i>				<i>G2SLS RE</i>			
	(1)	(2)	(3)	Sample Size (indiv.)	(4)	(5)	(6)	Sample Size (indiv.)
Dependent:								
Work	-0.072** (0.025)	-0.066** (0.023)	-0.050* (0.025)	4098 (1093)	-0.205** (0.066)	-0.204** (0.061)	-0.191** (0.069)	4098 (1093)
Unemp	0.066** (0.022)	0.051* (0.020)	0.034 (0.022)	4098 (1093)	0.077 (0.049)	0.080+ (0.047)	-0.004 (0.053)	4098 (1093)
Inactive	0.006 (0.030)	0.018 (0.024)	0.017 (0.025)	4098 (1093)	0.133+ (0.072)	0.137* (0.058)	0.207** (0.068)	4098 (1093)
Controls		✓	✓	--		✓	✓	--
Municipality Fixed-effect			✓	--			✓	--

Note: Robustness check – Sample restricted to Bosnian men aged 27 and above in 2001. See also notes to Table 9.

Table 19: Sector of Occupation and Job Types by gender and displacement status.

	<i>Stayer</i> <i>(Mean)</i>	<i>Displaced</i> <i>(Mean)</i>	<i>t-stat of difference</i>
Men			
<i>Sectors</i>			
Primary	0.166	0.160	0.31
Secondary	0.424	0.457	-1.19
Tertiary	0.399	0.360	1.45
<i>Job Types</i>			
Self-Employed	0.399	0.509	-4.04
Paid Employee	0.590	0.483	3.90
Help Family	0.009	0.005	0.81
Sample Size	2222	381	--
Women			
<i>Sectors</i>			
Primary	0.140	0.158	-0.65
Secondary	0.315	0.278	1.12
Tertiary	0.535	0.556	-0.58
<i>Job Types</i>			
Self-Employed	0.357	0.427	-2.01
Paid Employee	0.610	0.535	2.10
Help Family	0.032	0.037	-0.42
Sample Size	910	241	--

Note: Descriptive statistics of the sectors of activity and job type for those currently in work – Sample restricted to Bosnian men (upper panel) and women (lower panel) aged 18-64.

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