

The Legacy of Civil War: Post-War Schooling Inequality in Guatemala*

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Abstract

We examine inequality in primary school outcomes after Guatemala's 36-year-long civil war that occurred between 1960 and 1996. Despite education policies that target the most disadvantaged groups and regions in the country, we find large ethnic and gender gaps in completing primary school grades among children in higher war intensity departments who were school age after the war. While ethnic gaps remain persistent for successive cohorts, gender gaps diminish during the six years after the war. Controls for pre-war trends in education and human development across departments suggest that these results are not driven by pre-war disparities that may have contributed to the civil war, but instead most likely reflect the social legacy of war. Given the disproportionate adverse effect of the war on the education of the country's indigenous population, our results show lagged effects of the civil war during the six years after peace was restored.

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1 Introduction

The effects of war on civilian populations can be devastating and persistent. While death, injury, destruction, and displacement caused by war may end once peace is restored, there may be lasting adverse effects on poverty, inequality, health, education, and human capital. There are at least two important reasons why studying the legacies of civil war may be of crucial importance to war-affected countries. First, such studies may help in the design and implementation of post-conflict recovery policies by measuring how persistent the effects of civil war are. Since violent conflict typically targets specific ethnicities or social groups, it affects various segments of society differently. This has implications for the distributional effects of conflict, which may be transmitted quite persistently across generations. Second, if war further intensifies the factors that were responsible for it in the first place – such as poverty, inequality, and social exclusion – then it may increase the risk of war recurrence. This is particularly compelling since war costs tend to be disproportionately borne by the poor and most vulnerable populations, thereby intensifying poverty and inequality (Quinn et al. 2007). Moreover, most wars target specific ethnicities, which may further marginalize and exclude certain social groups from access to health, education, employment, and other dimensions of human development.

There is a large literature that examines the long-term macro-level effects of armed conflict on investment, income, and growth.¹ One set of studies finds that populations quickly recover back to pre-war trends after major external wars. Cities that experienced heavy bombing during World War II were indistinguishable from those that were not bombed 20 to 25 years after the war in Japan (Davis & Weinstein 2002) and in Germany (Brakman et al. 2004). After the Vietnam War, Miguel & Roland (2005) find that physical infrastructure, education, and poverty levels all converged across regions within

¹See Blattman & Miguel (2008) for an extensive survey of the causes and effects of civil war.

25 years. The cross-country literature also finds rapid recovery of postwar economies (Organski & Kugler 1977, 1980, Przeworski et al. 2000).

Evidence on the short-term macro-level effects of war and violence on economic growth and poverty also exists. Compared to currency crises, banking crises, and sudden shifts in executive power, Cerra & Saxena (2008) find that while civil wars cause the largest short-run fall in output (six percent on average), output also rebounds quickly only in the case of civil war, recovering half of the fall within a decade. In countries affected by civil war, economic, social, and political development are also found to improve steadily after a war (Chen et al. 2008). Evidence on the short-run effects of war and violence also exists. Abadie & Gardeazabal (2003) find that terrorist violence in the Basque region of Spain significantly reduced economic growth relative to its neighboring regions. Justino & Verwimp (2006) find that 20 percent of the Rwandan population moved into poverty after the genocide. (Bircan et al. 2010) use cross-country data from 1965-2005 to explore the relationship between conflict and income inequality. The authors find inequality increases during violent conflict as well as in the first five post-conflict years but returns to pre-war levels within a decade after the end of conflict.

A growing empirical literature estimates the microeconomic effects of war on income, poverty, wealth, health, education, and labor market outcomes for both combatants and civilians (Alderman et al. 2004, Akresh et al. 2007, 2009, Blattman & Annan 2007, de Walque 2006, Akresh & de Walque 2008, Shemyakina 2006, Chamarbagwala & Moran 2010). These studies focus on the effects of civil war on individuals who participate in wars or live through them and finds substantial adverse effects on their health and education, which causes a permanent decline in their productivity and earnings. While this literature provides evidence that is crucial for post-war recovery and reconstruction, there is a need for studies that explore the micro-level consequences of internal armed conflict on post-war cohorts in order to understand how persistent the effects of war

may be as well as to help prevent the reoccurrence of internal conflict.

This paper contributes to the literature by examining one aspect of short-term post-conflict recovery after Guatemala's 36-year-long civil war. We estimate inequality in primary school outcomes among children who were primary school age between 1997 and 2002, that is during the six years after the signing of the Peace Accords in December 1996. We focus on estimating urban-rural, ethnic, and gender inequality since the country's civil war disproportionately affected rural indigenous communities and because the education of females lags far behind that of males. Moreover, post-war education policies focus on rural, Mayan, and female children and should therefore narrow the urban-rural, ethnic, and gender gaps in schooling. To the best of our knowledge, this is the first micro-level study of post-war recovery after internal armed conflict.

Between 1960 and 1996, Guatemala experienced civil war, the intensity of which varied both over time and space, with the most violent period occurring from 1979 to 1984 in the poorest rural communities with a large indigenous population. Figure 1 shows the number of human rights violations committed by the state and guerrillas over the 1960-1996 period, with over 90% occurring between 1979 and 1984. Figure 2 shows the geographical distribution of the number of human rights violations and victims of the civil war across Guatemala's 22 departments. With almost 96 victims per 1000 population, Quiché experienced the worst of the war, followed by Baja Verapaz, Alta Verapaz, Petén, and Huehuetenango. One of the main causes of the Guatemalan civil war was the chronic status quo of inequality and social exclusion that was inherited from the colonial period (Commission for Historical Clarification 1999, Archdiocese of Guatemala 1999, Perera & Chauche 1995). For example, in Quiché, the department most affected by the civil war and where almost 100 percent of the population is indigenous, by 1964 90 and 97 percent of households did not have access to water and electricity, respectively, according to data from the National Population Census of 1964.

In an earlier paper (Chamarbagwala & Moran 2010), we find evidence that the civil war in Guatemala had a large negative effect only on the education of the two most disadvantaged groups, that is rural Mayan males and females, who were school age during the war. Surprisingly, we find that schooling among rural Mayan males and especially females deteriorated even more among cohorts who were school age during the latter, relatively peaceful period of the war (1985-1996) than those who were school age during the most violent period (1978-1984).² In the same paper, we find that children in higher war intensity departments who were school age after the war ended in December 1996 were more likely to complete primary school grades compared to their war-affected counterparts. This is true for the two most privileged groups (that is, urban non-Mayan males and females) and the two most disadvantaged ones (that is, rural Mayan males and females). These results suggest that at least primary school outcomes improved immediately after the war for some children.

The civil war in Guatemala appears to have intensified already existing urban-rural, ethnic, and gender disparities in human capital accumulation. As Table 1 shows, among individuals born between 1920 and 1983, schooling outcomes are highest in urban areas and among non-Mayans and males who live in the 17 low war intensity departments. Rural areas, Mayans, and females have the lowest educational outcomes, particularly in the 5 high war intensity departments.³

²We provide three possible explanations for this finding. First, exposure to such a long-term war may have progressively worsened the poverty of vulnerable groups even after the majority of violence subsided and this may have deteriorated schooling outcomes. Second, the sheer length of the war may have decreased parents' expectations of future returns to education for their children and uncertainty regarding the timing of peace and reconstruction may have discouraged parents from educating their children due to the potential scarcity of skilled jobs in the future. Third, since the majority of displacements occurred during the worst period of the war (1979-1984) and among rural Mayan populations, cohorts who were school age between 1985 and 1996 may include children of internally displaced parents. Since displaced families may have been most severely affected by the war, their children's schooling outcomes may have been worse than those of non-displaced families.

³Data is from the 2002 National population Census. In order to allow for completion of schooling by 2002, we include individuals who were born between 1920 and 1983. The youngest cohort – i.e. those who were born in 1983 – were 19 years old in 2002 and therefore had the opportunity to complete high school by the time of the 2002 census. We top code an individual's years of schooling to 12 years, that is we assign 12 years of schooling even to individuals who completed more than 12 years by attending college, who constitute only 5 percent of our sample. In Guatemala, primary school consists of grades 1

In this paper, we use data from the 2002 National Population Census and the distribution of the number of human rights violations and victims across 22 departments during Guatemala's civil war to examine urban-rural, ethnic, and gender inequality in primary school outcomes among children who were primary school age between 1997 and 2002. Since the Peace Accords were signed in December 1996, these children had the opportunity to attend primary school grades during the post-war period.

Our findings are mixed. Whereas urban-rural inequalities among post-war cohorts in higher war intensity departments are insignificant, there are large ethnic and gender inequalities. However, while gender inequalities decrease among younger post-war cohorts in higher war intensity departments, ethnic inequalities remain substantial. These results indicate that between 1997 and 2002, Mayan children in higher war intensity departments continued to lag behind their non-Mayan counterparts. Even though post-war education policies target the most backward rural communities with large indigenous populations, these policies may not have been effective in the immediate aftermath of the civil war. Since we control for pre-war trends in education and human development across departments, our results suggest that the persistence of ethnic inequalities in war-affected regions is not driven by the declining socio-economic conditions that contributed to armed conflict in the first place. Instead, these results may reflect a lagged effect and social legacy of civil war.

This paper is structured as follows. Section 2 describes how civil war may continue to affect individuals' human capital acquisition even after peace is restored and Section 3 summarizes three educational policies that are being implemented in Guatemala which may have affected inequalities in primary school outcomes. Section 4 describes the data and empirical strategy that is used in this paper. Section 5 presents the results and

to 6, secondary school of grades 7 to 9, and high school includes grades 10 to 12. Children usually attend primary school when they are between 7 and 12 years old, secondary school when they are 13 to 15 years old, and high school when they are between 16 and 18 years old. High war intensity departments include 5 departments, namely Quiché, Baja Verapaz, Alta Verapaz, Petén, and Huehuetenango. Low war intensity departments include the 17 other departments.

Section 6 concludes.

2 The After Effects of War on Education

Civil war can have persistent and long-lasting effects on the education of children who have the opportunity to attend school even after peace is restored. There are two main channels through which this may occur. First, children of parents who were directly affected by the war may receive less education for several reasons. The inferior levels of education, health, nutrition, and lifelong productivity and earnings of individuals directly exposed to violence may severely affect the education of their children.⁴ Since many civil wars target ethnic minorities who have traditional socio-cultural beliefs that do not place much value on formal education, exposure to conflict may make them more distrustful of formal institutions, which may worsen the educational prospects of their children.

Second, children who have the opportunity to attend school in war torn regions after the conflict has ended and peace is restored may have worse educational outcomes because war-affected regions may remain without schools, teachers, and infrastructure. If post-war reconstruction is slow or ineffective, these lagged effects of civil war may be persistent and long-lasting.

Armed conflict may have a stronger impact on certain groups of individuals, particularly if specific ethnicities are targeted. During the civil war in Guatemala, the majority of human rights violations occurred against the Mayan population in rural areas. Unlike many other civil wars, the war in Guatemala lasted 36 years. Thus, the effect of Guatemala's civil war on human capital accumulation may have been very different

⁴Direct exposure to civil conflict may lower schooling for several reasons. The forced displacement of families may reduce their already scarce resources and force them to reallocate these resources away from schooling and towards more basic needs such as food, shelter, clothing, and health. The destruction of schooling infrastructure and the loss of teachers may make it difficult or impossible for many children to attend school during civil war. Security fears may also drive parents to withdraw their children from school during armed conflict, a factor that may be particularly relevant for girls. The expected returns to schooling may fall as a result of low investment in industry and uncertainty with respect to when the war will end, which may discourage parents from educating their children.

from other shorter wars. The loss of property and means of livelihood, the destruction of entire communities and villages, and the forced displacement of families over a 36-year period may have created several generations of individuals with deep-rooted poverty and inferior health and educational outcomes. Even though stark ethnic and regional inequalities in education existed well before the civil war started, 36 years of conflict reinforced these disparities. This is because the majority of victims in the civil war were Mayans who lived in rural areas of higher war intensity departments.

3 Post-War Education Policies

Chronic socio-economic inequality between non-Mayans and Mayans as well as the severe marginalization of rural indigenous people were among the prime causes of Guatemala's civil war. Even after the war ended, however, indigenous people lag far behind non-indigenous ones in terms of human development indicators. In 2000, whereas 79 percent of the indigenous population fell below the poverty line, only 42 percent of non-indigenous population did.⁵

Given that disparities in educational outcomes drive income inequality to a large extent, reducing the urban-rural, ethnic, and gender gaps in schooling is critical in creating a more equitable distribution of income and wealth. As a result, transforming the country's education system to address both social and economic inequalities was an important component of the Peace Accords of December 1996, which was signed by the Government of Guatemala and the Union Revolucionaria Nacional Guatemalteca (URNG).

Beginning in the early 1990s, the Ministry of Education implemented two reforms that aim at improving schooling outcomes in remote rural indigenous communities, namely the National-Community-Managed Program for Educational Development (PRON-ADE) and bilingual schooling. Both these programs disproportionately affect the quan-

⁵These estimates are from the 2000 ENCOVI household survey.

tity and quality of schools attended by indigenous children in rural areas. Therefore, these policies are expected to narrow the urban-rural and ethnic gap in primary school outcomes.

Even though the government pays for teacher salaries and many other expenses, PRONADE schools are decentralised and community managed. They are disproportionately located in remote rural indigenous communities and are primarily attended by Mayan children. McEwan & Trowbridge (2007) show that 16 percent of Mayan and 4.3 percent of non-Mayan children attended PRONADE schools in 2000. Bilingual schools not only attempt to improve the quality of schooling for non-native Spanish speakers by teaching them Spanish as a second language but also provide them with dominance in their native language. Even though this program started in the mid-1980s and has expanded since then, only 33 percent of indigenous students in Guatemala received some bilingual instruction in 2000 (McEwan & Trowbridge 2007).

Besides PRONADE and bilingual schools, a scholarship program for poor indigenous girls was introduced in 1997, which is expected to reduce the gender gap in primary school outcomes. The primary objective of this program is to keep Mayan girls in school by providing them with financial aid and thereby delay their marriage and reproduction. Even though this program is limited in scope, by the year 2000 it reached 36,000 girls in grades 1 to 4 in rural schools located in 8 departments, namely Chimaltenango, Solola, Totonicapan, San Marcos, Huehuetenango, Alta Verapaz, and Baja Verapaz. In 2003, the scholarship program had expanded to 75,000 girls.

Since the schooling of rural Mayans in higher war intensity departments was disproportionately adversely affected by the civil war, their education outcomes are expected to have improved more than other demographic groups. This is particularly true since higher war intensity departments are also among the poorest rural communities with large indigenous populations – namely, those communities that post-war education poli-

cies target. Therefore, the urban-rural and especially ethnic schooling gaps are expected to narrow in war torn departments after the war. Gender gaps in schooling in higher war intensity departments may also decrease once security fears for daughters decrease after peace is restored and because the scholarship program for girls spread to three departments that experienced a high intensity of war, namely Baja Verapaz, Alta Verapaz, and Huehuetenango (Chesterfield & Enge 2002).

Our empirical analysis show no urban-rural inequalities in primary school outcomes among post-war cohorts and gender gaps that decrease steadily among younger post-war cohorts in higher war intensity departments. However, we find large and persistent ethnic inequalities in primary schooling among post-war cohorts in higher war intensity departments.

These results point to two important conclusions. First, education policies were ineffective in narrowing ethnic schooling inequalities during the six years following the end of Guatemala's civil war. Second, the civil war may have had a lagged effect on the education of post-war Mayan children either because their parents were adversely affected by the war or war-affected regions remained under-developed, or both.

4 Data and Estimation

4.1 Data

We use four sources of data for this study. Two data sources provide information on the geographical intensity of the civil war in Guatemala. The first source is from the Commission for Historical Clarification and provides the number of human rights violations and acts of violence across the country's 22 departments (Commission for Historical Clarification 1999). The second data source is from the Recovery of Historical Memory Project and provides the number of victims in each of the country's 22 departments (Archdiocese of Guatemala 1999). Using the total population in each department from

the 1983 National Population Census, the year closest to the 1979-1984 period, we calculate the number of victims and human rights violations relative to the population in these departments.⁶ As can be seen in Figure 2, the six departments with the highest number of victims per 1000 population include Quiché, Baja Verapaz, Alta Verapaz, Petén, Huehuetenango, and San Marcos. The highest number of human rights violations per 1000 population occurred in Quiché, Baja Verapaz, Huehuetenango, Alta Verapaz, Chimaltenango, and Petén. We categorize as high war intensity departments the five departments that fall in both categories – namely, Quiché, Baja Verapaz, Alta Verapaz, Petén, Huehuetenango – and the remaining 17 departments as low war intensity.

Our third source of data is the 2002 National Population Census, which was published by the Instituto Nacional de Estadística, Guatemala. From the 2002 Census we get information on an individual’s birth year, demographic characteristics, schooling, and current department of residence. Since we examine schooling outcomes among only those cohorts who had the opportunity to attend each grade after the signing of the Peace Accords in December 1996, our sample includes a different set of cohorts for completion of grades 1 to 6 or higher.

From the 1964 National Population Census, we obtain information on three key variables that measure the level of education and human development in the country’s 22 departments at the start of the civil war.⁷ We use the enrollment rate of 7 to 17 year old children to measure initial levels of schooling and the proportion of households without access to water and electricity to measure differences in the provision of basic services. We use this information to control for different trends in education and human development across departments.

Table 2 lists the cohorts included in each regression. For example, for completion

⁶The 1983 Census was administered and published by the Dirección General de Estadísticas, Guatemala.

⁷The 1964 Census was administered and published by the Dirección General de Estadísticas, Guatemala.

of grade 1 or higher, we include individuals born between 1990 and 1995. The oldest cohort (those born in 1990) was 7 years old in 1997 and therefore old enough to attend grade 1 only during the post-war period. The youngest cohort (those born in 1995) was 7 years old in 2002 and therefore old enough to be attending grade 1 at the time of the 2002 Census. For completion of grades 2 to 6 or higher, the post-war cohorts consist of individuals born in 1989-1994, 1988-1993, 1987-1992, 1986-1991, and 1985-1990 respectively. These cohorts were respectively 8, 9, 10, 11, and 12 years old between 1997 and 2002.

We show the proportion of children completing each of grades 1 to 6 or higher in Figures 3, 4, and 5. These figures show urban-rural, ethnic, and gender differences in primary school outcomes in the 5 high war and 17 low war intensity departments.

Several observations are interesting in these graphs. First, for all grades, there is a decreasing proportion of children completing each grade among younger cohorts. This reflects the higher age-for-grade among all children due to either delayed enrollment or grade repetition. For example, many children may enroll in grade 1 when they are 8 or 9 rather than 7 years olds. Further, grade repetition may make 8, 9, or even 10 year olds remain in grade 1.

Second, there is a lower proportion of children completing each successive grade which may be due to a high drop-out rate for all children. Even among one of the most privileged groups - namely, non-Mayans in low war intensity departments – 87 percent of children born in 1990 (the oldest post-war cohort for grade 1) had completed grade 1 or higher in 2002 but only 66 percent of those born in 1985 (the oldest post-war cohort for grade 6) had completed grade 6 or higher at the time of the census in 2002. For one of the most disadvantaged groups – namely, Mayans in high war intensity departments, the corresponding figures are 76 percent and 32 percent.

Finally, there are fairly large gaps between urban and rural sectors, Mayan and non-

Mayan children, and boys and girls as well as large disparities between high war and low war intensity departments for all post-war cohorts. For example, urban children in low war intensity departments acquire the most primary schooling, followed by urban children in high war intensity departments. Rural children in low war intensity departments have less schooling but the worst outcomes occur among rural children in high war intensity departments.

With respect to ethnic inequalities, there is little or no difference between non-Mayans in low and high war intensity departments. Schooling outcomes are highest among these two groups, followed by Mayans in low war intensity departments. As expected, the worst schooling outcomes occur among Mayans in high war intensity departments.

The patterns in gender differences are slightly different from those observed for urban-rural and ethnic gaps. Boys and girls in low war intensity departments achieve more primary schooling than boys and girls in high war intensity departments. However, there is a small gender gap within each set of departments, which disappears for the younger cohorts. These patterns are fairly consistent for all primary school grades.

4.2 Estimation

We use a difference-in-differences estimation strategy and estimate Equation 1.⁸

$$\begin{aligned}
 Y_{ijt} = & \alpha + \beta_1 War_j * Rural_{ijt} + \beta_2 War_j * Mayan_{ijt} + \beta_3 War_j * Female_{ijt} \\
 & + \beta_4 Rural_{ijt} + \beta_5 Mayan_{ijt} + \beta_6 Female_{ijt} + \lambda Teachers_{jt} + \delta_j + \gamma_t + \varepsilon_{ijt},
 \end{aligned} \tag{1}$$

Y_{ijt} is an indicator for whether individual i who currently lives in department j and was born in year t has completed each primary school grade or higher. War_j is a measure of the intensity of the war in department j , which we measure in two alternate ways – the number of human rights violations and the number of victims in a department relative

⁸We estimate probit regressions. Alternatively, we estimate linear probability models (available upon request), which provide qualitatively similar results.

to the population of the department in 1983.⁹

$Rural_{ijt}$, $Mayan_{ijt}$, $Female_{ijt}$ are indicators for whether an individual lives in a rural area, is Mayan, and is female, respectively. The interactions of a department's war intensity with each of these indicators are the key variables of interest and measure how rural, Mayan, and female children in higher war intensity departments compare to urban, non-Mayan, and male children in lower war intensity departments if they had the opportunity to attend each of grades 1 to 6 after the war ended in December 1996.

$Teachers_{jt}$ is the number of teachers in primary schools (public and private) per 100 school age children(7-17 years) in each department in each year. This variable controls for variation in the quantity and quality of schools across departments over time and captures the effect of post-war education policies to a large extent.

In order to control for unobserved correlation of observations within departments and for a specific birth cohort, we include department and year of birth fixed effects, δ_j and γ_t respectively. Including department fixed effects purges all observed and unobserved department characteristics that are constant across individuals from the same department, thereby removing any bias that is generated by department characteristics. Year of birth fixed effects control for cohort-specific shocks that may bias our results. ϵ_{ijt} is a random, idiosyncratic error term. Since correlation among the error terms of all individuals in a given location experiencing the same shocks may bias the standard errors downward, all standard errors are clustered by an individual's county (Moulton 1986, 1990, Bertrand et al. 2004).

A key identification problem in Equation 1 is that higher war intensity departments are different from lower war intensity departments. Thus, poor post-war economic recovery could reflect the direct lagged impact of war or the declining socio-economic conditions that contributed to armed conflict in the first place. Given the availability

⁹Specifically, we use the number of human rights violations per 10 people and alternatively the number of victims per 10 people in each department in 1983.

of census data in 1964, only a few years after the start of the war in 1960, we use information on school enrollment and access to water and electricity from the 1964 Census to control for different trends in education and human development across departments. We include three sets of interactions in Equation 1 – those between year of birth indicators and a department’s enrollment rate in 1964, those between year of birth indicators and the proportion of households without access to water in 1964, and those between year of birth indicators and the proportion of households without access to electricity in 1964. These interactions explicitly control for different trends in education and human development across departments for individuals born in each year.¹⁰

5 Results

5.1 Baseline Difference-in-Differences Estimation

Table 3 presents regression results of Equation 1 to estimate the probability of completing each of grades 1 to 6 or higher among post-war cohorts. We use the population adjusted number of human rights violations to measure civil war intensity in Panel A and the number of victims relative to population to measure civil war intensity in Panel B.

The coefficients β_4 , β_5 , and β_6 are negative and significant for all grades and show that irrespective of war intensity in a department, all post-war cohorts who live in rural areas, are Mayan, or female are less likely to complete each of grades 1 to 6 compared to post-war cohorts who live in urban areas, are non-Mayan, or male, respectively. The magnitude of these coefficients increase from grade 1 to grade 6, reflecting a lower and lower likelihood of completing higher primary school grades for these three groups of post-war cohorts.

Panel A of Table 3 shows that compared to urban post-war cohorts, rural children

¹⁰Using pre-war levels interacted with year of birth indicators to control for different trends in higher and lower war intensity departments is similar to the estimation strategy used by Duflo (2001).

have a lower likelihood of completing grades 1 to 6 by between 12 to 23 percentage points. For Mayans and females the lower likelihood of completing primary school grades relative to non-Mayans and males ranges from 11 to 19 percentage points and from 0.7 to 3 percentage points, respectively. These results are expected and reflect the disadvantage in education faced by rural, Mayan, and female children throughout Guatemala well before the war started.

The difference-in-differences estimates are the coefficients of the interaction between each of three indicators (*Rural*, *Mayan*, and *Female*) and a measure of war intensity in one's department – namely, β_1 , β_2 , and β_3 . The coefficients β_2 and β_3 are negative and significant for all grades whereas β_1 is insignificant for all grades. Thus, within a given department and for a specific birth cohort, Mayan and female children in higher war intensity departments who were primary school age after the war ended are even less likely to have completed each of grades 1 to 6 compared to all Mayan and female children in the country. However, rural post-war cohorts in higher war intensity departments are not more or less likely to complete primary school grades compared to all rural children.

The magnitudes of β_2 and β_3 are fairly large, as reported in Panel A of Table 3. Compared to all Mayan children who were old enough to attend grade 1 after the war ended, those living in higher war intensity departments are even less likely to complete grade 1 by 16 percentage points. Similarly, compared to all girls who were old enough to attend grade 1 after the war ended, females living in higher war intensity departments are even less likely to complete grade 1 by 8 percentage points. For grades 2 to 6, β_2 and β_3 are slightly larger in magnitude.

The estimates reported in Panel B, where we use the population-adjusted number of victims rather than the number of human rights violations to measure war intensity, are qualitatively similar to those in Panel A, though the magnitude of the coefficients vary.

While our sample includes all post-war cohorts for the results presented in Table 3, in Table 5 we include only post-war cohorts who are children of the household head in our sample. While this restriction lowers the number of observations in our sample, it allows us to control for the household head’s years of schooling and include indicators for the head of household’s occupation and type of employment, all of which capture a household’s income and resources and could affect a child’s likelihood of completing each grade.¹¹

In Table 5, the coefficient estimates of β_4 and β_5 are slightly smaller than those reported for the full sample in Table 3. Thus differences in parental education, occupation, and employment between rural and urban children and between Mayan and non-Mayan children contribute to the urban-rural and ethnic schooling gap among post-war cohorts in all departments, irrespective of war intensity. The coefficient estimates of β_2 and β_3 , however, remain fairly robust when we control for parental education, occupation, and employment. Thus, the additional disadvantage faced by Mayan and female post-war cohorts in higher war intensity departments does not appear to be driven by differences in parental education and resources among children in war torn and relatively peaceful departments.

The results in Tables 3 and 5 show that the ethnic and gender gap in primary school outcomes among post-war cohorts is wider in higher war intensity departments and that this result is robust to controls for parental resources as measured by the head of household’s education, occupation, and employment. Thus, the civil war appears to have intensified ethnic and gender disparities in schooling even after peace was restored.

5.2 Variation Among Post-War Cohorts

In order to examine whether or not the urban-rural, ethnic, and gender gap in higher war intensity departments changes for younger post-war cohorts, we interact the key

¹¹We include nine indicators for the household head’s occupation and 5 indicators for his/her type of employment. These are presented in Table 4.

variables of interest with indicators for each birth year among post-war cohorts. We estimate Equation 2.

$$\begin{aligned}
Y_{ijt} = & \alpha + \sum_{c=1}^6 \beta_{1,c} War_j * Rural_{ijt} + \sum_{c=1}^6 \beta_{2,c} War_j * Mayan_{ijt} + \sum_{c=1}^6 \beta_{3,c} War_j * Female_{ijt} \\
& + \beta_4 Rural_{ijt} + \beta_5 Mayan_{ijt} + \beta_6 Female_{ijt} + \lambda Teachers_{jt} + \delta_j + \gamma_t + \varepsilon_{ijt},
\end{aligned}
\tag{2}$$

The motivation for doing so is two-fold. First, we expect that post-war recovery should improve over time. If reconstruction of schooling and other infrastructure improves in war torn departments, then each successive post-war cohort in higher war intensity departments should be more and more likely to be educated. However, since rural Mayans were most severely negatively affected by the war, once recovery begins we expect the greatest improvement in education outcomes among this group, particularly since post-war education policies focus on them. Therefore, we expect the urban-rural and ethnic gaps to consistently decrease among younger and younger post-war cohorts in higher war intensity departments. Since some post-war policies specifically aimed at improving schooling outcomes among girls and because girls fared particularly badly in war torn departments during the war, we also expect a narrowing gender gap among younger and younger post-war cohorts in higher war intensity departments. The second reason for expecting smaller schooling gaps in higher war intensity departments over time is relevant for completion of grades 2 to 6. Each successive post-war cohort had the opportunity to attend fewer grades during the war and more grades after the war. Since education is cumulative, in that completion of lower grades is necessary for completion of higher grades, younger cohorts should be increasingly likely to complete lower grades and therefore also increasingly likely to complete higher grades.

For example, for completion of grade 2 and above, children born from 1989 to 1994 are included in the sample. The eldest cohort – that is, those born in 1989 – was 7 years old in 1996 and 8 years old in 1997. This cohort was therefore the appropriate age for

grade 1 during the war but the correct age for grade 2 after the war ended. All other cohorts in this sample – that is, those born between 1990 and 1994 – were 7 years old in 1997 or later and therefore had the opportunity to attend grade 1 only during post-war years. Since completion of grade 2 is conditional on completion of grade 1, those born between 1990 and 1994 should be more likely to complete both grades 1 and 2 in higher war intensity departments.

Tables 6 to 11 present results of estimation Equation 2 for completing grades 1 to 6 or higher. Columns 1 and 2 use the number of human rights violations to measure war intensity whereas columns 3 and 4 use the number of victims to measure the intensity of war. Columns 1 and 3 use all children in the sample and columns 2 and 4 restrict the sample to children of the household head so that we can control for the head of household's education, occupation, and type of employment.

In discussing the results, we focus on the results presented in column 2. There are three important observations in these tables. First, consistent with the results presented in Tables 3 and 5, there is an urban-rural gap for all post-war cohorts. However, rural post-war cohorts in higher war intensity departments are not more or less likely to complete primary school grades compared to all rural children.¹²

Second, compared to all Mayans, those in higher war intensity departments are even less likely to complete each of grades 1 to 6 or higher. The additional disadvantage faced by Mayans in higher war intensity departments remains fairly large and consistent for all post-war cohorts and does not decrease for younger and younger cohorts. In fact, for grades 3 to 6 or higher, this additional disadvantage is increasing for younger post-war cohorts. For example, for completion of grade 5 or higher (Table 10, column 2), Mayans born in 1986 in higher war intensity departments are even less likely to complete grade 5 or higher by 14 percentage points compared to all Mayans. This

¹²Two exceptions are for completion of grade 6 and higher (Table 11, column 2) for individuals born in 1985 and 1987, where both coefficient estimates are negative and significant.

additional disadvantage more than doubles to 33 percentage points for Mayans born in 1991 in higher war intensity departments. This observation counters our expectations since it provides evidence of a widening ethnic gap in higher war intensity departments during the six years after the war ended.

The third observation supports our expectation regarding changes in the gender gap in higher war intensity departments over time. The additional disadvantage faced by females in higher war intensity departments is large for older cohorts for completion of all grades. However, this decreases dramatically for grades 1 and 2 and becomes zero for grades 3 to 6. This finding is most likely due to the girl scholarship program implemented by the Ministry of Education that aimed to increase female participation in school.

6 Conclusion

This paper explores three dimensions of inequality in primary school outcomes in higher war intensity departments during the six years after the end of Guatemala's 36-year-long civil war. We find that urban-rural inequality is not different in departments that experienced more violence, that gender differences decrease for younger post-war cohorts in war torn departments, and that ethnic disparities remain pronounced and even increase for younger post-war cohorts after the end of the war in higher war intensity departments.

These results suggest that post-war education policies may have been successful in narrowing the urban-rural and gender gaps in schooling in war affected departments. However, at least during the six years immediately following the signing of the Peace Accords in December 1996, ethnic inequalities still existed in war torn departments. Since Mayans were disproportionately affected by the war, our analysis suggests that the war may have had a lagged effect on the education of Mayan children who had the

opportunity to attend primary school grades in higher war intensity departments after the war ended.

Since differences in educational outcomes between Mayans and non-Mayans contribute to ethnic disparities in income and human development, narrowing the ethnic gap in schooling is essential in order to decrease inequality in Guatemala. This is particularly true in departments that experienced more violence during the country's 36-year-long war. Compared to other Latin American countries with large indigenous populations, ethnic disparities in education are largest in Guatemala. As Table 12 shows, indigenous people have the lowest average years of schooling in Guatemala. Moreover, in Guatemala non-indigenous people have on average 128 percent more years of schooling than indigenous people, compared to between 36 percent and 72 percent in other Latin American countries.

The results presented in this paper imply that narrowing the ethnic gap in education, particularly in parts of the country that experienced a higher intensity of war, should remain a priority Guatemala's education policy. Not only should policy makers focus on increasing access to schools and improving the quality of schools in war torn departments but they should also increase the number of bilingual schools in these areas in order to accommodate the majority of Mayans whose first language is not Spanish.

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Figure 1: Number of Human Rights Violations in Guatemala: 1960-1996

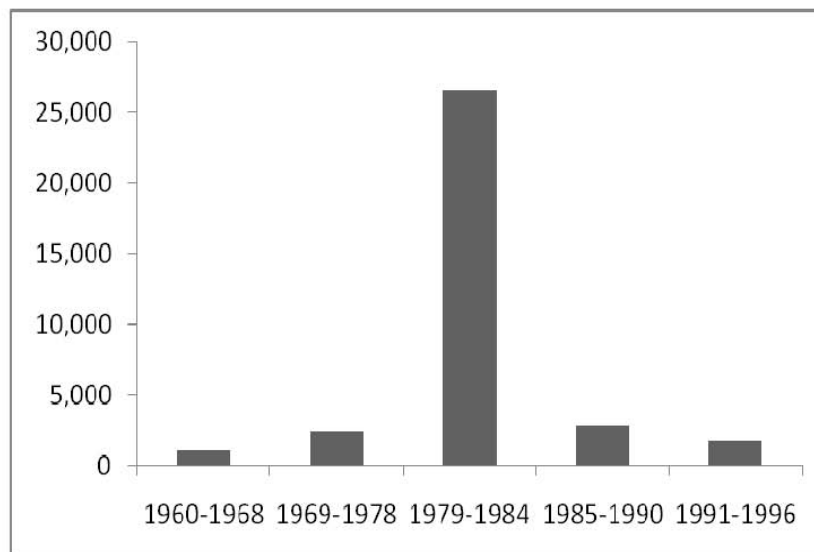


Figure 2: Number of Human Rights Violations and Victims Per 1000 Population in Departments

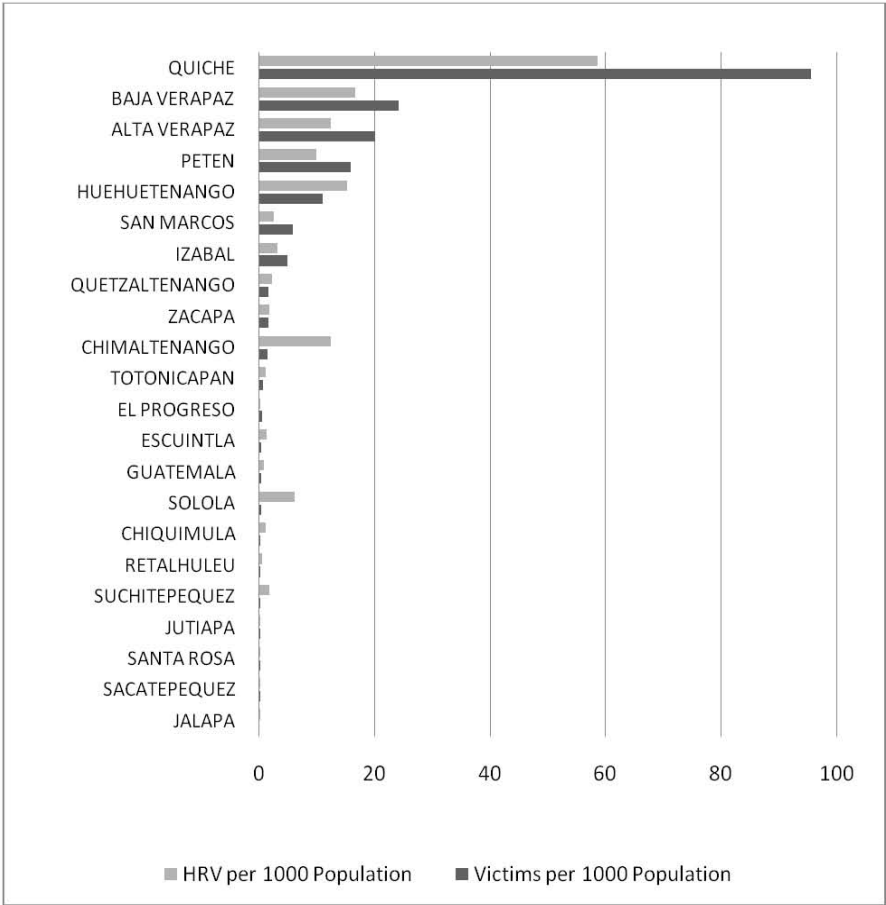


Table 1: Disparities in Educational Attainment – by Sector, Ethnicity, and Gender in Low War Intensity (LWI) and High War Intensity (HWI) Departments

| PANEL A | | | | | | |
|--------------------|--------------|------------|--------------|------------|----------------------|------------|
| | Urban | | Rural | | Urban - Rural | |
| | LWI | HWI | LWI | HWI | LWI | HWI |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Years of Schooling | 6.25 | 4.79 | 2.69 | 1.61 | 3.56 | 3.18 |
| Primary School | 0.60 | 0.44 | 0.22 | 0.11 | 0.38 | 0.33 |
| Secondary School | 0.37 | 0.26 | 0.07 | 0.03 | 0.30 | 0.23 |
| High School | 0.24 | 0.17 | 0.04 | 0.01 | 0.20 | 0.16 |
| Observations | 2,373,320 | 382,220 | 1,752,038 | 882,242 | | |

| PANEL B | | | | | | |
|--------------------|------------------|------------|--------------|------------|--------------------------|------------|
| | Non-Mayan | | Mayan | | Non-Mayan - Mayan | |
| | LWI | HWI | LWI | HWI | LWI | HWI |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Years of Schooling | 5.44 | 4.74 | 2.73 | 1.74 | 2.71 | 3.01 |
| Primary School | 0.51 | 0.42 | 0.22 | 0.13 | 0.29 | 0.29 |
| Secondary School | 0.30 | 0.24 | 0.09 | 0.05 | 0.21 | 0.19 |
| High School | 0.19 | 0.16 | 0.05 | 0.02 | 0.14 | 0.14 |
| Observations | 3,055,894 | 351,049 | 1,069,464 | 913,413 | | |

| PANEL C | | | | | | |
|--------------------|--------------|------------|----------------|------------|----------------------|------------|
| | Males | | Females | | Males-Females | |
| | LWI | HWI | LWI | HWI | LWI | HWI |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Years of Schooling | 5.14 | 3.13 | 4.38 | 2.06 | 0.76 | 1.07 |
| Primary School | 0.48 | 0.26 | 0.40 | 0.17 | 0.08 | 0.09 |
| Secondary School | 0.26 | 0.12 | 0.22 | 0.08 | 0.04 | 0.03 |
| High School | 0.16 | 0.07 | 0.14 | 0.05 | 0.02 | 0.02 |
| Observations | 1,951,810 | 604,920 | 2,173,548 | 659,542 | | |

Data Sources: 2002 National Population Census (Instituto Nacional de Estadística (INE), Guatemala), Recovery of Historical Memory Project (1999), and Commission for Historical Clarification (1999). Data for individuals born between 1920 and 1983 are used to construct these figures. High war intensity departments include 5 departments, namely Quiché, Baja Verapaz, Alta Verapaz, Petén, and Huehuetenango. Low war intensity departments include the 17 other departments.

Table 2: Cohorts Used in Post-War Analysis

| Grade | Cohort of Grade-Specific Age In Postwar Period | Age of Oldest Cohort in 1997 | Age of Youngest Cohort in 2002 |
|--------------|---|---|---|
| 1 | 1990-1995 | 7 | 7 |
| 2 | 1989-1994 | 8 | 8 |
| 3 | 1988-1993 | 9 | 9 |
| 4 | 1987-1992 | 10 | 10 |
| 5 | 1986-1991 | 11 | 11 |
| 6 | 1985-1990 | 12 | 12 |

Figure 3: Proportion Completing Primary School Grades in High War Intensity (HWI) and Low War Intensity (LWI) Departments in Urban and Rural Areas

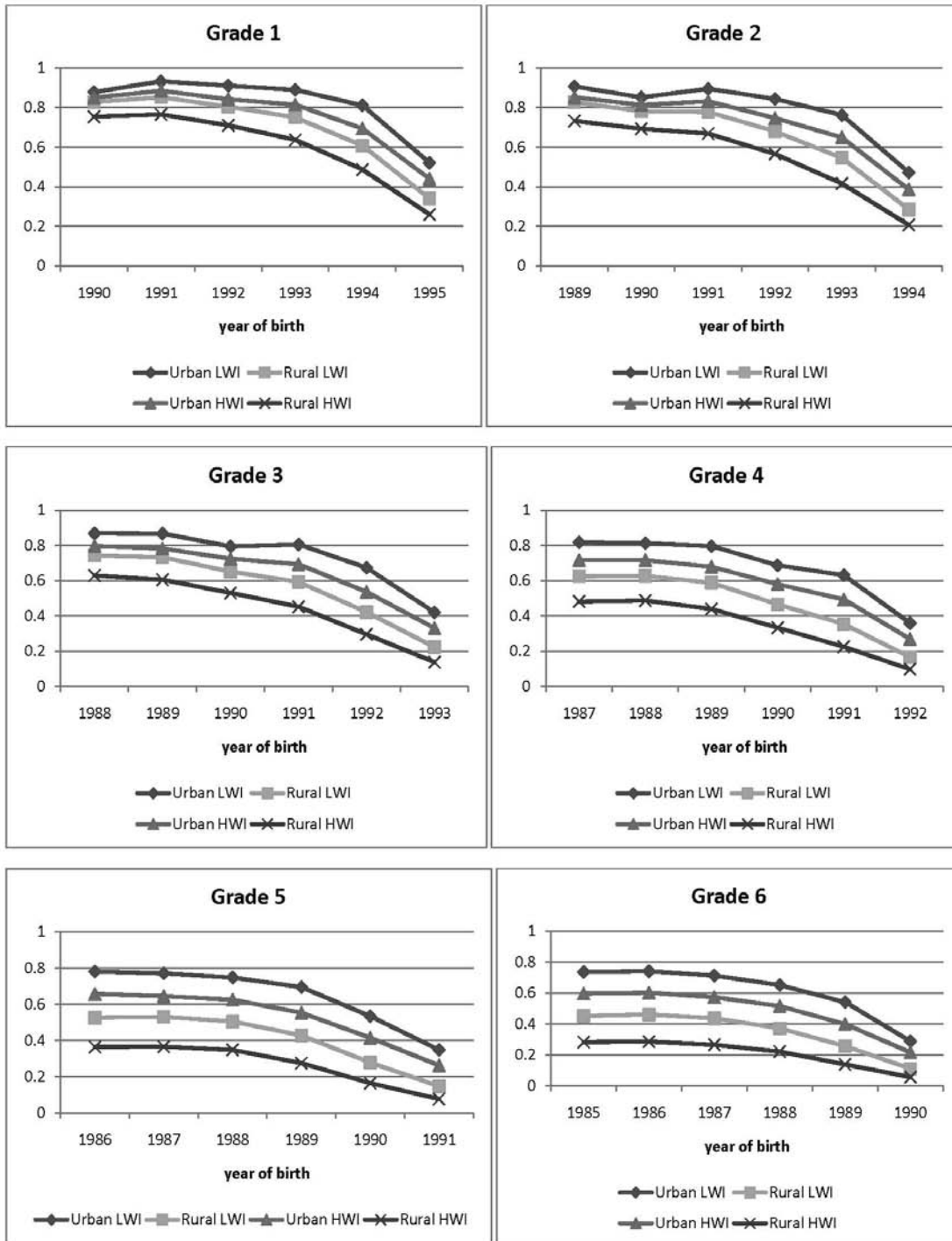


Figure 4: Proportion Completing Primary School Grades in High War Intensity (HWI) and Low War Intensity (LWI) Departments among Mayans and Non-Mayans

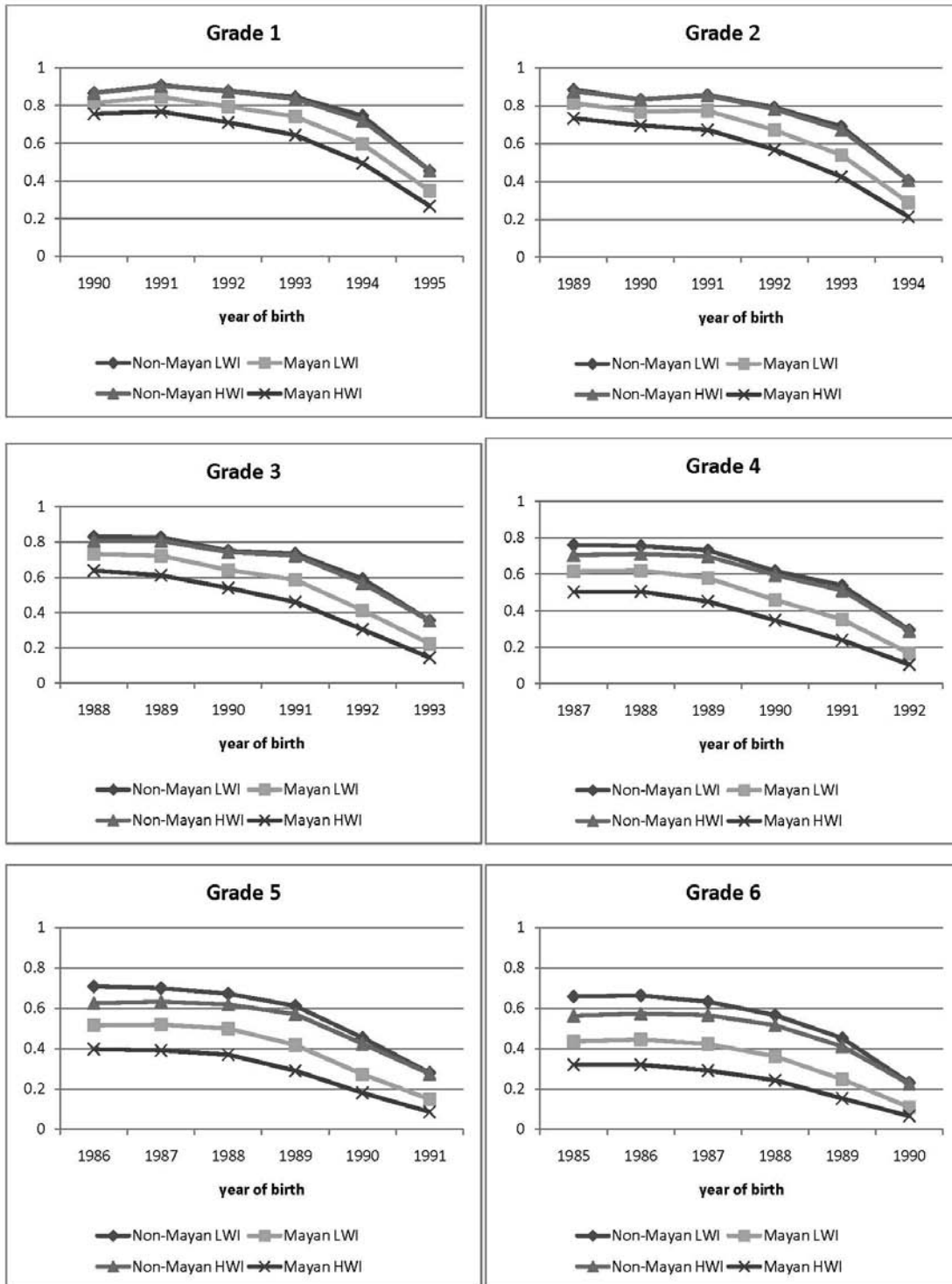


Figure 5: Proportion Completing Primary School Grades in High War Intensity (HWI) and Low War Intensity (LWI) Departments among Males and Females

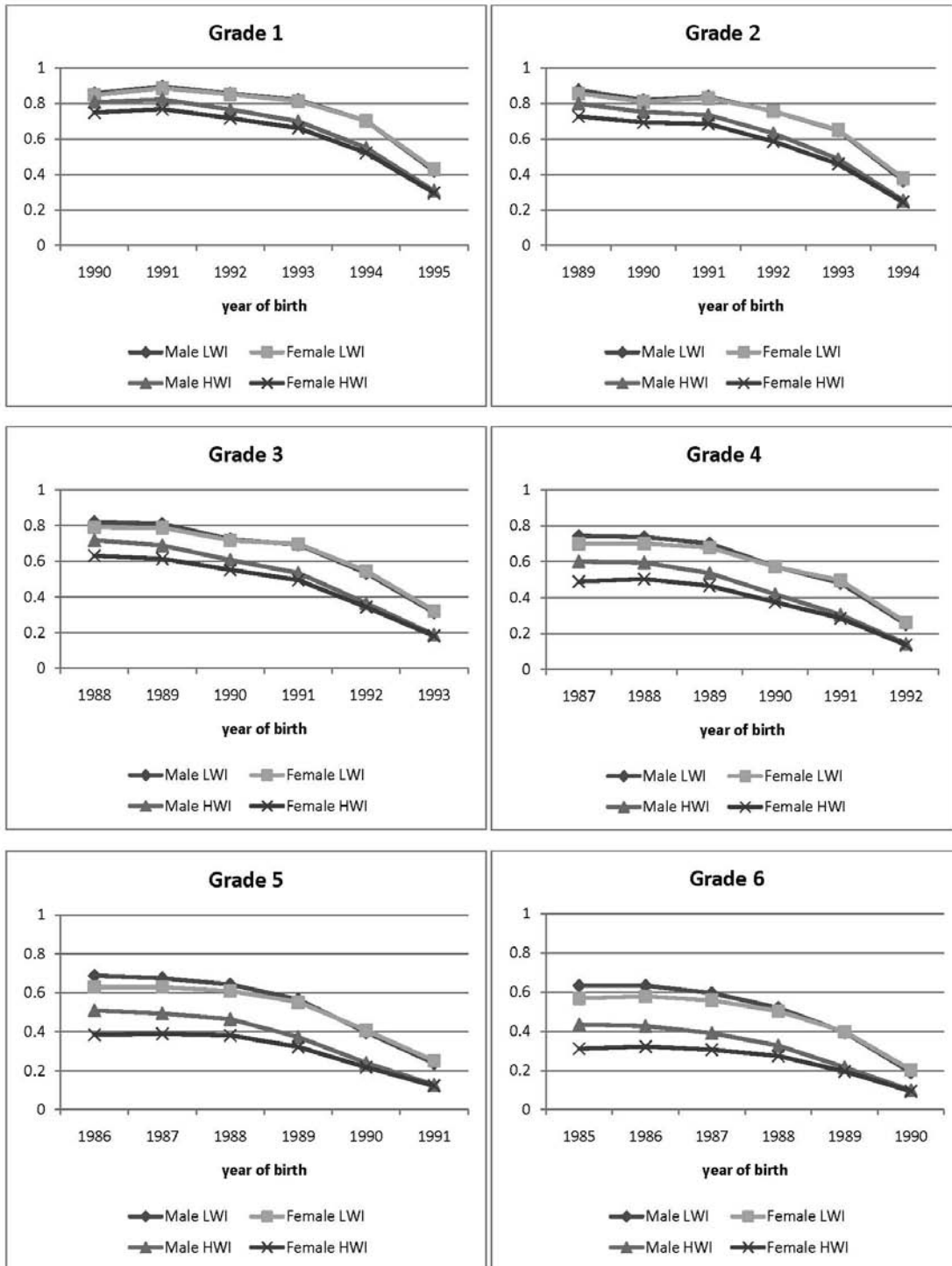


Table 3: Probability of Completing Primary School Grades for All Post-War Cohorts

| Variable | Coeff. | Probability of Completing | | | | | |
|--|-----------|---------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| | | Grade 1 (1) | Grade 2 (2) | Grade 3 (3) | Grade 4 (4) | Grade 5 (5) | Grade 6 (6) |
| Panel A: Using Human Rights Violations to Measure War Intensity | | | | | | | |
| HRV × Rural | β_1 | 0.0745 (0.0559) | 0.0541 (0.0513) | 0.0566 (0.0616) | 0.0298 (0.0672) | -0.0116 (0.0679) | -0.0493 (0.0721) |
| HRV × Mayan | β_2 | -0.1631*** (0.0525) | -0.1828*** (0.0573) | -0.2201*** (0.0627) | -0.2119*** (0.0665) | -0.2111*** (0.0655) | -0.1929*** (0.0644) |
| HRV × Female | β_3 | -0.0836*** (0.0087) | -0.1015*** (0.0105) | -0.1082*** (0.0118) | -0.1197*** (0.0141) | -0.1279*** (0.0145) | -0.1274*** (0.0164) |
| Rural | β_4 | -0.1183*** (0.0122) | -0.1283*** (0.0129) | -0.1661*** (0.0157) | -0.1942*** (0.0178) | -0.2165*** (0.0192) | -0.2257*** (0.0202) |
| Mayan | β_5 | -0.1080*** (0.0153) | -0.1234*** (0.0172) | -0.1487*** (0.0190) | -0.1654*** (0.0211) | -0.1807*** (0.0225) | -0.1906*** (0.0234) |
| Female | β_6 | -0.0071*** (0.0023) | -0.0071** (0.0028) | -0.0105*** (0.0031) | -0.0193*** (0.0039) | -0.0290*** (0.0039) | -0.0337*** (0.0039) |
| Other Controls: | | | | | | | |
| HH Head's Years of Schooling | | No | No | No | No | No | No |
| HH Head's Occupation | | No | No | No | No | No | No |
| HH Head's Employment Type | | No | No | No | No | No | No |
| Sample (Birth Year) | | 1990-1995 | 1989-1994 | 1988-1993 | 1987-1992 | 1986-1991 | 1985-1990 |
| Observations | | 1,875,605 | 1,817,665 | 1,762,325 | 1,730,759 | 1,651,011 | 1,630,186 |
| Log Likelihood | | -937,905 | -964,707 | -999,545 | -1,007,373 | -957,812 | -907,116 |
| Panel B: Using Victims to Measure War Intensity | | | | | | | |
| Victims × Rural | β_1 | 0.0448 (0.0344) | 0.0306 (0.0319) | 0.0326 (0.0385) | 0.0158 (0.0422) | -0.0068 (0.0423) | -0.0279 (0.0448) |
| Victims × Mayan | β_2 | -0.1003*** (0.0316) | -0.1186*** (0.0339) | -0.1448*** (0.0353) | -0.1459*** (0.0369) | -0.1473*** (0.0368) | -0.1376*** (0.0369) |
| Victims × Female | β_3 | -0.0453*** (0.0046) | -0.0544*** (0.0057) | -0.0563*** (0.0065) | -0.0629*** (0.0077) | -0.0663*** (0.0083) | -0.0647*** (0.0095) |
| Rural | β_4 | -0.1169*** (0.0116) | -0.1271*** (0.0125) | -0.1649*** (0.0153) | -0.1934*** (0.0173) | -0.2167*** (0.0188) | -0.2268*** (0.0198) |
| Mayan | β_5 | -0.1113*** (0.0148) | -0.1266*** (0.0165) | -0.1523*** (0.0184) | -0.1683*** (0.0208) | -0.1833*** (0.0223) | -0.1927*** (0.0234) |
| Female | β_6 | -0.0093*** (0.0024) | -0.0098*** (0.0028) | -0.0135*** (0.0032) | -0.0225*** (0.0040) | -0.0323*** (0.0040) | -0.0370*** (0.0040) |
| Other Controls: | | | | | | | |
| HH Head's Years of Schooling | | No | No | No | No | No | No |
| HH Head's Occupation | | No | No | No | No | No | No |
| HH Head's Employment Type | | No | No | No | No | No | No |
| Sample (Birth Year) | | 1990-1995 | 1989-1994 | 1988-1993 | 1987-1992 | 1986-1991 | 1985-1990 |
| Observations | | 1,875,605 | 1,817,665 | 1,762,325 | 1,730,759 | 1,651,011 | 1,630,186 |
| Log Likelihood | | -937,954 | -964,744 | -999,568 | -1,007,365 | -957,798 | -907,104 |

Data Sources: 2002 National Population Census (Instituto Nacional de Estadística (INE), Guatemala), Commission for Historical Clarification (1999), and Recovery of Historical Memory Project (1999). Robust standard errors in parentheses are clustered at the county level. * significant at 10%, ** significant at 5%, *** significant at 1%. All regressions include fixed effects for department and year of birth and interactions of year of birth indicators with the enrollment rate in 1964, the proportion of households without access to water in 1964, and the proportion of households without access to electricity in 1964. All regressions control for the total number of teachers in public and private primary schools per 100 school age (7-17 year old) children in a department and year.

Table 4: Indicators for Household Head’s Occupation and Type of Employment

| Occupation Categories | |
|--------------------------------------|--|
| 1 | Government directors and lawmakers |
| 2 | Professionals, scientists, and intellectuals |
| 3 | Technicians and mid-level professionals |
| 4 | Office employees |
| 5 | Service workers and salesmen |
| 6 | Farmers and skilled agricultural and fishery workers |
| 7 | Mechanic workers, operators, and other jobs |
| 8 | Plant and machine operators and assemblers |
| 9 | Not qualified workers |
| 10 | Army members (omitted group) |
| Type of Employment Categories | |
| 1 | Employer |
| 2 | Self-employed located in a fixed place |
| 3 | Self-employed without location |
| 4 | Government employee |
| 5 | Private employee |
| 6 | Unpaid employee (omitted group) |

Table 5: Probability of Completing Primary School Grades for Post-War Cohorts – Children of Household Head

| Variable | Coeff. | Probability of Completing | | | | | |
|--|-----------|---------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| | | Grade 1 (1) | Grade 2 (2) | Grade 3 (3) | Grade 4 (4) | Grade 5 (5) | Grade 6 (6) |
| Panel A: Using Human Rights Violations to Measure War Intensity | | | | | | | |
| HRV × Rural | β_1 | 0.0480 (0.0440) | 0.0208 (0.0403) | 0.0245 (0.0503) | -0.0137 (0.0549) | -0.0544 (0.0568) | -0.0978 (0.0645) |
| HRV × Mayan | β_2 | -0.1538*** (0.0452) | -0.1803*** (0.0494) | -0.2303*** (0.0549) | -0.2224*** (0.0585) | -0.2285*** (0.0576) | -0.2118*** (0.0572) |
| HRV × Female | β_3 | -0.0817*** (0.0094) | -0.1006*** (0.0113) | -0.1090*** (0.0130) | -0.1261*** (0.0155) | -0.1338*** (0.0163) | -0.1354*** (0.0179) |
| Rural | β_4 | -0.0556*** (0.0073) | -0.0571*** (0.0075) | -0.0795*** (0.0097) | -0.1013*** (0.0102) | -0.1188*** (0.0112) | -0.1286*** (0.0112) |
| Mayan | β_5 | -0.0520*** (0.0121) | -0.0621*** (0.0134) | -0.0800*** (0.0140) | -0.0893*** (0.0145) | -0.1009*** (0.0147) | -0.1091*** (0.0142) |
| Female | β_6 | -0.0092*** (0.0021) | -0.0093*** (0.0025) | -0.0127*** (0.0032) | -0.0204*** (0.0047) | -0.0275*** (0.0052) | -0.0258*** (0.0060) |
| Other Controls: | | | | | | | |
| HH Head's Years of Schooling | | Yes | Yes | Yes | Yes | Yes | Yes |
| HH Head's Occupation | | Yes | Yes | Yes | Yes | Yes | Yes |
| HH Head's Employment Type | | Yes | Yes | Yes | Yes | Yes | Yes |
| Sample (Birth Year) | | 1990-1995 | 1989-1994 | 1988-1993 | 1987-1992 | 1986-1991 | 1985-1990 |
| Observations | | 1,594,254 | 1,551,641 | 1,505,403 | 1,473,854 | 1,393,617 | 1,352,405 |
| Log Likelihood | | -730,726 | -758,831 | -789,865 | -793,464 | -744,688 | -690,283 |
| Panel B: Using Victims to Measure War Intensity | | | | | | | |
| Victims × Rural | β_1 | 0.0316 (0.0264) | 0.0143 (0.0243) | 0.0180 (0.0305) | -0.0051 (0.0338) | -0.0270 (0.0346) | -0.0514 (0.0393) |
| Victims × Mayan | β_2 | -0.0932*** (0.0275) | -0.1155*** (0.0291) | -0.1480*** (0.0302) | -0.1512*** (0.0311) | -0.1570*** (0.0313) | -0.1478*** (0.0322) |
| Victims × Female | β_3 | -0.0442*** (0.0050) | -0.0535*** (0.0061) | -0.0555*** (0.0070) | -0.0655*** (0.0083) | -0.0679*** (0.0092) | -0.0670*** (0.0104) |
| Rural | β_4 | -0.0549*** (0.0068) | -0.0568*** (0.0072) | -0.0792*** (0.0094) | -0.1018*** (0.0099) | -0.1204*** (0.0108) | -0.1312*** (0.0108) |
| Mayan | β_5 | -0.0553*** (0.0114) | -0.0654*** (0.0126) | -0.0842*** (0.0131) | -0.0926*** (0.0140) | -0.1041*** (0.0143) | -0.1119*** (0.0138) |
| Female | β_6 | -0.0115*** (0.0021) | -0.0121*** (0.0026) | -0.0160*** (0.0032) | -0.0240*** (0.0047) | -0.0313*** (0.0052) | -0.0297*** (0.0060) |
| Other Controls: | | | | | | | |
| HH Head's Years of Schooling | | Yes | Yes | Yes | Yes | Yes | Yes |
| HH Head's Occupation | | Yes | Yes | Yes | Yes | Yes | Yes |
| HH Head's Employment Type | | Yes | Yes | Yes | Yes | Yes | Yes |
| Sample (Birth Year) | | 1990-1995 | 1989-1994 | 1988-1993 | 1987-1992 | 1986-1991 | 1985-1990 |
| Observations | | 1,594,254 | 1,551,641 | 1,505,403 | 1,473,854 | 1,393,617 | 1,352,405 |
| Log Likelihood | | -730,766 | -758,868 | -789,900 | -793,472 | -744,700 | -690,308 |

Data Sources: 2002 National Population Census (Instituto Nacional de Estadística (INE), Guatemala), Commission for Historical Clarification (1999), and Recovery of Historical Memory Project (1999). Robust standard errors in parentheses are clustered at the county level. * significant at 10%, ** significant at 5%, *** significant at 1%. All regressions include fixed effects for department and year of birth and interactions of year of birth indicators with the enrollment rate in 1964, the proportion of households without access to water in 1964, and the proportion of households without access to electricity in 1964. All regressions control for the total number of teachers in public and private primary schools per 100 school age (7-17 year old) children in a department and year.

Table 6: Probability of Completing Grade 1 for Post-War Cohorts

| Variable | War Intensity Measured By | | | |
|------------------------------------|---------------------------|------------------------|------------------------|------------------------|
| | Human Rights Violations | | Victims | |
| | (1) | (2) | (3) | (4) |
| War Intensity × Rural × Born 1990 | 0.1170** (0.0458) | 0.0571 (0.0425) | 0.0628** (0.0268) | 0.0367 (0.0254) |
| War Intensity × Rural × Born 1991 | 0.0762 (0.0521) | 0.0418 (0.0425) | 0.0437 (0.0318) | 0.0246 (0.0253) |
| War Intensity × Rural × Born 1992 | 0.1094* (0.0594) | 0.0647 (0.0450) | 0.0652* (0.0364) | 0.0405 (0.0270) |
| War Intensity × Rural × Born 1993 | 0.0600 (0.0672) | 0.0427 (0.0544) | 0.0399 (0.0411) | 0.0315 (0.0325) |
| War Intensity × Rural × Born 1994 | 0.0543 (0.0636) | 0.0418 (0.0487) | 0.0374 (0.0393) | 0.0312 (0.0293) |
| War Intensity × Rural × Born 1995 | 0.0435 (0.0571) | 0.0473 (0.0403) | 0.0264 (0.0356) | 0.0285 (0.0238) |
| War Intensity × Mayan × Born 1990 | -0.1514** (0.0595) | -0.1547*** (0.0536) | -0.0966*** (0.0327) | -0.1022*** (0.0297) |
| War Intensity × Mayan × Born 1991 | -0.1484** (0.0596) | -0.1418** (0.0551) | -0.0956*** (0.0344) | -0.0888*** (0.0319) |
| War Intensity × Mayan × Born 1992 | -0.1915*** (0.0585) | -0.1761*** (0.0518) | -0.1193*** (0.0340) | -0.1077*** (0.0303) |
| War Intensity × Mayan × Born 1993 | -0.1695*** (0.0542) | -0.1624*** (0.0470) | -0.1076*** (0.0338) | -0.1011*** (0.0295) |
| War Intensity × Mayan × Born 1994 | -0.1663*** (0.0550) | -0.1499*** (0.0462) | -0.0989*** (0.0356) | -0.0875*** (0.0308) |
| War Intensity × Mayan × Born 1995 | -0.1457*** (0.0498) | -0.1274*** (0.0403) | -0.0839** (0.0332) | -0.0706*** (0.0273) |
| War Intensity × Female × Born 1990 | -0.1670*** (0.0178) | -0.1594*** (0.0178) | -0.0893*** (0.0097) | -0.0866*** (0.0099) |
| War Intensity × Female × Born 1991 | -0.1388*** (0.0201) | -0.1341*** (0.0195) | -0.0739*** (0.0117) | -0.0709*** (0.0112) |
| War Intensity × Female × Born 1992 | -0.1014*** (0.0127) | -0.0951*** (0.0128) | -0.0563*** (0.0075) | -0.0525*** (0.0077) |
| War Intensity × Female × Born 1993 | -0.0626*** (0.0101) | -0.0561*** (0.0114) | -0.0327*** (0.0059) | -0.0286*** (0.0066) |
| War Intensity × Female × Born 1994 | -0.0402*** (0.0092) | -0.0404*** (0.0095) | -0.0233*** (0.0051) | -0.0225*** (0.0054) |
| War Intensity × Female × Born 1995 | -0.0170 (0.0110) | -0.0281*** (0.0097) | -0.0086 (0.0074) | -0.0151** (0.0064) |
| Rural | -0.1185*** (0.0124) | -0.0560*** (0.0074) | -0.1171*** (0.0118) | -0.0553*** (0.0069) |
| Mayan | -0.1080*** (0.0153) | -0.0521*** (0.0120) | -0.1114*** (0.0148) | -0.0554*** (0.0114) |
| Female | -0.0073*** (0.0023) | -0.0094*** (0.0021) | -0.0094*** (0.0024) | -0.0116*** (0.0021) |
| Other Controls: | | | | |
| HH Head's Years of Schooling | No | Yes | No | Yes |
| HH Head's Occupation | No | Yes | No | Yes |
| HH Head's Employment Type | No | Yes | No | Yes |
| Sample (Birth Year) | 1990-1995 | 1990-1995 | 1990-1995 | 1990-1995 |
| Observations | 1,875,605 | 1,594,254 | 1,875,605 | 1,594,254 |
| Log Likelihood | -937,769 | -730,588 | -937,847 | -730,631 |

Data Sources: 2002 National Population Census (Instituto Nacional de Estadística (INE), Guatemala), Commission for Historical Clarification (1999), and Recovery of Historical Memory Project (1999). Robust standard errors in parentheses are clustered at the county level. * significant at 10%, ** significant at 5%, *** significant at 1%. All regressions include fixed effects for department and year of birth and interactions of year of birth indicators with the enrollment rate in 1964, the proportion of households without access to water in 1964, and the proportion of households without access to electricity in 1964. All regressions control for the total number of teachers in public and private primary schools per 100 school age (7-17 year old) children in a department and year.

Table 7: Probability of Completing Grade 2 for Post-War Cohorts

| Variable | War Intensity Measured By | | | |
|------------------------------------|---------------------------|------------------------|------------------------|------------------------|
| | Human Rights Violations | | Victims | |
| | (1) | (2) | (3) | (4) |
| War Intensity × Rural × Born 1989 | 0.0744 (0.0463) | 0.0226 (0.0417) | 0.0343 (0.0290) | 0.0063 (0.0254) |
| War Intensity × Rural × Born 1990 | 0.1042** (0.0486) | 0.0429 (0.0453) | 0.0576* (0.0294) | 0.0309 (0.0276) |
| War Intensity × Rural × Born 1991 | 0.0519 (0.0564) | 0.0059 (0.0436) | 0.0318 (0.0353) | 0.0062 (0.0268) |
| War Intensity × Rural × Born 1992 | 0.0657 (0.0597) | 0.0227 (0.0451) | 0.0404 (0.0371) | 0.0170 (0.0273) |
| War Intensity × Rural × Born 1993 | 0.0144 (0.0558) | 0.0032 (0.0412) | 0.0128 (0.0339) | 0.0090 (0.0240) |
| War Intensity × Rural × Born 1994 | 0.0172 (0.0583) | 0.0309 (0.0445) | 0.0077 (0.0362) | 0.0166 (0.0269) |
| War Intensity × Mayan × Born 1989 | -0.1531** (0.0744) | -0.1446** (0.0696) | -0.1012** (0.0413) | -0.0931** (0.0384) |
| War Intensity × Mayan × Born 1990 | -0.1683*** (0.0625) | -0.1787*** (0.0557) | -0.1142*** (0.0348) | -0.1235*** (0.0308) |
| War Intensity × Mayan × Born 1991 | -0.1747*** (0.0644) | -0.1678*** (0.0600) | -0.1172*** (0.0379) | -0.1093*** (0.0351) |
| War Intensity × Mayan × Born 1992 | -0.2018*** (0.0577) | -0.1945*** (0.0494) | -0.1322*** (0.0347) | -0.1251*** (0.0298) |
| War Intensity × Mayan × Born 1993 | -0.2055*** (0.0535) | -0.2040*** (0.0444) | -0.1316*** (0.0335) | -0.1290*** (0.0270) |
| War Intensity × Mayan × Born 1994 | -0.1747*** (0.0554) | -0.1638*** (0.0446) | -0.1055*** (0.0374) | -0.0973*** (0.0317) |
| War Intensity × Female × Born 1989 | -0.1958*** (0.0261) | -0.1881*** (0.0248) | -0.1033*** (0.0150) | -0.0992*** (0.0142) |
| War Intensity × Female × Born 1990 | -0.1613*** (0.0167) | -0.1544*** (0.0164) | -0.0844*** (0.0095) | -0.0817*** (0.0095) |
| War Intensity × Female × Born 1991 | -0.1157*** (0.0180) | -0.1125*** (0.0177) | -0.0611*** (0.0106) | -0.0590*** (0.0102) |
| War Intensity × Female × Born 1992 | -0.0835*** (0.0137) | -0.0768*** (0.0143) | -0.0455*** (0.0089) | -0.0410*** (0.0091) |
| War Intensity × Female × Born 1993 | -0.0510*** (0.0104) | -0.0549*** (0.0120) | -0.0293*** (0.0062) | -0.0305*** (0.0072) |
| War Intensity × Female × Born 1994 | -0.0193 (0.0125) | -0.0342*** (0.0121) | -0.0117 (0.0073) | -0.0177** (0.0072) |
| Rural | -0.1287*** (0.0130) | -0.0575*** (0.0076) | -0.1273*** (0.0125) | -0.0571*** (0.0072) |
| Mayan | -0.1235*** (0.0172) | -0.0622*** (0.0134) | -0.1266*** (0.0166) | -0.0654*** (0.0126) |
| Female | -0.0073*** (0.0028) | -0.0095*** (0.0025) | -0.0099*** (0.0028) | -0.0122*** (0.0026) |
| Other Controls: | | | | |
| HH Head's Years of Schooling | No | Yes | No | Yes |
| HH Head's Occupation | No | Yes | No | Yes |
| HH Head's Employment Type | No | Yes | No | Yes |
| Sample (Birth Year) | 1989-1994 | 1989-1994 | 1989-1994 | 1989-1994 |
| Observations | 1,817,665 | 1,551,641 | 1,817,665 | 1,551,641 |
| Log Likelihood | -964,561 | -758,718 | -964,644 | -758,774 |

Data Sources: 2002 National Population Census (Instituto Nacional de Estadística (INE), Guatemala), Commission for Historical Clarification (1999), and Recovery of Historical Memory Project (1999). Robust standard errors in parentheses are clustered at the county level. * significant at 10%, ** significant at 5%, *** significant at 1%. All regressions include fixed effects for department and year of birth and interactions of year of birth indicators with the enrollment rate in 1964, the proportion of households without access to water in 1964, and the proportion of households without access to electricity in 1964. All regressions control for the total number of teachers in public and private primary schools per 100 school age (7-17 year old) children in a department and year.

Table 8: Probability of Completing Grade 3 for Post-War Cohorts

| Variable | War Intensity Measured By | | | |
|------------------------------------|---------------------------|------------------------|------------------------|------------------------|
| | Human Rights Violations | | Victims | |
| | (1) | (2) | (3) | (4) |
| War Intensity × Rural × Born 1988 | 0.0821 (0.0666) | 0.0289 (0.0620) | 0.0447 (0.0412) | 0.0168 (0.0377) |
| War Intensity × Rural × Born 1989 | 0.0846 (0.0524) | 0.0287 (0.0443) | 0.0462 (0.0323) | 0.0175 (0.0262) |
| War Intensity × Rural × Born 1990 | 0.0759 (0.0626) | 0.0263 (0.0557) | 0.0439 (0.0384) | 0.0242 (0.0334) |
| War Intensity × Rural × Born 1991 | 0.0487 (0.0705) | 0.0176 (0.0570) | 0.0329 (0.0443) | 0.0181 (0.0349) |
| War Intensity × Rural × Born 1992 | 0.0331 (0.0694) | 0.0087 (0.0537) | 0.0205 (0.0442) | 0.0085 (0.0337) |
| War Intensity × Rural × Born 1993 | 0.0028 (0.0633) | 0.0467 (0.0471) | 0.0003 (0.0398) | 0.0266 (0.0292) |
| War Intensity × Mayan × Born 1988 | -0.1645** (0.0706) | -0.1721*** (0.0657) | -0.1198*** (0.0367) | -0.1206*** (0.0347) |
| War Intensity × Mayan × Born 1989 | -0.1963*** (0.0757) | -0.1885*** (0.0708) | -0.1348*** (0.0408) | -0.1266*** (0.0376) |
| War Intensity × Mayan × Born 1990 | -0.2064*** (0.0627) | -0.2220*** (0.0567) | -0.1404*** (0.0352) | -0.1507*** (0.0311) |
| War Intensity × Mayan × Born 1991 | -0.2396*** (0.0653) | -0.2501*** (0.0599) | -0.1564*** (0.0386) | -0.1587*** (0.0346) |
| War Intensity × Mayan × Born 1992 | -0.2454*** (0.0597) | -0.2454*** (0.0483) | -0.1551*** (0.0359) | -0.1509*** (0.0287) |
| War Intensity × Mayan × Born 1993 | -0.2591*** (0.0572) | -0.2785*** (0.0453) | -0.1563*** (0.0356) | -0.1649*** (0.0280) |
| War Intensity × Female × Born 1988 | -0.2434*** (0.0219) | -0.2371*** (0.0221) | -0.1275*** (0.0118) | -0.1224*** (0.0119) |
| War Intensity × Female × Born 1989 | -0.1867*** (0.0304) | -0.1865*** (0.0298) | -0.0957*** (0.0178) | -0.0953*** (0.0171) |
| War Intensity × Female × Born 1990 | -0.1265*** (0.0163) | -0.1212*** (0.0159) | -0.0653*** (0.0094) | -0.0627*** (0.0091) |
| War Intensity × Female × Born 1991 | -0.0687*** (0.0148) | -0.0704*** (0.0161) | -0.0365*** (0.0093) | -0.0360*** (0.0097) |
| War Intensity × Female × Born 1992 | -0.0128 (0.0127) | -0.0147 (0.0126) | -0.0062 (0.0085) | -0.0057 (0.0078) |
| War Intensity × Female × Born 1993 | -0.0062 (0.0121) | -0.0220 (0.0140) | -0.0042 (0.0078) | -0.0090 (0.0083) |
| Rural | -0.1660*** (0.0157) | -0.0796*** (0.0098) | -0.1648*** (0.0154) | -0.0793*** (0.0095) |
| Mayan | -0.1487*** (0.0190) | -0.0801*** (0.0140) | -0.1523*** (0.0184) | -0.0843*** (0.0131) |
| Female | -0.0107*** (0.0031) | -0.0129*** (0.0032) | -0.0136*** (0.0032) | -0.0160*** (0.0032) |
| Other Controls: | | | | |
| HH Head's Years of Schooling | No | Yes | No | Yes |
| HH Head's Occupation | No | Yes | No | Yes |
| HH Head's Employment Type | No | Yes | No | Yes |
| Sample (Birth Year) | 1988-1993 | 1988-1993 | 1988-1993 | 1988-1993 |
| Observations | 1,762,325 | 1,505,403 | 1,762,325 | 1,505,403 |
| Log Likelihood | -999,347 | -789,719 | -999,441 | -789,800 |

Data Sources: 2002 National Population Census (Instituto Nacional de Estadística (INE), Guatemala), Commission for Historical Clarification (1999), and Recovery of Historical Memory Project (1999). Robust standard errors in parentheses are clustered at the county level. * significant at 10%, ** significant at 5%, *** significant at 1%. All regressions include fixed effects for department and year of birth and interactions of year of birth indicators with the enrollment rate in 1964, the proportion of households without access to water in 1964, and the proportion of households without access to electricity in 1964. All regressions control for the total number of teachers in public and private primary schools per 100 school age (7-17 year old) children in a department and year.

Table 9: Probability of Completing Grade 4 for Post-War Cohorts

| Variable | War Intensity Measured By | | | |
|------------------------------------|---------------------------|------------------------|------------------------|------------------------|
| | Human Rights Violations | | Victims | |
| | (1) | (2) | (3) | (4) |
| War Intensity × Rural × Born 1987 | 0.0292 (0.0691) | -0.0477 (0.0608) | 0.0182 (0.0410) | -0.0207 (0.0354) |
| War Intensity × Rural × Born 1988 | 0.0506 (0.0761) | -0.0078 (0.0673) | 0.0290 (0.0463) | -0.0007 (0.0403) |
| War Intensity × Rural × Born 1989 | 0.0514 (0.0636) | 0.0040 (0.0508) | 0.0296 (0.0394) | 0.0057 (0.0303) |
| War Intensity × Rural × Born 1990 | 0.0550 (0.0666) | -0.0016 (0.0584) | 0.0294 (0.0416) | 0.0050 (0.0356) |
| War Intensity × Rural × Born 1991 | -0.0226 (0.0761) | -0.0280 (0.0603) | -0.0118 (0.0498) | -0.0130 (0.0396) |
| War Intensity × Rural × Born 1992 | -0.0115 (0.0698) | -0.0044 (0.0508) | -0.0147 (0.0457) | -0.0107 (0.0322) |
| War Intensity × Mayan × Born 1987 | -0.1233 (0.0763) | -0.1207* (0.0722) | -0.1023*** (0.0373) | -0.1006*** (0.0327) |
| War Intensity × Mayan × Born 1988 | -0.1523** (0.0732) | -0.1641** (0.0684) | -0.1212*** (0.0362) | -0.1267*** (0.0333) |
| War Intensity × Mayan × Born 1989 | -0.2153*** (0.0728) | -0.2208*** (0.0667) | -0.1529*** (0.0401) | -0.1550*** (0.0349) |
| War Intensity × Mayan × Born 1990 | -0.2301*** (0.0634) | -0.2438*** (0.0552) | -0.1554*** (0.0364) | -0.1655*** (0.0304) |
| War Intensity × Mayan × Born 1991 | -0.2638*** (0.0680) | -0.2847*** (0.0599) | -0.1682*** (0.0438) | -0.1775*** (0.0387) |
| War Intensity × Mayan × Born 1992 | -0.2757*** (0.0631) | -0.2768*** (0.0511) | -0.1675*** (0.0399) | -0.1654*** (0.0320) |
| War Intensity × Female × Born 1987 | -0.2623*** (0.0262) | -0.2499*** (0.0268) | -0.1371*** (0.0156) | -0.1288*** (0.0155) |
| War Intensity × Female × Born 1988 | -0.2196*** (0.0243) | -0.2200*** (0.0252) | -0.1130*** (0.0122) | -0.1113*** (0.0129) |
| War Intensity × Female × Born 1989 | -0.1510*** (0.0243) | -0.1616*** (0.0254) | -0.0779*** (0.0143) | -0.0835*** (0.0147) |
| War Intensity × Female × Born 1990 | -0.0788*** (0.0145) | -0.0822*** (0.0140) | -0.0424*** (0.0083) | -0.0444*** (0.0079) |
| War Intensity × Female × Born 1991 | 0.0052 (0.0147) | -0.0056 (0.0169) | -0.0007 (0.0096) | -0.0062 (0.0102) |
| War Intensity × Female × Born 1992 | 0.0347** (0.0147) | 0.0036 (0.0216) | 0.0179* (0.0097) | 0.0028 (0.0126) |
| Rural | -0.1944*** (0.0179) | -0.1013*** (0.0103) | -0.1936*** (0.0174) | -0.1019*** (0.0099) |
| Mayan | -0.1654*** (0.0211) | -0.0894*** (0.0145) | -0.1683*** (0.0208) | -0.0926*** (0.0140) |
| Female | -0.0196*** (0.0039) | -0.0207*** (0.0047) | -0.0225*** (0.0040) | -0.0240*** (0.0047) |
| Other Controls: | | | | |
| HH Head's Years of Schooling | No | Yes | No | Yes |
| HH Head's Occupation | No | Yes | No | Yes |
| HH Head's Employment Type | No | Yes | No | Yes |
| Sample (Birth Year) | 1987-1992 | 1987-1992 | 1987-1992 | 1987-1992 |
| Observations | 1,730,759 | 1,473,854 | 1,730,759 | 1,473,854 |
| Log Likelihood | -1,007,103 | -793,285 | -1,007,197 | -793,364 |

Data Sources: 2002 National Population Census (Instituto Nacional de Estadística (INE), Guatemala), Commission for Historical Clarification (1999), and Recovery of Historical Memory Project (1999). Robust standard errors in parentheses are clustered at the county level. * significant at 10%, ** significant at 5%, *** significant at 1%. All regressions include fixed effects for department and year of birth and interactions of year of birth indicators with the enrollment rate in 1964, the proportion of households without access to water in 1964, and the proportion of households without access to electricity in 1964. All regressions control for the total number of teachers in public and private primary schools per 100 school age (7-17 year old) children in a department and year.

Table 10: Probability of Completing Grade 5 for Post-War Cohorts

| Variable | War Intensity Measured By | | | |
|------------------------------------|---------------------------|------------------------|------------------------|------------------------|
| | Human Rights Violations | | Victims | |
| | (1) | (2) | (3) | (4) |
| War Intensity × Rural × Born 1986 | -0.0226 (0.0744) | -0.0996 (0.0702) | -0.0023 (0.0455) | -0.0415 (0.0421) |
| War Intensity × Rural × Born 1987 | 0.0059 (0.0673) | -0.0658 (0.0636) | 0.0071 (0.0402) | -0.0287 (0.0371) |
| War Intensity × Rural × Born 1988 | -0.0135 (0.0816) | -0.0597 (0.0708) | -0.0081 (0.0500) | -0.0302 (0.0427) |
| War Intensity × Rural × Born 1989 | 0.0266 (0.0582) | -0.0084 (0.0463) | 0.0129 (0.0366) | -0.0036 (0.0281) |
| War Intensity × Rural × Born 1990 | -0.0217 (0.0678) | -0.0521 (0.0552) | -0.0178 (0.0429) | -0.0291 (0.0341) |
| War Intensity × Rural × Born 1991 | -0.0780 (0.0763) | -0.0443 (0.0584) | -0.0525 (0.0495) | -0.0351 (0.0376) |
| War Intensity × Mayan × Born 1986 | -0.1330* (0.0733) | -0.1430** (0.0719) | -0.1119*** (0.0383) | -0.1176*** (0.0362) |
| War Intensity × Mayan × Born 1987 | -0.1622** (0.0731) | -0.1688** (0.0685) | -0.1273*** (0.0380) | -0.1309*** (0.0335) |
| War Intensity × Mayan × Born 1988 | -0.1728** (0.0699) | -0.1883*** (0.0634) | -0.1302*** (0.0365) | -0.1388*** (0.0326) |
| War Intensity × Mayan × Born 1989 | -0.2489*** (0.0673) | -0.2628*** (0.0596) | -0.1677*** (0.0388) | -0.1745*** (0.0332) |
| War Intensity × Mayan × Born 1990 | -0.2536*** (0.0620) | -0.2759*** (0.0550) | -0.1624*** (0.0387) | -0.1771*** (0.0341) |
| War Intensity × Mayan × Born 1991 | -0.2998*** (0.0658) | -0.3292*** (0.0569) | -0.1859*** (0.0432) | -0.2008*** (0.0376) |
| War Intensity × Female × Born 1986 | -0.2866*** (0.0223) | -0.2509*** (0.0232) | -0.1497*** (0.0129) | -0.1267*** (0.0126) |
| War Intensity × Female × Born 1987 | -0.2165*** (0.0262) | -0.2078*** (0.0259) | -0.1087*** (0.0155) | -0.1023*** (0.0149) |
| War Intensity × Female × Born 1988 | -0.1699*** (0.0209) | -0.1834*** (0.0234) | -0.0868*** (0.0108) | -0.0916*** (0.0122) |
| War Intensity × Female × Born 1989 | -0.0843*** (0.0209) | -0.1089*** (0.0240) | -0.0449*** (0.0135) | -0.0588*** (0.0149) |
| War Intensity × Female × Born 1990 | 0.0045 (0.0168) | -0.0150 (0.0158) | 0.0013 (0.0097) | -0.0084 (0.0091) |
| War Intensity × Female × Born 1991 | 0.0518*** (0.0193) | 0.0172 (0.0225) | 0.0248** (0.0113) | 0.0081 (0.0130) |
| Rural | -0.2167*** (0.0193) | -0.1189*** (0.0113) | -0.2169*** (0.0189) | -0.1205*** (0.0109) |
| Mayan | -0.1806*** (0.0225) | -0.1009*** (0.0147) | -0.1833*** (0.0223) | -0.1042*** (0.0143) |
| Female | -0.0293*** (0.0039) | -0.0278*** (0.0052) | -0.0324*** (0.0040) | -0.0314*** (0.0052) |
| Other Controls: | | | | |
| HH Head's Years of Schooling | No | Yes | No | Yes |
| HH Head's Occupation | No | Yes | No | Yes |
| HH Head's Employment Type | No | Yes | No | Yes |
| Sample (Birth Year) | 1986-1991 | 1986-1991 | 1986-1991 | 1986-1991 |
| Observations | 1,651,011 | 1,393,617 | 1,651,011 | 1,393,617 |
| Log Likelihood | -957,530 | -744,524 | -957,622 | -744,609 |

Data Sources: 2002 National Population Census (Instituto Nacional de Estadística (INE), Guatemala), Commission for Historical Clarification (1999), and Recovery of Historical Memory Project (1999). Robust standard errors in parentheses are clustered at the county level. * significant at 10%, ** significant at 5%, *** significant at 1%. All regressions include fixed effects for department and year of birth and interactions of year of birth indicators with the enrollment rate in 1964, the proportion of households without access to water in 1964, and the proportion of households without access to electricity in 1964. All regressions control for the total number of teachers in public and private primary schools per 100 school age (7-17 year old) children in a department and year.

Table 11: Probability of Completing Grade 6 for Post-War Cohorts

| Variable | War Intensity Measured By | | | |
|------------------------------------|---------------------------|------------------------|------------------------|------------------------|
| | Human Rights Violations | | Victims | |
| | (1) | (2) | (3) | (4) |
| War Intensity × Rural × Born 1985 | -0.0622 (0.0851) | -0.1593* (0.0899) | -0.0282 (0.0519) | -0.0770 (0.0549) |
| War Intensity × Rural × Born 1986 | -0.0525 (0.0755) | -0.1300* (0.0716) | -0.0214 (0.0465) | -0.0608 (0.0431) |
| War Intensity × Rural × Born 1987 | -0.0540 (0.0668) | -0.1292** (0.0607) | -0.0281 (0.0399) | -0.0667* (0.0355) |
| War Intensity × Rural × Born 1988 | -0.0232 (0.0792) | -0.0588 (0.0708) | -0.0187 (0.0491) | -0.0354 (0.0431) |
| War Intensity × Rural × Born 1989 | -0.0515 (0.0710) | -0.0576 (0.0601) | -0.0355 (0.0449) | -0.0361 (0.0367) |
| War Intensity × Rural × Born 1990 | -0.0591 (0.0697) | -0.0336 (0.0566) | -0.0416 (0.0447) | -0.0244 (0.0349) |
| War Intensity × Mayan × Born 1985 | -0.0984 (0.0700) | -0.1208* (0.0666) | -0.0858** (0.0390) | -0.0987*** (0.0372) |
| War Intensity × Mayan × Born 1986 | -0.1443** (0.0694) | -0.1575** (0.0664) | -0.1172*** (0.0367) | -0.1245*** (0.0334) |
| War Intensity × Mayan × Born 1987 | -0.1744** (0.0690) | -0.1797*** (0.0656) | -0.1324*** (0.0373) | -0.1340*** (0.0344) |
| War Intensity × Mayan × Born 1988 | -0.2109*** (0.0640) | -0.2290*** (0.0560) | -0.1488*** (0.0367) | -0.1577*** (0.0326) |
| War Intensity × Mayan × Born 1989 | -0.2591*** (0.0654) | -0.2733*** (0.0570) | -0.1703*** (0.0407) | -0.1773*** (0.0355) |
| War Intensity × Mayan × Born 1990 | -0.2645*** (0.0603) | -0.2875*** (0.0535) | -0.1677*** (0.0394) | -0.1821*** (0.0351) |
| War Intensity × Female × Born 1985 | -0.2857*** (0.0262) | -0.2207*** (0.0240) | -0.1490*** (0.0157) | -0.1107*** (0.0139) |
| War Intensity × Female × Born 1986 | -0.2385*** (0.0206) | -0.2133*** (0.0196) | -0.1226*** (0.0122) | -0.1042*** (0.0108) |
| War Intensity × Female × Born 1987 | -0.1505*** (0.0219) | -0.1612*** (0.0243) | -0.0716*** (0.0133) | -0.0751*** (0.0144) |
| War Intensity × Female × Born 1988 | -0.0843*** (0.0180) | -0.1272*** (0.0208) | -0.0409*** (0.0109) | -0.0618*** (0.0121) |
| War Intensity × Female × Born 1989 | 0.0149 (0.0203) | -0.0399 (0.0248) | 0.0079 (0.0137) | -0.0230 (0.0160) |
| War Intensity × Female × Born 1990 | 0.0678** (0.0206) | -0.0042 (0.0263) | 0.0332*** (0.0128) | -0.0047 (0.0165) |
| Rural | -0.2261*** (0.0203) | -0.1290*** (0.0113) | -0.2270*** (0.0198) | -0.1314*** (0.0108) |
| Mayan | -0.1907*** (0.0234) | -0.1093*** (0.0142) | -0.1928*** (0.0234) | -0.1120*** (0.0138) |
| Female | -0.0340*** (0.0039) | -0.0260*** (0.0060) | -0.0371*** (0.0040) | -0.0297*** (0.0060) |
| Other Controls: | | | | |
| HH Head's Years of Schooling | No | Yes | No | Yes |
| HH Head's Occupation | No | Yes | No | Yes |
| HH Head's Employment Type | No | Yes | No | Yes |
| Sample (Birth Year) | 1985-1990 | 1985-1990 | 1985-1990 | 1985-1990 |
| Observations | 1,630,186 | 1,352,405 | 1,630,186 | 1,352,405 |
| Log Likelihood | -906,820 | -690,150 | -906,920 | -690,242 |

Data Sources: 2002 National Population Census (Instituto Nacional de Estadística (INE), Guatemala), Commission for Historical Clarification (1999), and Recovery of Historical Memory Project (1999). Robust standard errors in parentheses are clustered at the county level. * significant at 10%, ** significant at 5%, *** significant at 1%. All regressions include fixed effects for department and year of birth and interactions of year of birth indicators with the enrollment rate in 1964, the proportion of households without access to water in 1964, and the proportion of households without access to electricity in 1964. All regressions control for the total number of teachers in public and private primary schools per 100 school age (7-17 year old) children in a department and year.

Table 12: Years of Schooling Among Non-Indigenous and Indigenous People in Latin America

| Country | Non-Indigenous | Indigenous | Gap (Years) | Gap (%) |
|-----------|----------------|------------|-------------|---------|
| Bolivia | 9.6 | 5.9 | 3.7 | 62.71 |
| Ecuador | 6.9 | 4.3 | 2.6 | 60.47 |
| Guatemala | 5.7 | 2.5 | 3.2 | 128.00 |
| Mexico | 7.9 | 4.6 | 3.3 | 71.74 |
| Peru | 8.7 | 6.4 | 2.3 | 35.94 |

Data Sources: Table 6 in Hall & Patrinos (2006) and our own computations.