Summary

Getting a better understanding of the possible effects of civil conflict on human capital is particularly important for the effective implementation of public policy. A civil conflict has significant economic, social and political repercussions that could potentially affect the educational achievement of individuals. Nevertheless, this important issue has been insufficiently addressed in the literature. The limited availability of academic research in this topic is partly due to the difficulties involved in the systematic collection of evidence on why, where and how attacks occur. The availability of a rich database about conflict events in Colombia, maintained by the Resource Centre for Conflict Analysis (CERAC), has opened new possibilities for the analysis of the relationship between conflict and education. In that sense, the Colombian case offers a unique opportunity for research in this topic. The objective of this thesis is to get a better understanding of the relationship between civil conflict and educational achievement, and quantify the magnitude in which civil conflict affects the accumulation of human capital measured by cognitive exams. The research presented in this dissertation concentrates on those students residing in conflict and non-conflict zones in Colombia who take part in the formal education system, as these are the only students that can be observed in the available micro data. Hence, the specific objective of this dissertation is to better understand the relationship between educational achievement and civil conflict amongst those students that participate in the formal educational system.

This dissertation contributes to the existing literature that studies the relationship between civil conflict and education, including the contributions of Swee (2008), Akresh and de Walque (2008), Merrouche (2006), Lai and Thyne (2007), Shemyakina (2011), Debalen and Paul (2012), Bundervoet (2012), Bellows and Miguel (2006), Rodríguez and Sánchez (2010), amongst others. These research efforts have focused on the relationship between school enrollment, gender, years of education and civil conflict, but have not studied the relationship between civil conflict and academic achievement measured by cognitive examinations as we do in this dissertation. The dissertation also contributes to the literature that studies the impact of internal displacement on the welfare of civilians, including the work of Ibañez and Velez (2008), Ibañez and Moya (2010a), Ruiz and Vargas (2013), Calderón and Ibañez (2009), Kirschhoff and Ibañez (2002), Kondylis (2008 and 2010), and Fiala (2009).

The dissertation is divided into eleven chapters. Four of these (Chapters 7, 8, 9 and 10) present econometric exercises to guide the analysis of the relationship between
civil conflict and students’ achievement in national examinations. Chapter 7 explores the relationship between civil conflict and educational achievement in Colombia through the use of multilevel analysis. Multilevel analysis is applied in this chapter in order to take into account the hierarchical structure of the data by simultaneously modeling variables at different levels without resorting to aggregation or disaggregation of the dataset. The results obtained in this chapter show that the relationship between the intensity of the conflict and the performance in exit examinations might not be as straightforward as it may seem at first glance. For the year 2001 we found a positive relationship between our contemporaneous measure of the intensity of the conflict and the performance in the mathematics and language examinations, but for the year 2002 we found a negative relationship between the intensity of the conflict and the performance in the language examination.

In Chapter 8 we construct a pseudo-panel of schools from cross-sectional data sets in order to get a better understanding of the relationship between civil conflict and education. To the best of my knowledge this is the first effort to try to understand the relationship between conflict and achievement in standardized exams through the use of a pseudo panel of schools. The results obtained in this chapter provide evidence of the negative repercussions that a civil conflict can have on human capital accumulation. Our results show a negative and significant relation between our two measures of the intensity of the conflict and the levels of performance of schools in the mathematics and language examinations. The results also show a negative and significant relation between our second measure of the presence of conflict (dummy variable) and the levels of performance of schools in the mathematics and language examinations. However, the magnitude of this relationship was smaller than expected.

In Chapter 9 we use two methodologies to estimate the effects of forced displacement on the performance of Colombian students in the national high school exit examination: cluster robust inference and an instrumental variables approach. In cluster robust inference observations are grouped into clusters, with model errors uncorrelated across clusters but correlated within clusters. However, this is our naïve approach in the sense that we were not considering the possibility of endogeneity. Following Calderon and Ibañez (2009), we used an instrumental variables approach as our second method of analysis in order to deal with the possibility of endogeneity as a source of bias. The main finding of this chapter is that being displaced has a negative and significant effect on the levels of achievement of students in mathematical and language exit examinations. The results obtained using the instrumental variables approach show a larger effect of displacement on the performance in the examinations. These results are not surprising if we take into consideration the findings of a number of researchers
who have studied the effects of displacement. The literature has shown that there are a number of needs and vulnerabilities associated to the displacement status that affect the well-being of individuals, and in doing so, might also be affecting the performance of students in standardized tests.

Chapter 10 estimates the effect of civil conflict on student achievement gains in standardized examinations. By considering students who have been exposed to a conflict environment and students who have not been exposed to a conflict environment, we want to find out whether Colombian students affected by conflict have differential gains or losses in performance in comparison to those students who have not been affected, using the results from the Colombian high school exit examination (Saber11) and the Colombian college exit examination (SaberPro). To the best of my knowledge, this is the first attempt to study the relationship between civil conflict and academic achievement measured by cognitive examinations at both high school and university levels. We used a difference in differences estimation strategy in order to quantify the student’s learning gains using information at two points in time (high school and university). The main finding of this chapter is that students who have been exposed to conflict have more significant improvements in their academic performance in comparison to those students who have not been affected. This finding is robust to the different measures of conflict (intensity and presence) that were used in the empirical exercise of this chapter.

The evidence obtained in this thesis can be used to guide the formulation of educational policy. Policy makers should work in the creation of new and better incentives to retain students who reside in conflict zones in school with a full time dedication, and if possible, provide financial assistance so that qualified students get the opportunity to attend university. It is possible that those students who are facing difficulties associated to the internal armed conflict are developing high levels of resilience that allows them to continue with their studies successfully, but they need a special follow up. More governmental resources should be spent in order to meet the special needs of those students who have been affected by conflict (i.e. psychological help, school supplies, special remedial tutorials). In particular, some of these resources should be spent in the design of special programs to supervise the academic progress of students at educational institutions. The design of effective policies to guarantee that those students who stay in conflict zones have the adequate incentives and resources to continue with their studies is an essential task that should be prioritized in the agenda of Colombian policy makers.

The government and development agencies should provide funding in order to assure that schools in conflict zones provide a high quality education that is
inclusive. Special efforts should be made at conflict zones to strengthen the capacity of the education authorities, and to promote organizational development at schools. The public authorities should make the necessary arrangements in order to protect schools. This is particularly important in order to guarantee that schools are safe learning spaces where students can feel protected. Furthermore, these spaces should provide specialized guidance for kids so that they receive adequate support for learning and psychosocial development. Authorities should also monitor school attendance. This is particularly important in order to have an early detection system of those students who are more likely to dropout from school.

The limitations of this dissertation are illustrative of the empirical, theoretical and methodological challenges that this area of research faces. For instance, it is important to acknowledge that given the nature of the datasets under analysis, self-selection bias and sample selection bias might have been a concern in the empirical exercises presented in this dissertation. Another limitation that should be acknowledged is associated to constraints in terms of data availability. Throughout this dissertation we pointed out a number of factors that could help us explain the results obtained in the empirical exercises. However, in some cases given data restrictions we were not able to empirically test the importance of these factors in explaining our results. In order to analyse most of the factors pointed out we would need to use mixed methods (i.e. qualitative and quantitative analysis).

Without a doubt there is much more that can be learned about civil conflict and education. In fact, a very important topic that should be further explored is the relationship between academic achievement at a young age (elementary school) and civil conflict. This topic will be explored in my future research agenda.