

## 主 論 文 要 旨

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主 論 文 題 名 : <b>Crime, Disability and Human Capital Formation in Developing Countries</b>				
(内容の要旨) <p>This dissertation presents a series of theoretical and empirical studies on the topics of crime and disability in their relationship with human capital accumulation. It focuses on the case of developing countries where research is scarcer due to data limitations. The body of this doctoral thesis is divided in two parts, dedicated to crime and disability respectively.</p> <p>Part I is dedicated to the understanding of the effect of crime on school attendance and school choice, and attempts to bring some light into questions such as: are children less likely to attend school due to the influence of crime? Are they likely to change their choice of schools due to fluctuations in crime rates? What are the mechanisms that cause such changes?</p> <p>Chapter 1 provides a simple theoretical background. It employs a model of educational choices based on Comay, Melnik and Pollatschek (1973), where an agent must decide in a dynamic setting whether to remain in school, or to enter the labor market. Crime shocks are introduced in two ways: as a probability of failing to complete a grade, and as an income loss faced by workers, which is a decreasing function of the educational level of the agent. This chapter shows that the effect of crime through the probability of failing a grade decreases the immediate reward of school enrollment and the option value of education (especially for more skilled agents). It may also motivate less abled agents to choose to enroll in lower-quality but cheaper schools.</p>				

Crime-related income shocks may increase the immediate reward of schooling due to the additional value of education by reducing the exposure to crime shocks. The effect of these shocks on the option value of education is ambiguous, although under certain circumstances it can be shown that they may increase the option value, having important implications for empirical studies on the effect of crime on educational outcomes.

Chapter 2 studies the case of El Salvador, one of the countries with the highest crime rates in the world, and digs further into the impact of crime on school enrollment and school choice. High crime rates in El Salvador have been mostly attributed to the violent conflict between the MS-13 gang and the 18th Street gang since their arrival to El Salvador in the early 1990s. In March 2012, both gangs agreed on a truce, dramatically reducing homicide rates through the whole country.

I employ household survey data, along with data provided by the National Civil Police of El Salvador, and estimate the municipal-level variation in homicide and extortion rates caused by this largely unexpected truce to assess the association between fluctuations in homicide and extortion rates, school enrollment and school choice of Salvadoran children of both genders and in different age brackets, measured one year after the truce came into effect. The results show that larger drops in homicide rates are associated with a higher probability of attending school, especially private ones, for boys 15-22 years old, for whom the victimization probability is typically larger. It is also observed that a decline in crime rates is associated with a lower school attendance, especially in public schools, among girls 7-14 years old. Extortion rates were not found to be affected by the 2012 truce, and no significant associations between fluctuations in this measure of crime and measures of school attendance could be observed. Possible extensions and topics of further study are introduced.

Part II of this doctoral thesis is dedicated to the study of disability in its connection with educational and labor gaps. The topic of educational and labor opportunities for persons with disabilities has been studied mostly in developed countries, especially in the United States. However, until recently, this has been a rather under-studied topic in developing countries, due to the low quality and quantity of the data.

Chapter 3 is based on my work with Professor Hiroko Araki, from Kindai University, and studies the educational condition of children with disabilities in El Salvador, employing 2006-2014 data from the Schools Census of El Salvador, a countrywide survey collected by the Ministry of Education, which includes most of the students and schools (public and private) in the country.

Descriptive statistics analysis shows that children with disabilities exhibit higher overage and repetition rates, especially during the first grades of primary education, and lower advancement rates. This chapter also studies the association between supply-side inputs, the choice of schools for children with disabilities and disability-based advancement gaps. Analysis on a panel dataset of schools evaluates the differences between schools that are attended by children with disabilities and those that are not. It shows that, although some types of handicap infrastructure are associated with a higher probability of enrollment of children with disabilities, limitations in the availability of working electrical facilities and the provision of clean water can be important barriers.

This chapter also evaluates whether the availability of schools is associated with the lower advancement rates observed for children with disabilities, by employing a panel of municipalities. The results suggest that increasing the availability of schools for a given number of students is associated with a relatively larger improvement in advancement rates among children with disabilities. This effect is especially larger for public schools.

The limitations of the analysis, areas of improvement and future research proposals are presented. The challenges regarding the use of data on disability in El Salvador are summarized and areas of improvement are proposed.

Chapter 4 is based on my work with Professor Kamal Lamichhane, from Tsukuba University. It explores how disability-related gaps in human capital formation translate into labor market gaps. This chapter employs data from the Human Development Survey 2005, a large countrywide household survey collected in India, including information on several types of disabilities by employing questions that follow the recommendations by the Washington Group on Disability Statistics. Compared to other similar studies performed for India, this research goes beyond the mean in an attempt to evaluate the existence of wage gaps at different points of the distribution of wages.

An analysis of summary statistics suggests the existence of significant gaps in years of schooling and English language proficiency. Furthermore, it suggests significant gaps in occupational status and wages. Regression analysis on the probability of being in different categories of productive activities shows that, even after controlling for human capital levels and determinants of the labor supply, persons with disabilities are still significantly less likely to engage in productive activities, suggesting that differences in characteristics are not the only component explaining the gap. This conclusion is confirmed by a non-linear Oaxaca decomposition of the probability of engaging in productive activities.

Wage equations are estimated employing Ordinary Least Squares and quantile regression in order to evaluate the existence of wage gaps by disability status. We observe that the wage gap is not significant after controlling for measures of human capital, suggesting that the gap observed in descriptive statistics is mostly associated with differences in the characteristics of workers. Quantile regression is employed to perform a decomposition of differences in wage quantiles by disability status. We observe significant wage gaps, especially above the median, where 60% to 80% of the gap is attributable to differences in the characteristics of workers, including the educational level and English language proficiency. These results stress the connection between human capital gaps and wage gaps.