Earnings differentials: the case of internally displaced people in Medellín, Colombia

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Declaration of Authorship

I, the undersigned Erika Vanesa Enríquez Chacón hereby declare that I am the sole author of this thesis. To the best of my knowledge this thesis contains no material previously published by any other person except where due acknowledgment has been made. This thesis contains no material which has been accepted as part of the requirements of any other academic degree or non-degree program, in English or in any other language.

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Abstract

This paper analyses discrimination in the labour market in Medellín, Colombia by comparing two groups. The first group includes IDPs, the second one contains natives and voluntary migrants. I chose Medellín for being the Colombian city with the highest arrival rate. I use the Blinder – Oaxaca earnings gap decomposition method to empirically test discrimination. The results show that non-displace workers' mean log hourly earnings are 6.6% higher than those of displaced workers. This earnings gap is in part explained by differences in endowments but there is also a part due to differences in coefficients. The part explained by differences in endowments, indicates that differences in years of schooling, potential experience, number of children, and other variables included in the model, account for about 31.3% of the earnings gap. The part due to differences in coefficients (39.3% of earnings gap), measures the change in displaced worker's earnings when applying the non-displaced population's coefficients to the displaced worker's characteristics. This unexplained difference between displaced and non-displaced workers, may be attributed to discrimination. These results indicate that Medellín needs a local strategy to integrate IDPs into their communities and the formal economy.

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List of Abbreviations

IDPs	Internally Displaced Persons
CODHES	Consultoría para los Derechos Humanos y el Desplazamiento
IDMC	Internal Displacement Monitoring Centre
LSS	Living Standard Survey
DC	Discrimination Coefficient
FARC	Armed Forces of Colombia
ELN	National Liberation Army
M-19	19th of April Movement
ADO	Labour self-defence
EPL	Popular Liberation Army
AUC	Self-Defence Forces of Colombia
OLS	Ordinary Least Squares
СОР	Colombian peso coin
SD	Standard Deviation

1. Introduction

Earnings differentials are one of the most common ways in which discrimination in the labour market is manifested. Usually earnings differentials are studied in terms of differences in characteristics that make an individual or group less or more productive than other group. As pointed out by Arrow (1971, 2), 'the notion of discrimination in the labour market involves the additional concept that personal characteristics of the worker that are unrelated to productivity are also valued on the market'. These personal characteristics may be age, sex, race, nationality or any other identifiable characteristic. In other words, discrimination exists when somebody is paid less for the same job because of his or her actual or perceived membership in a certain group. Discrimination in the labour market has been widely studied in economics, since is likely to induce efficiency losses and it is a source of inequity in distribution of income and wealth.

This paper focuses on earning differentials between IDPs (Internally Displaced Persons) and natives and migrants in Medellín, Colombia. Law 387 (1997) defines IDPs as:

Every person who has been forced to migrate within national territory, abandoning his or her place of residence, regular economic activities, since his or her life, physical integrity, security or personal freedom have been infringed or threatened, because of any of the following reasons: internal armed conflict, disturbances, generalized violence, Human Rights violations, infraction of International Humanitarian Law, or any other situation originating from the mentioned reasons that drastically alter public order¹

Accordingly, migrants are defined as persons who voluntarily migrate for reasons other than those of the IDPs, as job, study, health, family, etc. Natives are those who were born in Medellín and have always lived there.

By December 2011, according to CODHES² (IDMC 2012), in Colombia up to 5.5 million people were internally displaced due to armed conflict, criminal violence, or Human Rights violations. According to IDMC (Internal Displacement Monitoring Centre), Colombia's was the

¹ All quotations of Law 387 are translated by the author from Spanish

² CODHES (*Consultoría para los Derechos Humanos y el Desplazamiento*) is a non-governmental Observatory on Human Rights and displacement.

world's largest internally displaced population (IDMC 2012, 55). Most of this displaced population moved from rural to urban areas, looking for security. I focus on Medellín because Antioquia, the region from which Medellín is the capital, was the department with highest arrival rate. Furthermore, Medellín received some 15.000 IDPs in 2011, significantly more than the capital of the country Bogotá, which received 11.000 (IDMC 2012, 56). This figure is higher according to the Unidad de Atención a Víctimas (Victims Support Unit) of the National Government, which in 2011 registered 27.460 declarations of IDPs (Personería de Medellín 2012, 43). In the period 2008 – 2012, the Victims Support Unit registered an annual average of 16.439 IDPs declarations. However, Medellín is not only a receptor but also an ejector of internally displaced population. In the period 2008 – 2012 an annual average of 2.759 people were forced to leave Medellín (Medellín Cómo Varnos 2012, Personería de Medellín 2013). The result is a net balance of an average of 13.680 persons added every year to Medellín's total population. Considering that according to the National Statistics Department, Medellín's population annual growth was on average 25.553 people, between 2008 and 2012, in all the forced displacement represented more than half of the city's population growth.

In the urban areas, situation for IDPs is not easy. Most of them live in poor conditions, facing difficulties in satisfying the basic necessities for them and their families. In the inhospitable environment of the Colombian cities, they are likely to be identified with one of sides of the conflict and as a potential source of violence (CEPAL 2003, 55). Although some solidarity networks are build in the urban areas, displaced are often victims of intolerance and rejection (Osorio 1998, 68). The mixture of solidarity and rejection feelings in the recipient communities is likely to affect employment conditions of IDPs, generating unfair income distribution for this relatively low-income group. In Medellín, according to a perception survey made by *'Medellín*

Cómo Vamos³, 74% of respondents considered that IDPs are discriminated in the city (Medellín Cómo Vamos 2012).

Discrimination is a major concern for policy makers, not only because of efficiency losses mentioned above but also because Colombian government is mandated to guarantee equal treatment for all its citizens. The 1991 Constitution recognizes equal treatment as a fundamental right that the State is obliged to protect (Asamblea Nacional Constituyente 1991). Specifically, in the case of IDPs, Law 387 (1997) states that they have the right to do not be discriminated nor by their condition of displaced population, neither by their race, religion, public opinion, place of origin or physical disability. Additionally, law 387 of 1997 declare that is States' responsibility to design and implement policies aimed at protecting and meeting economic and social needs of IDPs. The same law states that a displaced person is no longer considered displaced when achieves socioeconomic stabilization and consolidation, whether in his or her place of origin or resettlement place. Moreover, according to the Constitutional Court Sentence T-025/04, the provision of support for the socioeconomic stabilization of IDPs is a duty of the Colombian State. The sentence also states that the State must identify for each internally displaced household the alternatives for reaching autonomous subsistence by establishing a concrete and reasonable individual or collective income generating project. Furthermore, the Guiding Principles on Internal Displacement which the Colombian State recognize and use for the development of laws and policies on internal displacement, determine that IDPs shall not be discriminated in the enjoyment of certain individual rights. One of them is the right to seek freely opportunities for employment and to participate in economic activities. Consequently, integration to the society and equal treatment in the labour market are crucial for IDPs. This is particularly important in the host cities labour market, given that the most of IDPs do not want to return to their place of origin. In a survey conducted in 2010 by the Comisión de Seguimiento a la Política Pública Sobre

³ Medellín Cómo Vamos is an alliance between a group of private institutions monitoring and evaluating public policies aimed at improving Medellín population's life standard.

*Desplazamiento Forzado*⁴ (Follow-Up Commission on the Public Policy of Forced Displacement), 72.2% of displaced population declared that wanted to stay in the resettlement place, while only 5.8% wanted to go back to their place of origin (2010, 39).

As a topic of major importance not only for policy makers but also for academics and researchers in general, a broad body of literature has emerged on earning differentials in the Colombian labour market. For the most part, studies have focused on earnings differentials between men and women and have used the estimation of wage equations and the Blinder (1973) - Oaxaca (1973) decomposition model. For instance, Tenjo (1993) analyzes earning differentials between 1976 and 1989 in Bogota, and finds that discrimination against women increased, since human capital variables improved faster for women than for men; however, returns to them continued to be the same. Later, Tenjo and Herrera (2009) studied discrimination by gender and ethnicity using data for the national level for the year 2003; the authors concluded that earnings differentials are not explained by differences on human capital, since on average, women have higher levels of human capital than men do. Ribero, Tenjo, and Bernat, (2004), examined the causes of earnings differentials finding that labour market segmentation is not responsible for this phenomenon. On the contrary, earnings gaps are related to differentials within sectors and occupations. Fernández (2006), Badel and Peña (2010), and Galvis (2010), using percentile and quintile regression and the decomposition technique proposed by Machado and Mata (2005), and Hoyos, Nopo and Peña (2010), using matching comparison technique, find that the gap is lower on the middle of the wage distribution than on the extremes, possibly due to a gender-equalizing effect of the minimum wage. Similarly, Cano and Orozco (2011) using quintile regressions and data for Medellín and its Metropolitan Area conclude that wage gap between men and women is broader at the top of the distribution, a phenomenon called 'glass ceiling effect'. More recently, Sabogal (2012) focuses on the relationship between the business cycle and the gender wage gap, finding that the gender hourly wage gap is pro-cyclical mainly due to the 'additional worker

⁴ Civil society, independent body established at the request of the Constitutional Court of Colombia

effect', which occurs when unemployment increases and secondary members of the family comes to participate in the labour market.

There is also existing literature on earnings differential by race and ethnicity; however, empirical evidence is less conclusive compared to earnings differentials by gender. For instance, Rojas-Hayes (2008) examines wages gaps between Afro-Colombian minorities and non-Afro populations, by estimating Mincerian equations. Author's findings suggest that there is no statistical evidence of race discrimination in wages. By contrast, Romero (2007) using the Blinder - Oaxaca decomposition model found that a portion of wage differentials in Cartagena and Cali between afro-Colombian and non-afro population, can be attributed to discrimination. According to Romero (2007), around 7.7% of wage differential in Cartagena and 4.0% in Cali cannot be explained by differences on endowments between the two groups. Bernal and Cárdenas (2005) address racial and ethnic inequalities in the context of health outcomes and access to health care. The authors find that racial and ethnic disparities in health outcomes between minority and nonminority populations disappear once they control for socioeconomic characteristics of individuals. In other words, differences in socioeconomic level, access to formal employment, unemployment rates, income and geographic location fully account for these disparities. These results suggest that there are differences in endowments of human capital that harm minorities on health outcomes. Finally, Viafara and Urrea (2006) find that there are strong inequalities, in terms of the educational achievement and the socio-economic status in Cali, Cartagena and Bogota, between Afro-Colombians and non-Afro Colombians.

Despite the perceived discrimination against displaced population, no study has been conducted in Colombia about wage differentials between this group and other social groups. This can be explained by the lack of statistical information. To my knowledge, except for the Living Standard Survey (LSS) conducted in Medellín and other municipalities in the region by the local governments, no other survey in the country allows to make comparisons between displaced and non-displaced population. This gap in the literature prompts the following question: How does the fact of being an internally displaced worker in Medellín affect earnings? Based on the LSS for 2012 information, I expect to find that displaced workers' earnings are lower than non- displaced workers earnings. I also expect to find that, a portion of earnings differential between displaced and non-displaced workers cannot be explained by differences in endowments between the two groups, implying that displaced workers may be discriminated. With this paper, I expect to contribute to the understanding of earnings differentials and therefore to the design of public policies aimed at correct these imbalances. Evidence of discriminatory practices and/or differences in endowments require the appropriate legal framework and policies to target any disparities in order to comply with the equal treatment right established in the Colombian Constitution.

In order to address these issues, this paper explores in second chapter the main theories of discrimination. The third chapter presents a description on the situation of displaced population in Colombia and Medellín. Fourth chapter presents the methodology and data used. This is, the Blinder – Oaxaca decomposition model and the Medellín Living Standard Survey 2012. Fifth chapter contains the empirical results. Finally, I present conclusions and policy recommendations.

2. Theoretical Framework

Discrimination is an enduring social phenomena, as such a variety of disciplines have documented it, among them psychology, sociology and economy. The approach I will take here is more close to economy, because the question that guides this paper is mainly concerned with the existence and degree of discrimination, instead of the underlying psychological or sociological processes. Moreover, the focus of economists is on discriminatory behaviour, phenomena that has been largely neglected in other disciplines' literature (Fiske 1998, 374, Becker 1971, 14).

The study of discrimination has in all the disciplines both, individual and context components. However, major theoretical trends on discrimination have emphasized to different degrees these two elements. In economics in the study of discrimination, individual has been more emphasized than the context. In short, the individual driven theories focus on individual's conscious and unconscious conflicts as origin of stereotypes and prejudice; although, they also include social factors, such as socioeconomic status or perceived norms (Fiske 1998, 358-360). Alternatively, context driven theories are rooted on Allport's 1950s analysis of categorization ("us" and "them") in social contexts that affects intergroup contact (Fiske 1998, 361-364).

In economics, two main approaches to explain discrimination in the market place can be identified, both are focused on behaviour and assume rational actors and hold the criterion of utility and profit maximization. The first one was proposed by Gary Becker (1971) through the concept of "taste of discrimination". According to Becker (1971), discrimination arises when exists a personal prejudice from employers, employees or consumers towards a particular group. Money serves as a measure of discrimination. If an individual has "taste of discrimination", he or she would be willing to pay something, either directly or in the form of reduced income, for the privilege of hiring, working with, or buying from certain persons or groups rather than others. Becker (1971) gives a definition of "taste" of discrimination by using the concept of a Discrimination Coefficient (DC). For example, suppose two groups, W and N, are perfect

substitutes in production, and an employer has a DC of value *d* against *N*. Employer will hire W whenever wage rate of W, $\pi_w < \pi_n(1+d)$; N is hired only if $\pi_w > \pi_n(1+d)$, if $\pi_w = \pi_n(1+d)$, both are hired. In this situation, not only the discriminated worker is worse off, but also the benefits of the company, since cost of producing each output would be greater than the minimum net cost (Becker 1971, 40, 41). Becker's approach can be identified with what (Fiske 1998) calls "hot discrimination" which is based on disgust, resentment, hostility, and anger.

The second approach known as "statistical discrimination" was developed by Arrow (Arrow 1971). Statistical discrimination does not necessarily reflect tastes, but perception of reality. That is, if employers have preconceived ideas that N workers have lower productivity than W workers, they may be expected to be willing to hire them only at lower wages (Arrow 1971, 25). In this case the employer who is not able to observe directly worker's productivity, uses characteristics as gender or race as proxies. Given information asymmetries, employers because of ignorance or prejudice assume that some groups are more or less productive than others, and based on these perceptions determine wages. Arrow's approach can be identified with what (Fiske 1998) calls "cold discrimination" which is based on stereotypes of an out-group's interests, knowledge, and motivations.

Empirically, discrimination can be tested by estimating its quantitative importance. Earnings are frequently used as measures of discrimination, and its determinants including race, gender, and other characteristics are used as explanatory variables. Fourth Chapter presents the most commonly used methods on empirical studies of discrimination in the labour market. In the next chapter, I am going to describe the situation of IDPs in Colombia.

3. Internal Forced Displacement

3.1. Main causes of forced displacement in Colombia

In order to analyse internally forced displacement in Colombia, it is necessary to present its main cause: the violence generated by the internal armed conflict. The roots of the conflict can be traced back to the beginning of the second half of 20th century. This period known as *La Violencia*, was characterized by intense interparty and intraparty polarization and violent partisan struggle. As a result of the struggle between the two main parties at that time, the liberals and the conservatives, peasants in the countryside became victims of strong repression. The reasons for peasant's persecution were not only political but also economical, since it facilitated the expansion of agriculture frontiers and the consolidation of *latifundios* (large estates). Persecution of vulnerable groups pursuing economic benefits, contributed to an increasing concentration of landed property and a growing forced migration of people.

In 1958, as an attempt to stop the violence, the two main parties created the National Front, an agreement to let the other party govern intercalating for a period of four presidential terms. However, people in the countryside who could not benefit from the agreements between liberals and conservatives, organized in groups called "self-defence". The movement that was also known as *bandolerismo* reached its highest point during the 1960s. According to Arango (2004, 10) by 1964 there were more than one hundred active bands, formed by armed peasants groups that were constantly attacked by the government. The attack on the community of Marquetalia in 1964 motivated the transformation of the Self-defence Agrarian Movement into the Armed Forces of Colombia (FARC) whose leader was Manuel Marulanda Velez (Tirofijo), a survivor of the attacks of Marquetalia. Together with the FARC, during the 1960s and 1980s other guerrillas groups with political motivations and different ideological approaches appeared claiming to be fighting unequal land distribution and social injustice and protecting peasants from government violence. Examples of these guerrilla groups are the National Liberation Army (ELN), the 19th

of April Movement (M-19), Labour self-defence (ADO), Popular Liberation Army (EPL), Quintín Lame, and others. Paramilitary groups emerged during the same time, claiming to counter the perceived threats of guerrilla movements.

During the 1980s, both guerrillas groups and self-defence forces began a process of accelerated growth. This growth in number, territories, and capacity for military action, was linked to their economic prosperity, mainly coming from increasing illegal drugs trade (Díaz and Sánchez 2004, 17). Drugs trafficking peeked alongside a growth in the struggle for territories, and therefore, in forced displacement. From the mid-1990s, there was an exponential growth on violent paramilitary activity. Consequently, the map of the conflict changed considerably, as it was extended to virtually all the national territory in the search for strategic zones for financing the armed conflict. Guerrillas' strategies also changed, the FARC began to harass civilian population and to strengthen its control of different territories, not only areas of illicit crops, but also economically rich regions (Díaz and Sánchez 2004, 27).

The fight for control of territories is one of the main motivations to intimidate civilian population. The resultant violence has caused a large increase in the number of people forced to migrate. Landowners have higher probabilities of being displaced, since forcing people to leave their territories is a low cost strategy, especially if they own a small piece of land, in view of the fact that they have limited capacity to adopt protection measures, making them more vulnerable to armed groups attacks (Gaviria and Muñoz 2007, 14).

In 2002, Alvaro Uribe Vélez was elected president. His adoption of a strong confrontational strategy against the guerrillas groups resulted in some improvement in security. Moreover, in 2003, the Self-Defence Forces of Colombia (AUC) agreed with Uribe's administration to begin a demobilization process that ended in 2006. However, forced displacement has continued growing. The two guerrillas groups, FARC and ELN, armed groups that have emerged since the demobilisation of paramilitary organisations and the Colombian security forces all continue to cause displacements (IDMC 2012, 38). The current administration, in office since 2010, has launched a peace process with the FARC, which if successfully concluded, it is expected to bring the IDPs figures down.

3.2. Internally forced displacement in Colombia

Internally forced displacement has always been part of human history; yet, it has been a largely ignored phenomenon around the world, only in recent years has become a topic of study and discussion. The last Secretary-General Kofi Annan pointed out that 'internal displacement is the great tragedy of our times. The internally displaced people are among the most vulnerable of the human family.' (quoted in United Nations 2004, 3). According to IDMC, the total number of people internally displaced by armed conflict, generalised violence and human rights violations worldwide as of the end of 2012 was estimated to be 28.8 million. This number represents an increase of 2.4 million compared to the previous year, and is the highest figure IDMC has ever recorded (2012, 8). Colombia, according to the data reported by IDMC (2012), remains the country with the highest number of IDPs in the world, with a total between 4.9 and 5.5 million (around 10% of total population).

This phenomenon is not new in Colombia; for instance, during *La Violencia* of 1950s mass displacements were experienced in the country. However, its dramatic increase in the second half of the 1990s has encouraged the discussion about the issue, revealing the different facets of the problem. From the point of view of human rights, right to life and personal security are threatened. In addition, people who are forced to leave home face the break up of their families, the loss of land, social networks, jobs, and all what is familiar to them. It also challenges destination places capacity, which are often overwhelmed by newcomers' attention and integration demands (Observatorio de Coyuntura Socioeconómica 2002, 2).

With regard to the profile of displaced population, the results of a survey conducted in 2010 by the Comisión de Seguimiento a la Política Pública Sobre Desplazamiento Forzado (Follow-Up

Commission on the Public Policy of Forced Displacement), showed that 60% of displaced households come from rural areas, 24% from small towns and 15% form urban areas. About reasons for displacement, the most common were direct and indirect threats, family murders, massacres, and combats (Figure 1). As shown in Figure 2 below, most of the respondents declared that guerrillas and self-defence groups displaced their families. Respondents were also questioned about the circumstances when they were displaced in the place of expulsion. Not surprisingly, large proportion of them mentioned circumstances as generalized violence (85.0%), presence of access controls to towns and villages (76.1%), and clashes between armed groups (75.3%). However, the answers also revealed the intentions of taking territories using violence. Thus, 9% of respondents said that previous to the displacement there were massive land purchases, 10% affirmed that there were megaprojects related to mining, oil activities and public investment initiatives, another 8.5% declared the presence of projects for planting new products as palm, sugar cane and rubber. The empirical study by Pérez (2001) on the determinants of forced displacement, supports the Follow-Up Commission findings. The author, finds that displacement take place on areas of great economic potential in which, given the existence of strong income concentration, scarce political participation and high impunity levels, communities live under vulnerable conditions that go beyond poverty.



Figure 1. Main reason for displacement (percentage)

Figure 2. Displacement perpetrator (percentage)

Source: Follow-Up Commission on the Public Policy of Forced Displacement

Concerning the distribution per regions, according to COHDES⁵ in 2010, Antioquia was the department with more cases of internally forced displacement, recording 20.3% of total IDPs, followed by Nariño with 14.0%, Bogotá D.C. 10.9%, Cauca 8.3%, Caquetá 6.3%, and Valle del Cauca 6.3%. According to Gaviria and Muñoz, Antioquia is attractive to drug lords and illegal groups because of its high productive potential (2007, 19). This has brought changes to the region, particularly to its capital Medellín, where slums and networks of misery and poverty have emerged. The assistance given by the government to displaced families is insufficient, not only for its limited capacity but because assistance provided can provide incentives for more people to come (Ibid).

Leaving the place of origin is only the beginning of a long journey for displaced families; in the urban areas they have to face harsh living conditions and limited economic opportunities. Although some solidarity networks are build in the urban areas, the displaced are often victims of intolerance and rejection (Osorio 1998, 68). IDPs may be viewed with fear, subjected to

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⁵ http://www.codhes.org/index.php?option=com_docman&task=cat_view&gid=39&Itemid=51

persecution, and blamed for increased crime rates (Vidal, Atehortúa and Salcedo 2011, 3). For example, in Medellín, according to a perception survey made by '*Medellín Cómo Vamos*', 74% of respondents considered that IDPs are discriminated in the city (Medellín Cómo Vamos 2012).

Government programs for IDPs can lead to hostility towards them due to the perception of diversion of resources meant to residents. They are also blamed for not being able to use government's assistance effectively to overcome their present situation. In general, IDPs and residents share conditions of the periphery but under different circumstances. Residents have usually more access to housing, work and government institutions. Displaced families are in disadvantage due to its lack of local networks, their dependence on government assistance, and their difficulty in accessing formal and informal labour markets. Without access to the labour markets, IDPs face difficulties in obtaining a regular source of income and securing economic stability (Vidal, Atehortúa and Salcedo 2011, 3).

3.3. Public Policy of Forced Displacement in Colombia

The end of the Cold War in the late 1980s provided the catalyst for putting internal displacement on the international agenda. The confluence of two main factors turned the attention to internal displacement. First, the emergence of new possibilities for crossing borders and reaching people in need; second, changing ideas about sovereignty developing concepts of a 'common public order' led to increased scrutiny of the internal matters of the state (Wyndham 2008, 5,6). But it was not until 1990 that the need for international standards for the protection of IDPs became apparent, since 'the number of people uprooted within their own countries by armed conflict, ethnic strife and human rights abuses began to soar' (IDMC 2013). Vulnerability of IDPs to human right abuses and neglect led to the development of the "Guiding Principles on Internal Displacement" which were presented to the United Nations Commission on Human Rights by the Secretary General on IDPs, Francis Deng, in 1998 (Wyndham 2008, 1). In Colombia, development of national laws and policies on internal displacement had begun before the development of the Guiding Principles. From the second half of the 1990s, the government started to recognize the problem of forced displacement in response to its striking increase and the use of increasingly violent practices. In the late 1990s, Ernesto Samper administration designed a specific public policy for displaced population. New institutions were created and in 1997, it was adopted Law 387, a comprehensive law identifying the rights of those internally displaced by the on-going armed conflict and the obligations of the state towards them. In addition to these developments, the Guiding Principles 'served as a catalyst for the development of laws and policies on internal displacement, providing a legal and operational framework that could be incorporated and adapted by national authorities' (Wyndham 2008, 111). Nonetheless, according to Cohen (2004, 471) acknowledging the Guiding Principles and basing laws and policies on them do not guarantee that they will be implemented. Cohen (2004) points out that in Colombia, the announcement of laws and policies on IDPs has not been matched by the will to carry them out.

Although Colombia has been touted as a model in applying the guiding principles in law and in practice, it has been recognized a clear gap in implementation at the regional and local levels (Wyndham 2008, 106). Since forced displacement violates a variety of rights, guarantee and restitution of these rights demands the intervention of different levels of the government. Despite the existence of constitutional and legal rules, the distribution of competencies between national and local governments continues to be one of the main obstacles on the effective implementations of policies of forced displacement (Riveros 2010). Nonetheless, the local government in Medellín has designed a series of policies aimed at assisting IDPs. The ones related to labour market access include vocational training and supporting for the establishment and improvement of small business (Alcaldía de Medellín 2012). Additionally, some national policies have direct impact on IDPs access to labour market on the local level. For instance, Law 1429 for employment creation and formalization eliminated temporarily the payment of *parafiscal*⁴ taxes and other payroll contributions for enterprises hiring displaced and other vulnerable groups workers. Another example is the Victims Reparations and Land Restitution Law adopted in 2011. This Law seeks to adopt measures to guarantee IDP's rights to truth, justice, and reparation. As such, the Law is expected to push the government to design and implement a local integration strategy for the vast majority of IDPs who prefer to remain on the resettlement place; however, this has not yet happened (Refugees International 2012).

⁶ Earmarked taxes on the payroll to finance welfare programs in the areas of training, childhood development and other subsidies

4. Methodology and Data

4.1. Methodology

As it was already mentioned, empirically discrimination can be tested by estimating its quantitative importance. Here I will use earnings as a measure of discrimination comparing IDPs to natives and voluntary migrants in Medellín, in order to answer the following research question and test following two hypotheses: how does the fact of being an internally displaced worker in Medellín affect earnings? The first hypothesis is that displaced workers' earnings are lower than non-displaced workers earnings. The second one is that, a portion of earnings differential between displaced and non-displaced workers cannot be explained by differences in endowments between the two groups, implying that displaced workers may be discriminated. To carry out this analysis I will proceed along the following lines. First, I will present the most commonly used methods on empirical studies of discrimination in the labour market. Second, based on the method chosen, I will specify the mathematical model and the functional forms to be estimated. Third, I will describe the data from Medellín's Living Standard Survey 2012. Finally, I will estimate the parameters of the specified model and test the hypothesis.

Empirical studies of discrimination in the labour market have a long tradition; consequently, a series of methods have been developed an applied to numerous groups and countries (Rodgers 2006, 11). To begin with, regression analysis has been widely used by estimating wage equations. These equations usually include control variables related to observed productivity characteristics or endowments and a dummy variable that takes the value of one for the perceived disadvantaged group. A negative and statistically significant coefficient of the dummy variable, after controlling for characteristics such as education and work experience, is interpreted as evidence of discrimination. One limitation of this method is possible presence of endogeneity with education for example. Another limitation of this method is that has the same regression coefficients across groups. As a result, with this method is not possible to know if

earnings differentials are attributable to differences on productivity characteristic or on the returns to them. To determine the reasons behind earnings differentials is essential for the study of this phenomenon as well as for policy design. If the reason are the differences in individual characteristics policies should be aimed at supply education and training to the disadvantaged group. By contrast, if earnings differentials are due to unexplained components or discrimination, policies should be aimed at establishing or promoting objective mechanism for wage setting.

More recently, social experiments have been used to study discrimination in the labour market. For instance, Bertrand and Mullainathan (2003) performed an experiment to measure racial discrimination in the labour market. They responded with fictitious resumes to help-wanted ads in Boston and Chicago newspapers. To manipulate perception of race, each resume was assigned either a very African American sounding name or a very White sounding name. The results showed significant discrimination against African-American names: white names received 50 percent more call backs for interviews. The authors found that the racial gap is uniform across occupation, industry, and employer size. Similarly, Kaas and Manger (2010) in the German labour market and Wood, et al. (2009) in the British labour market found gaps in callbacks between natives or whites and other ethnical groups. Another interesting experiment was conducted by Goldin and Rouse (2000), collecting auditions for eight major symphony orchestras in the United States, the authors found that blind auditions increases by 50% the probability that a woman will be advanced from certain preliminary rounds and increases by several fold the likelihood that a woman will be selected in the final round. Experiments have the advantage of being conducted in fully controlled settings, so that the researcher has typically more information about worker characteristics and can measure the initial response of employers to varying characteristics of applicants (Kaas and Christian 2010, 2). The disadvantage is that generally field experiments require a higher investment of time and financial resources than studies based on field data.

Another widely used method is the earnings gap decomposition. The traditional decomposition model, developed by Blinder (1973) and Oaxaca (1973) is based on the estimation

of the standard Mincer wage equations. These equations that include age and schooling (Mincer 1958), are typically augmented with personal characteristic variables as marital status and number of children and other variables related to productivity like industry, sector of employment, region and so on. According to Oaxaca (1973, 694) discrimination against any specific group can be said to exist whenever the relative earnings of another group exceeds the relative earnings that would have prevailed if both groups were paid according to the same criteria. Accordingly, the Blinder -Oaxaca decomposition model divides earnings differential between two groups into a part that is explained by average group differences in productivity, and a residual part that cannot be accounted for by such differences in earnings determinants. The residual part is commonly attributed to discrimination. However, this type of interpretation has been subject of controversy in the literature (see for instance Blau and Kahn 1997, Dolton and Makepeace 1986). The argument is that the way in which the estimates of the coefficients capture all biases generated from data problems, errors in the variables and selectivity process (Tenjo, Ribero and Bernat 2004, 146). It is also argued that the coefficients capture the effect of non-observable characteristics as the quality of education received, motivation, or future career expectations. In the case of IDPs, the residual part could capture the effect of lack of credentials, social networks, and information to compete in the urban labour market, which according to Aysa-Lastra (2011) can explain IDPs relative disadvantage. Researchers have subsequently introduced a number of extensions of to overcome some of the model's limitations, but the controversy remains. Nonetheless, the Blinder - Oaxaca decomposition provides a more complete picture of the degree to which discrimination serves as an explanation for the presence and persistence of group differences on average earnings (Rodgers 2006, 12). Therefore, I will use here the Blinder -Oaxaca decomposition model.

The Blinder – Oaxaca decomposition begins with the Ordinary Least Squares (OLS) estimation of Mincer wage equations. This provides an estimate of the earnings structure applicable to each group, in this case IDPs, and natives and voluntary migrants in Medellín, from

now on displaced and non-displaced workers. The earnings equation estimated separately for each group, has the following lineal functional form:

$$\ln(W_i) = \beta_0 + X_i \beta_i + u_i, \qquad i = 1, ..., n$$
(1)

Where, W_i is hourly earnings of the *i*-th worker, X_i indicates a vector of individual characteristics, β_i preents a vector of regression coefficients, and u_i is the error term assumed to be normally distributed with mean 0 and variance σ_i^2 . The earnings gap is described by Blinder (1973) as follows:

$$\ln W^n - \ln W^d = (\beta_0^n - \beta_0^d) + (X^n \beta^n - X^d \beta^d) + (u^n - u^d)$$
(2)

Where the superscripts n and d refer to non-displaced and displaced workers, respectively. On the right hand side of the equation, if the regression is evaluated at the means of low hourly earnings distribution the last term becomes zero. The second term is the portion of the differential explained by the regression. The first term is attributed to discrimination. However, it is possible to further breaking down the second term given that the explained part of the differential comes from both, differences in the coefficients and differences in the average characteristics. Adding and subtracting $X^d\beta^n$ to the second term to obtain worker attributes in terms of non-displaced returns gives:

$$\ln \overline{W}^n - \ln \overline{W}^d = \hat{\beta}^n (\overline{X}^n - \overline{X}^d) + \overline{X}^d (\hat{\beta}^n - \hat{\beta}^d) + (\hat{\beta}_0^n - \hat{\beta}_0^d)$$
(3)

Where $\ln \overline{W}$ is the mean of log hourly earnings; $\hat{\beta}$ denotes the estimated coefficient from the corresponding earnings regression; and \overline{X} is a vector of means of individual characteristics. In equation (3), the explained part of the differential between the two groups of equation (2) is broken down into two terms. On the right hand side, the first term of this decomposition measures the value of the advantage in endowments (the average X values) possessed by non-

displaced as evaluated by this group's earnings equation. The second term measures the difference between how the non-displaced equation would value the characteristics of displaced and how the displaced equation actually values them. In short, the first term is attributable to the endowments, while the second term is attributable to the coefficients. Note that the second term exists only because the market evaluates differently the identical bundle of individual characteristics possessed by members of different demographic groups; therefore, is a reflection of discrimination (Blinder 1973, 438, 439). The sum of the portion of differential attributable to coefficients: $\bar{X}_d(\hat{\beta}_n - \hat{\beta}_d)$ and the unexplained portion of the differential: $(\hat{\beta}_0^n - \hat{\beta}_0^d)$ is attributable to discrimination.

While Blinder (1973) evaluates the differences in endowments by using the high-wage equation (non-displaced equation in this case), Jones and Kelley (1984) propose to use the low-wage equation. This proposal has practical more than statistical implications; the argument is as follows:

If the income gap comes about because the high earning group is privileged –earning more than the appropriate return on their endowments– or if the policy envisioned is to reduce the returns of the high earning group to those of the low earning group, then the interaction term can most reasonable be added to the endowments [as in Blinder's model]. The endowment term then will reflect the extra income the high earning group gets because of their privilege or the drop in their income that will be produced by the policy change. But if the income gap comes about because the low earning group is deprived privileged –earning less than the appropriate return on their endowments– or if the policy envisioned is to increase their returns to match those of the high earning group, then the interaction term can almost reasonably be added to the "discrimination" component...The endowments term then reflects the increase in the income of the low earning group that would come about by equalizing endowments without changing anything else (Jones and Kelley 1984, 339).

In the case analyzed in this paper, the approach Jones and Kelley (1984) seems more appropriate since displaced population is perceived to be discriminated rather than non-displaced population to be privileged. Therefore, policies should be aimed at increase displaced workers returns to match those of the non-displaced workers. Moreover, one of the hypothesis is that non-displaced workers may be discriminated; therefore, Blinder's model would not be the most appropriate to test this hypothesis. Earnings gap according to the model proposed by Jones and Kelley (1984) has the following functional form:

$$\ln \overline{W}_n - \ln \overline{W}_d = \hat{\beta}^d (\overline{X}^n - \overline{X}^d) + \left(\hat{\beta}_0^n + \hat{\beta}^n \overline{X}^d\right) - \left(\hat{\beta}_0^d + \hat{\beta}^d \overline{X}^d\right) + \left(\hat{\beta}^n - \hat{\beta}^d\right) (\overline{X}^n - \overline{X}^d)$$
(4)

On the right hand side of equation (4), the first term measures the value of the advantage in endowments possessed by non-displaced workers as evaluated by displaced workers' earnings equation. The second and third term measures the unexplained portion of the differential, which is attributable to discrimination. The third term measures the interaction between differences in coefficients and endowments, which represents the difference between valuing the endowments differences at the lower earning group's rather than the higher earning group's rates of return.

4.1.1. Correction for selection bias

In earnings decomposition and in labour market analysis in general, is often included a correction for sample-selection bias. Selection bias occurs because 'earnings are observed only for people who are participating in the labour force, and this might be a selective group' (Jann 2008, 473). However, discrimination affects earnings that would be offered to a person, whether or not they participate in the labour force (Reimers 1983, 570). Since participation in the labour market is not random, given individual's observed characteristics, and this affects wage structures, the average observed wage might be subject to selectivity bias, as are OLS estimate coefficients of the wage equation (Reimers 1983, 571). The most commonly used solution to include a correction for selection bias in earnings equations is based on the procedure by Heckman (1976, 1979). Heckman (1979) showed that consistent estimates of earnings equations could be produced by estimating a probit to predict the probability that a person will participate in the labour force. According to Jann (2008, 473), the most straightforward approach to account for selection bias in the earnings decomposition is to deduct the selection effects from the overall differential and then apply the standard decomposition formulas to this adjusted differential. I will follow this procedure. Although participation rates between displaced workers and non-displaced workers based on the 2012 LSS sample for Medellín are not significantly different (52.6% for nondisplaced workers and 51.8% for displaced workers), there are considerable differences on some of the variables that could determine participation in the labour market. First, the difference between the percentage of working age non-displace population who has kids under the age of six at home is 13.4 percentage points lower than that of working age displaced population. Second, there is a difference of 4.8 percentage points between the proportion of working age non-displace population who are married, as compared with the displaced counterpart. Finally, displaced working age population is on average 1.4 years younger than non-displaced working age population. Accordingly, for earnings decomposition with correction for selection bias, I will model labour force as a function of age, a dummy variable for marital status that takes the value of 1 if the individual is married and 0 otherwise, and a dummy variable that takes the value of 1 if the individual has kids at home at ages below 6. The correction for selection bias based on Heckman (1979) has however been criticised for its lack of robustness, that is why some researchers prefer not to use it (see for instance Balau and Lawrence 1997 and Manski 1989). Therefore, I will present the results for both, the Blinder - Oaxaca decomposition with and without correction for selection bias.

4.1.2. Independent Variables

The model presented on equation (4) will include two human capital variables, education, and experience, both associated to higher earnings. Education is measured as years of schooling, and years of work experience is measured by a proxy of potential experience defined by Oaxaca (1973) as age, minus years of schooling completed, minus six. The squared potential experience is also included to capture its marginal diminishing returns. Potential experience is a reasonable proxy for actual experience; however, it tends to overstates the the actual years of work experience of females to the extent that many female workers have left the labour force for some

period in the past due to their household and childbearing activities (Oaxaca 1973, 697). Therefore, the model controls by number of children, a variable that attempts to reflect the cost of lost experience due to childcare; consequently, the estimated coefficient is expected to be negative. Additionally, earnings equations contain a dummy variable for marital status, 1 if the individual is married, 0 otherwise. This variable is expected to be positively correlated to earnings; marriage tend to have a positive effect on productivity due to factors such as effort on the job, job training opportunities and choices, and better employer perception about employee's commitment and constancy (Stratton 2002, Fernández 2006).

Finally, dummy variables for occupation and sector are included. Since in some categories of occupation and sector sample is extremely small, for the estimation of earnings equations and the Blinder – Oaxaca decomposition model, I group occupations in three broader categories: employee in private or public company, self-employed and other. As for sectors, I group them into the following categories: primary, secondary, tertiary; primary including agriculture and mining; secondary industry and construction; and tertiary, electricity, gas, water, trade, hotels, restaurants, transport and communications, financial and services sector. In estimations, employee in private or public company and primary sector are the reference groups. By controlling for occupation, I eliminate some of the effects of occupational barriers as sources of discrimination. As a result, effects of discrimination are likely to be underestimated. Therefore, I estimate a second set of equations that do not control for occupation, and sector.

The model does not include other personal characteristics as race, ethnicity, gender, place of origin, or physical disability, because according to Law 387 of 1997 none of these attributes should be source of discrimination. Nonetheless, as mentioned in the introductory chapter, there is empirical evidence suggesting that in Colombia gender, ethnicity and race are potential sources of discrimination. The female-male distribution is similar for both groups, displaced and nondisplaced workers; however, the proportion of ethnic and racial minorities is higher for displaced population (See Table 1), thus effects of discrimination are likely to be overestimated. Therefore, I estimate a third set of equation controlling by race and ethnicity. For these characteristics, I include a dummy variable that take on value of 1 if a person self-recognizes as indigenous, Afro-Colombian, *raizal* or gypsy and 0 otherwise.

4.2. Data and summary statistics

I use the data set from the Living Standard Survey (LSS), for the year 2012, conducted by the Mayor's Office in Medellín, Colombia. The LSS survey has been conducted every year since 2004 in order to obtain economic, social, and demographic information for Medellín. The LSS is applied in a random sample of around 50.000 persons, and is representative for Medellín and each one of its *Comunas⁸*. Since the questionnaire used is the same for the whole sample, the information collected allows making comparisons between non-displaced population (urban residents and migrants for reasons different from violence) and non-displaced population. Moreover, the survey contains detailed employment and earnings information.

The sample used for this analysis is restricted to individuals who are currently employed (or self-employed) and who are more than eleven years old⁹. Since earnings present observations that seem to be atypical, I eliminated those outside the interval given by the mean less and plus three standard deviations, as suggested by Galvis (2010, 246). These observations represented 0.53% of total observations in the upper limit. In the lower limit, I eliminated observations that were clearly registration errors; for example, those under the minimum value of a Colombian peso coin (COP 50). These observations represented 0.84% of total observations in the lower limit. With these restrictions, the final dataset with information for all the variables contains 15.989 non-displaced workers and 818 displaced workers, which expanded to the population, represent 835.620 non-displaced workers and 41.129 displaced workers.

⁷ Ethnic group from the Archipielago of San Andrés, Providencia and Santa Catalina

⁸ Medellín's political division

⁹ In Colombia, working age population is composed of people who are twelve or more years old

Table 1 below, presents the descriptive statistics of non-displaced and displaced workers. The results show significant differences in characteristics between both groups. First, there is segregation between non-displaced and displaced workers in terms of occupation and sector. For instance, 62.1% of non-displaced workers are employees in private or public companies, compared to 51.2% of displaced workers. In addition, 40.0% of displaced workers are self-employed, an occupation characterised by high informality levels and poor working conditions. This figure is nine percentage points lower for non-displaced workers. The percentage of non-displaced workers that own a private firm is more than twice higher than that of displaced workers. Also, 2.7% of displaced workers are labourers (blue-collar workers), while only 0.9% of non-displaced workers are in this occupation. Regarding the sector, displaced workers are more likely to be employed in agriculture, construction, or trade, hotels and restaurants, that their non-displaced counterpart. This result is consistent with the higher levels of experience in agriculture of displaced population and their lower levels of education. By contrast, non-displaced workers are more likely to be employed in the industrial, financial or services sector than displaced workers.

Second, employment rate is higher for non-displaced workers and working conditions are generally better for this group. Affiliation to health and pension system is usually used as a measure of informality. As Table 1 shows, both the ratio of health system and pension system affiliates is higher for non-displaced workers. The gap is wider in the affiliation to pension system; while 58.2% of non-displaced workers are affiliated, only 30.7% of displaced workers are part of the system.

Third, displaced workers, on average, earn significantly less than non-displaced workers in terms of both monthly and hourly earnings. The average monthly earnings for non-displaced workers are 943.520 COP, while those for displaced workers are 512.917 COP. The gap between the two groups is wider at higher levels of education. Non-displaced workers with tertiary

education earn on average 12.756 COP, while displaced workers with the same education level earn on average 7.526 COP. Standard Deviation of earnings is particularly high for both groups, this can be explained by the extremely unequal income distribution in Colombia, especially in Medellín. In 2010, according to World Bank data¹⁰ Colombia had the second greatest concentration of income, with a GINI Index of 55.9, only surpassed by Zambia with 57.5. Furthermore, the same year, according to the National Statistics Department¹¹, Medellín and its metropolitan area, was the most inequitable urban area presenting a GINI Index of 53.8. Nonetheless, in 2011, the situation slightly improved in both Colombia and Medellín, the GINI Index dropped to 54.8 and 50.7, respectively.

	Displaced	Non-Displaced
Occupation (%)		
Employee in a private company	49.8	58.3
Employee in a public company	1.4	3.8
Domestic employee	3.0	2.7
Self-employed	40.0	30.9
Owner of private firm or employer	0.7	1.8
Labourer	2.7	0.9
Other	2.4	1.6
Sector (%)		
Agriculture	3.3	1.6
Mining	0.2	0.2
Electricity, gas, water	1.5	2.2
Industry	13.3	15.3
Construction	13.0	7.0
Trade, hotels, restaurants	30.5	24.5
Transport and communications	4.5	6.4
Financial	0.6	3.4
Services	33.0	39.3
Employment rate (%)	45.5	47.6
Health System affiliates (%)	82.3	90.8

¹⁰ http://data.worldbank.org

¹¹ http://www.dane.gov.co/index.php?option=com_content&view=article&id=430&Itemid=66

	Disp	laced	Non-D	isplaced
Pension System affiliates (%)	30).7	5	8.2
Female (%)	39).7	4	0.6
Racial or ethnic minority (%)	8	.2	2	2.7
	Mean	SD	Mean	SD
Monthly earnings (COP)	512917	408968	943520	1027996
Hourly earnings (COP)	3000	3282	5499	9694
Hourly earnings per education level				
Primary	2499	2850	2750	3066
Secondary	3975	10046	4048	7593
Tertiary	7526	4605	12756	9178
Years of schooling	7.3	4.5	10.6	4.6

Note: statistics are weighted by the expansion factor given by the survey Source: Medellín Living Standard Survey 2012

5. Results

This chapter presents first the results of the estimation of earnings equation for each one of the two analyzed groups; then it shows the results of earning decompositions following the procedure described in the last chapter.

Table 2 below, presents the results of earnings equations in which the Blinder – Oaxaca decomposition model is based on. Before proceeding to the earnings decomposition, it is useful to compare patterns of earnings determination for the two groups. The results of the estimation show that there are differences in patterns of earnings between displaced and non-displaced workers. As expected, after controlling for all the other independent variables, human capital variables (years of schooling and potential experience) are positively correlated to earnings and statistically significant for both groups of workers. Nonetheless, it can also be seen that returns to education are higher for non-displaced workers, while returns to experience are higher for displaced to earnings. For displaced workers the variable was only significant at 10% level; this fact suggests that displaced workers do not stay out of the labour force as long as non-displaced workers for each child born. It may also suggest that lost experience is not particularly important in the kind of jobs displaced workers usually hold. The marital status has no effect on earnings for displaced workers, while is positively correlated with non-displaced workers earnings.

As for occupation, employee in a private or public company is the category of reference. The self-employed category typically presents high levels of informality and low quality of working conditions, the negative coefficient of this variable reflects these characteristics of the Colombian labour market. The results show that self-employed earnings are lower for both, displaced and non-displaced workers, but the difference with respect to the category of reference is higher for non-displaced workers. The category "other" was negatively correlated to displaced population earnings; occupations as domestic employee and labourer, more common among displaced workers presented considerably lower earnings.

With regard to sector, as compared with primary sector (the benchmark) neither secondary sector, nor tertiary presented statistically significant differences on mean log earnings. This can be explained by the great variability on earnings that displayed the three categories.

	Displaced	Non-Displaced
Dependent variable: log hourly earnings		
Years of schooling	0.0243	0.0937
	(2.44)**	(50.74)***
Potential experience	0.0260	0.0211
	(3.67)***	(13.98)***
Potential experience squared	-0.0006	-0.0002
	(-4.66)***	(-7.83)***
Number of Children	-0.0012	-0.0013
	(-1.86)*	(-9.15)***
Dummy for married	0.1041	0.1766
	(1.39)	(11.92)***
Dummies for occupation		
Self-employed	-0.4386	-0.1930
	(-7.35)***	(-12.85)**
Other	-0.4810	0.0240
	(-3.57)***	(0.82)
Dummies for sector		
Secondary	0.4420	0.0054
	(1.09)	(0.09)
Tertiary	0.4796	-0.0029
	(1.17)	(-0.05)
Constant	7.0061	6.8363
	(18.46)***	(103.37)***
Number of observations	819	15989
Population Size	41129	835650
R-squared	0.1843	0.2516

Table 2. Earnings equations regression results for displaced and non-displaced workers

Note: The numbers in parentheses are *t* statistics. * Significant at 10% level; **Significant at 5% level; ***Significant at 1% level. Regressions are weighted by the expansion factor given by the survey. Source: Medellín Living Standard Survey 2012

Table 3 below, shows in the first column the results of the earnings differential decomposition without correction for selection bias. For the first specification of the model, the mean of log

hourly earnings for non-displaced workers is 8.20 and 7.69 for displaced workers, yielding an earnings gap of 0.51. This earnings gap is divided into three components. The first component is the part explained by differences in endowments. It reflects the mean increase in displaced worker's earnings if they had the same characteristics as non-displaced ones. In this case, the increase of 0.16 indicates that differences in years of schooling, potential experience, number of children, and the other variables included in the model, account for about 31.3% of the earnings gap. The second term is the unexplained part; it measures the change in displaced worker's earnings when applying the non-displaced population's coefficients to the displaced worker's characteristics. This unexplained difference between displaced and non-displaced workers, may be attributed to differential treatment in the labour market of Medellín, against displaced workers. The third part is the interaction term that measures the simultaneous effect of differences in endowments and coefficients. Table 4 on the Appendix section shows the detailed results of decomposition of earnings differentials for this specification, in order to evaluate the contribution to the gap of every variable. Detailed results however, are only presented for the explained part of the differential because the total component is simply the sum over individual contributions. By contrast, in the coefficients and interaction terms, individual contributions can depend on arbitrary scaling decisions if the variables do not have natural zero points (see Jones and Kelley 1984 and Jann 2008, for an in-depth treatment of this issue). The detailed results reveal that the main contribution to earnings differential on the endowments component comes from years of schooling and occupational segregation.

The results analyzed are expressed on the logarithmic scale; therefore, it is possible to retransform them to the original scale, here Colombian peso. The geometric means of hourly earnings are 3.632 Colombian pesos for non-displaced workers and 2.180 Colombian pesos for displaced workers, which amounts to a difference of 66.6%. Adjusting displaced workers' endowments levels to the levels of non-displaced workers would increase their earnings by 17.33%. A gap of 22.23% remains unexplained. This unexplained gap is even wider for the

specification 2, which excludes the dummy variable for occupation and sector. This suggests that there is occupational segregation; namely, differences in occupational attainment between the two groups analyzed that cannot be explained by differences in endowment variables included in the model. About specification 3, there are no considerable changes compared to earnings decomposition of specification 1. When retransforming the results to Colombian pesos, the endowments component is slightly higher and coefficient component slightly lower, suggesting that race marginally contributes to explain earnings differentials between the two groups of workers.

In general, results of earnings differential decomposition with correction for selection bias displayed on the second column of Table 3, were less consistent. The estimated components were much more sensitive to model specification. This can be associated to the problems of the procedure mentioned on the last chapter. However, a general trend is observed along the three specifications, compared to the decomposition without correction, the output reveals that the uncorrected earnings of displaced workers are biased downwards, as it is the earnings gap and its unexplained component.

Without correction for selection bias	With correction for selection bias
8.20	8.17
7.69	5.67
0.51	2.51
0.16	0.17
0.20	2.22
0.15	0.12
3632	3544
2180	289
66.65	1127.47
17.33	18.67
22.23	818.36
16.21	12.63
	Without correction for selection bias 8.20 7.69 0.51 0.16 0.20 0.15 3632 2180 66.65 17.33 22.23 16.21

Table 3. Earnings differential decomposition

	Without correction for selection bias	With correction for selection bias
Specification 2		
Mean of log earnings for non-displaced	8.20	8.17
Mean of log earnings for displaced	7.69	6.96
Earnings gap	0.51	1.22
Endowments	0.13	0.14
Coefficients	0.21	0.94
Interaction	0.17	0.14
Geometric mean of earnings for non-displaced (COP)	3633	3544
Geometric mean of earnings for displaced (COP)	2181	1051
Earnings gap (%)	66.60	237.21
Endowments (%)	13.84	14.74
Coefficients (%)	23.56	154.92
Interaction (%)	18.43	15.29
Specification 3		
Mean of log earnings for non-displaced	8.20	8.17
Mean of log earnings for displaced	7.69	5.72
Earnings gap	0.51	2.45
Endowments	0.16	0.16
Coefficients	0.20	2.15
Interaction	0.16	0.13
Geometric mean of earnings for non-displaced (COP)	3632	3544
Geometric mean of earnings for displaced (COP)	2180	306
Earnings gap (%)	66.65	1058.32
Endowments (%)	16.82	17.87
Coefficients (%)	21.56	761.72
Interaction (%)	17.36	14.04

Note: specification 1 includes all the explanatory variables; specification 2 excludes the dummies for occupation and sector; specification 3 includes a dummy that take on value of 1 if a person self-recognizes as indigenous, Afro-Colombian, *raizal* or gypsy and 0 otherwise.

Source: Medellín Living Standard Survey 2012

Conclusions

In this paper, I have analyzed discrimination in the labour market in Medellín, Colombia by comparing two groups. The first group includes IDPs, the second one contains natives and voluntary migrants. I chose Medellín for being the Colombian city with the highest arrival rate. Between 2008 and 2012, the forced displacement represented half of the city's population growth. Moreover, the majority of population in the city perceives that displaced are discriminated. Furthermore, most of IDPs have expressed their desire to stay on the resettlement place instead of going back to their place of origin. Thus, is clear that the city needs a local strategy to integrate IDPs into their communities and the formal economy

Two main hypotheses were proposed: (1) displaced workers' earnings are lower than nondisplaced workers earnings, (2) a portion of earnings differential between displaced and nondisplaced workers cannot be explained by differences in endowments between the two groups, implying that displaced workers may be discriminated.

The result of earnings decomposition using the method proposed by Blinder and Oaxaca show that the mean of low earnings for non-displaced workers is 8.20 and 7.69 for displaced workers, yielding an earnings gap of 0.51. This earnings gap was divided into three components. The first component is the part explained by differences in endowments. It reflects the mean increase in displaced worker's earnings if they had the same characteristics as non-displaced ones. In this case, the increase of 0.16 indicates that differences in years of schooling, potential experience, number of children, and the other variables included in the model, account for about 31.3% of the earnings gap. The second term is the unexplained part; it measures the change in displaced worker's earnings when applying the non-displaced population's coefficients to the displaced worker's characteristics. This unexplained difference between displaced and non-displaced workers, may be attributed to differential treatment in the labour market of Medellín, against displaced workers. The unexplained part of the gap was wider for the second specification

of the model, which excludes the dummy variable for occupation and sector. This suggests that there is occupational segregation; namely, differences in occupational attainment between the two groups analyzed that cannot be explained by differences in endowment variables included in the model. A third specification of the model shows that the fact that a higher proportion of displaced workers belong to racial or ethnic minorities does not contribute explaining earnings differentials.

These finding indicate that a successful strategy of integration of IDPs into Medellín's labour market should take into account the following points:

- 1. The detailed results of decomposition of earnings differentials for the first specification (see Table 4 on the appendix), show that the main contribution to earnings differential on the endowments component comes from years of schooling and occupational segregation. Therefore, the local government vocational training programs should be encouraged. However, these programs will not be effective if they are not compatible with local economy. Taking into account the kind of workers that the local labour market is demanding, is possible to overcome the barriers of access of displaced population. These programs should also take into account occupational segregation in order to promote more equitable access. Programs for supporting the establishment and improvement of small business can also help to close earnings gap, as long as they are sustainable in the long term and therefore can constitute a reliable source of income.
- 2. The unexplained part of the gap of earnings differentials suggests that there is discrimination against displaced workers on the labour market. However, as mentioned earlier in chapter four, this type of interpretation has been subject of controversy in the literature. The unexplained part can also reflect problems of integration due to other factors. For instance, Aysa-Lastra (2011) argues that lack of credentials, social networks, information to compete in the urban labour market and unmeasured motivations can explain IDPs relative disadvantage.

In any case, the unexplained part of the gap of earnings differentials reflects the necessity of raising the level of awareness of the community about the situation of vulnerability of IDPs. It also indicates that displaced workers need assistance in building social networks. In addition to measures for improving the access to the urban labour market, the results suggest that policies should promote objective mechanism for wage setting.

 The focus of the local government policy on returns might not be the most appropriate since IDPs need more assistance for the integration to local communities and formal labour markets.

Integration of IDPs should be a priority for the government not only because the Constitution, and national and international laws mandate to guarantee equal treatment, but also because it is the only strategy sustainable in the long term to break the poverty traps. Moreover, it is the most effective way to avoid the involvement of this population on illegal or criminal activities.

The study of earnings differentials is essential for policy design. The generation of accurate statistical information would encourage more research in this field and consequently a deeper understanding of the phenomenon. Inclusion of information on migration on the household surveys conducted by the National Statistics Department would allow extending the analysis to the national level.

Reference List

- Alcaldía de Medellín. *Plan de Desarrollo 2012-2015, Medellín, un hogar para la vida*. Medellín: Alcaldía de Medellín, 2012.
- Arango, Carlos Andrés. El desplazamiento y sus efectos socioeconómicos sobre el resto de la sociedad. Medellín: Universidad Nacional de Colombia, 2004.
- Arrow, Kenneth. The theory of discrimination. Working Paper, Princeton: Princeton University, 1971.
- Asamblea Nacional Constituyente. "Constitución Política de Colombia." 1991.
- Aysa-Lastra, Maria. "Integration of Internally Displaced Persons in Urban Labour Markets: A Case Study of the IDP Population in Soacha, Colombia." *Journal of Refugee Studies* 24, no. 2 (2011): 277-303.
- Badel, Alejandro, and Ximena Peña. "Decomposing the gender wage gap with sample selection adjustment: Evidence from Colombia." *Revista de Análisis Económico* 25, no. 2 (2010): 169-191.
- Becker, Gary. The economics of discrimination. 2nd. Chicago: The University of Chicago Press, 1971.
- Bernal, Raquel, and Mauricio Cárdenas. Race and ethnic inequality in health and health care in Colombia . Working Paper, Bogotá: Fedesarrollo, 2005.
- Bertrand, Marianne, and Sendhil Mullainathan. Are Emily and Greg more employable than Lakisha and Jamal? a field experiment on labor market discrimination. NBER Working Paper Series, Cambridge: National Bureau of Economic Research, 2003.
- Blau, Francine, and Lawrence Kahn. "Swimming Upstream: Trends in the Gender Wage Differential in the 1980s." *Journal of Labor Economics* 15, no. 1 (1997): 1-42.
- Blinder, Alan. "Wage discrimination: reduced form and structural estimates." *The Journal of Human Resources* 8, no. 4 (1973): 436-455.
- Cano, Andrés, and Marcela Orozco. "Diferenciales salariales en el Área Metropolitana de Medellín, a través de regresiones por cuantiles en el período 2002-2006." *Ecos de Economía* 32, no. 15 (2011): 59-97.
- CEPAL. Estudio sobre la distribución espacial de la población en Colombia. Serie Población y Desarrollo, Santiago de Chile: CEPAL, 2003.
- Cohen, Roberta. "The Guiding Principles on Internal Displacement: An Innovation in International Standard Setting." *Global Governance*, no. 10 (2004): 459-480.
- Comisión de Seguimiento a la Política Pública Sobre Desplazamiento Forzado. "Tercer informe de verificación sobre el cumplimiento de derechos de la población en situación de desplazamiento." Annual Report, Bogotá, 2010.

Congress of Colombia. "Law 387." Bogota, 18 July 1997.

- Díaz, Ana Maria, and Fabio Sánchez. *A geography of illicit crops (coca leaf) and armed conflict in Colombia.* Working Paper, Bogotá: CEDE, Universidad de los Andes, 2004.
- Dolton, Peter, and Gerry Makepeace. "Sample Selection and Male-Female Earnings Differentials in the Graduate Labour Market." Oxford Economic Papers 38, no. 2 (1986): 317-341.
- Fernández, María del Pilar. Determinantes del diferencial salarial por género en Colombia, 1997 2003. Master Thesis, Bogotá: Universidad de los Andes, 2006.

- Fiske, Susan. Stereotyping, prejudice, and discrimination. Vol. II, chap. 25 in The Handbook of Social Psychology, by Daniel Gilbert, Susan Fiske and Gardner Lindzey, 357-414. New York: McGraw-Hill, 1998.
- Galvis, Luis Armando. "Diferenciales salariales por género y región en Colombia: Una aproximación con regresión por cuantiles." Revista de Economía del Rosario 13, no. 2 (2010): 235-277.
- Gaviria, Carlos Felipe, and Juan Carlos Muñoz. "Desplazamiento forzado y propiedad de la tierra en Antioquia, 1996-2004." *Lecturas de Economía* 66 (2007): 9-46.
- Goldin, Claudia, and Cecilia Rouse. "Orchestrating impartiality: the impact of "blind" auditions on female musicians." *The American Economic Review* 90, no. 4 (2000): 715-741.
- Heckman, James. "Sample Selection Bias as a Specification Error." *Econometrica* 47, no. 1 (1979): 153-161.
- Heckman, James. "The Common Structure of Statistical Models of Truncation, Sample Selection and Limited Dependent Variables and a Simple Estimator for Such Models." In Annals of Economic and Social Measurement, by National Bureau of Economic Research, 475-492. Cambridge: National Bureau of Economic Research, 1976.
- Hoyos, Alejandro, Hugo Ñopo, and Ximena Peña. The persistent gender earnings gap in Colombia, 1994-2006. Working Paper, Washington D.C.: Inter-American Development Bank, 2010.
- IDMC. "Global Overview 2011." Geneva, 2012.
 - —. Global Statistics. 2012. http://www.internaldisplacement.org/8025708F004CE90B/(httpPages)/22FB1D4E2B196DAA802570BB00 5E787C?OpenDocument (accessed May 22, 2013).
- —. Guiding Principles on Internal Displacement. 2013. http://www.internaldisplacement.org/guidingprinciples (accessed May 25, 2013).
- Jann, Ben. "The Blinder–Oaxaca decomposition for linear regression models." *The Stata Journal* 8, no. 4 (2008): 453-479.
- Jones, F.L., and Jonathan Kelley. "Decomposing differences between groups: a cautonary note on measuring discrimination." *Sociological methods and research* 12, no. 3 (1984): 323-343.
- Kaas, Leo, and Manger Christian. Ethnic Discrimination in Germany's Labour Market: A Field Experiment. Discussion Paper Series, Bonn: Institute for the Study of Labor (IZA), 2010.
- Machado, José, and José Mata. "Counterfactual Decomposition of Changes in Wage Distributions Using Quantile Regression." *Journal of Applied Econometrics* 20, no. 4 (2005): 445-465.
- Manski, Charles. "Anatomy of the Selection Problem." The Journal of Human Resources 24, no. 3 (1989): 343-360.
- Medellín Cómo Vamos. "Análisis de la evolución de la calidad de vida en Medellín 2008-2011." Medellín, 2012.
- Medellín Cómo Vamos. "Encuesta de Percepción Ciudadana 2012." Results Report, Medellin, 2012.
- Mincer, Jacob. "Investment in human capital and personal income distribution." *Journal of Political Economy* 66, no. 4 (1958): 281-302.
- Oaxaca, Ronald. "Male-Female wage differentials in urban labor markets." International Economic Review 14, no. 3 (1973): 693-709.

- Observatorio de Coyuntura Socioeconómica. *El Desplazamiento Forzado Interno en Colombia*. Bulletin, Bogotá: Universidad Nacional Facultad de Ciencias Económicas, 2002.
- Osorio, Flor Edilma. "El desplazamiento forzado por violencia: reflexiones desde la perspectiva del desarrollo local de los municipios rurales en Colombia." *Cuadernos de Desarrollo Rural*, 1998: 65-82.
- Pérez, Luis Eduardo. "Una mirada empírica a los determinantes del desplazamiento forzado en Colombia." *Cuadernos de Economía*, no. 35 (2001): 205-243.
- Personería de Medellín. "Informe sobre la situación de Derechos Humanos en Medellín." Annual Report, Medellín, 2012.
- Personería de Medellín. "Informe sobre la situación de los Derechos Humanos en la ciudad de Medellín 2012." Annual Report, Medellín, 2013.
- Refugees International. Colombia: transformational change must include urban IDPs. Field Report, Refugees International, 2012.
- Reimers, Cordelia. "Labor Market Discrimination Against Hispanic and Black Men." The Review of Economics and Statistics 65, no. 4 (1983): 570-579.
- Riveros, Héctor. "La eficacia de los derechos de la población en situación de desplazamiento: un desafío para la aplicación de los principios constitucionales de organización territorial." In *Más allá del desplazamiento, políticas, derechos y superación del desplazamiento forzado en Colombia*, by César Rodríguez, 262-291. Bogotá: Ediciones Uniandes, 2010.
- Rodgers, William. Handbook on the Economics of Discrimination. Cheltenham: Edward Elgar Publishing Limited, 2006.
- Rojas-Hayes, Carolina. "Race determinants of wage gap in Colombia." Revista Economía del Caribe, 2008: 31-65.
- Romero, Julio. ¿Discriminación laboral o capital humano? determinantes del ingreso laboral de los afrocartageneros. Documentos de Trabajo Sobre Economía Regional, Cartagena: Banco de la República, 2007.
- Sabogal, Adriana. "Brecha salarial entre hombres y mujeres y ciclo económico en Colombia." Coyuntura económica: Investigación Económica y Social XLII, no. 1 (2012): 53-91.
- Stratton, Leslie. "Examining the wage differential for married and cohabiting men." *Economic Inquiry* 40, no. 2 (2002): 199-2012.
- Tenjo, Jaime. "Cambios en Diferenciales Salariales entre Hombres y Mujeres 1976 –1989." *Planeación y Desarrollo*, 1993.
- Tenjo, Jaime, and Paula Herrera. Dos Ensayos sobre Discriminación: Discriminación salarial y discriminación en acceso al empleo por origen étnico y por género. Bogotá: Pontificia Universidad Javeriana, 2009.
- Tenjo, Jaime, Rocio Ribero, and Luisa Fernanda Bernat. "Evolution of salary differences between men and women in six Latin American countries." In Women at work: challenges for Latin America, by Claudia Piras, 139-187. Washington D.C.: Inter-American Development Bank, 2004.
- Tenjo, Jaime, Rocio Ribero, and Luisa Fernanda Bernat. "Evolution of Salary Differences between men women in six Latin American countries." In Women at work: challenges for Latin America, by Claudia Piras, 139-170. Washington D.C.: Inter American Development Bank, 2004.
- United Nations. "Guiding Principles on Internal Displacement." 2004.

- Viáfara, Carlos Augusto, and Fernando Urrea. "Efectos de la raza y el género en el logro educativo y estatus socio-ocupacional para tres ciudades colombianas." *Desarrollo y Sociedad* 58 (2006): 115-163.
- Vidal, Roberto, Clara Atehortúa, and Jorge Salcedo. The effects of Internal Displacement on host communities: a case study of Suba and Ciudad Bolívar localities in Bogotá, Colombia. Bogotá: Brookings Institution and London School of Economics Project on Internal Displacement, 2011.
- Wood, Martin, Jon Hales, Susan Purdon, Tanja Sejersen, and Oliver Hayllar. A test for racial discrimination in recruitment practice in British cities. Norwich: National Centre for Social Research, 2009.
- Wyndham, Jessica. Rhetoric versus reality: the Guiding Principles on Internal Displacement 1998-2008. Master Thesis, Sydney: University of New South Wales, 2008.

Appendix

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	Coefficient
Specification 1	
Mean of log earnings for non-displaced	8.20
Mean of log earnings for displaced	7.69
Earnings gap	0.51
Endowments	0.16
Years of schooling	0.0797
Potential experience and potential experience squared	0.0228
Number of Children	-0.0004
Dummy for married	0.0034
Dummies for occupation	0.0482
Dummies for sector	0.0062
Coefficients	0.20
Interaction	0.15

Table 4. Detailed earnings differential decomposition, endowments component

Note: (1) specification 1 includes all the explanatory variables. (2) Results for potential experience, the dummies for occupation, and dummies for sector were subsumed in one single group each. Source: Medellín Living Standard Survey 2012