CEDE

DOCUMENTO CEDE 2003-04
ISSN 1657-7191 (edición electrónica)
FEBRERO DE 2003

GENDER DIMENSIONS OF NON-FORMAL EMPLOYMENT IN COLOMBIA¹

ROCÍO RIBERO²

Abstract

This paper analyzed gender in the informal sector in Colombia, using the urban part of the Encuesta Nacional de Condiciones de Vida 1997, under the hypothesis that many informal women belong to this sector because it is more convenient for their childcare and house care needs. It is found that informal women are less in the lower strata than informal men, have better housing than informal men, and are covered by social security more often. More informal women have a family business in the household and work in their own home more often than informal men and tend to work between 6 and 11 hours less per week than informal men on average. Although fertility increases the woman's and men's probability of being informal, for a woman, having a child who stays with her most of the time during the week, either at home or at work, increases significantly her probability of being informal by 0.22, indicating that childcare contributes more to female than to male informality (for males it is not significant). When fertility is instrumented, this effect is revealed even larger. Models of log hourly wages/earnings were also estimated separately by gender and by sector of employment.

JEL classification: J0, J2, I3

Key words: informal labor markets, fertility, wages, gender

¹ This paper was used as a background paper for the Policy Research Report on Gender and Development. World Bank (forthcoming). The author wants to thank Elizabeth King for useful comments, Pablo Sanabria for valuable research assistance and Norman Offstein for helpful editing advice.

² Professor of Economics Universidad de los Andes – This research was conducted while the author was Postdoctoral Fellow Economic Growth Center Yale University.

Introduction

The popular view of the non-formal sector in developing countries is as an involuntary and transitory employment that provides meager earnings. However, Yamada³ shows that the rewards to self-employed workers can be even higher than those obtained by wage earners, when self-employment is voluntary,⁴ and therefore self-employment is not a “bad” option. In addition, self-employed individuals are outside of the government control and do not pay taxes. He finds that only those workers lacking social security or formal employment contracts are worse off than the rest. His study, however, is not disaggregated by gender. The hypothesis of this paper is that the decision to participate in the informal labor market differs between men and women, and in particular, that mothers who have to take care of young children tend to participate more in the informal sector of employment.

Sethuraman (1998) mentions that “women face additional constraints because of their role as mothers and wives. Their choice is constrained because of their domestic and childcare responsibilities, which often oblige them to choose less productive and more vulnerable forms of activities such as homework. Alternatively they are obliged to operate a business in the neighborhood of their residence, which implies less lucrative and smaller scale of business.... Clearly these factors explain the extent of informality among women’s employment.”

Before analyzing the gender aspects of informality, this paper contains a discussion on the various possible definitions of non-formal sectors. The first characteristic is self-employment (excluding professionals). Another criteria is the lack of social security. Another is related to the size of the firm. The last is related to the lack of formal labor contracts. This paper shows how these different criteria to define the non-formal sector may lead to a focus on groups that might be very different in nature.

Analyzing whether or not the choice of participating in non-formal labor markets in Colombia is different between males and females, the paper’s main findings are that women with young children tend to participate more in the informal sector. This is particularly true for women who stay with their children at home or at work during most of the week. Another interesting finding is that the number of children not only has an impact on female participation in the informal sector, but also on male participation in this sector of the economy. The paper finds that the unemployment rate in the region where the individual lives has a positive impact on the decision of joining the informal sector. Finally, the paper will try to find whether some policies that affect the fertility decision of the woman (like child-

³ “Urban non-formal employment and self-employment in developing countries: theory and evidence” Economic development and cultural change. January, 1996.

⁴ For Peruvian data he shows that mean experience of self-employment is on average 6.4 years, evidence that self-employment is far from a transitory option.

care programs) have an impact on her decision of joining the non-formal or formal sectors. All these results, however, are sensitive to what definition of informal sector is adopted.

Given that rural and urban labor markets are very different regarding the various definitions of informality and that female work in rural labor markets tends to be underestimated,⁵ the focus of this paper is on the urban sector. This analysis covers a representative sample of all urban areas in Colombia, not only the seven or ten largest cities in the country as it is the case with the majority of the National Household Surveys from DANE.

The paper consists of six sections. The first section contains a discussion on the main finding in the literature on the informal sector, in particular in Latin America. This section contains a review of the different definitions of the concept of informal sector existing in the literature, a discussion of the size of the sector in Latin America, and a summary of the main regulatory framework existing for the sector in Latin America. The review of the studies by gender and informality shows that few studies have analyzed the issues of this paper, particularly for Colombia.

The second section describes the data. The data for this study comes from the “Encuesta Nacional de Calidad de Vida”, a national household survey taken in 1997 in Colombia containing records of 38,518 persons. The urban part covers 97 municipalities of the country.

The third section includes a description of the definitions of informality used in this paper, how they relate to each other, how they define different sets of populations, and the main characteristics of these sets. It also contains a description of how different are the characteristics of males and females in the formal and informal sectors according to each definition. The rest of the paper keeps only two definitions of informal sector. The first definition characterizes the individuals according to their occupational position where those who participate in the informal sector are the self-employed (excluding professionals), the workers in the domestic service and the unpaid family workers. The second definition considers as informal workers those who work in firms without social security coverage and without a formal labor contract with their employer.

The fourth section contains the estimation of Probit models of participation in the informal sector separately for men and women. In a second step, fertility variables are added to the model in order to see the size of the impact of having children on both male and female decisions of joining the informal sector. In a further step, the endogeneity of fertility is taken into account, and instrumental-variables methods are used to estimate the unbiased effect of fertility on informal sector participation by gender.

⁵ In the sense that it usually is unpaid and not considered work.

The fifth section contains the estimation of Mincerian models of wages and earning for individuals in both sectors and by gender. The sample selection problem that arises when considering only the sample of formal or informal workers is addressed and corrected using the Heckman procedure. Section six contains simulations of the models from sections 4 and 5, and the conclusions are included in Section 7.

1. Literature review

This section reviews the empirical literature on non-formal sector employment especially in Latin America. It begins with a discussion of the different definitions of informal sector existing in the literature. It follows with a brief summary of findings in Latin America regarding the size of the informal sector. The third part is an overview of how the gender aspects of participation in the informal sector have been treated in the literature. Some aspects of the regulatory framework that governs informal labor in Colombia are discussed in the last section.

1.1 The definitions

According to Charmes (1990), the concept of informal sector dates to the early 1970's with the publication of the Kenya Report (1972) by the International Labor Office (ILO). It was due to the empirical fact that rural migration and urban growth gave rise to the development of small-scale activities providing rural migrants and urban dwellers with means of surviving. ILO's definition of informal sector included seven criteria: "ease of entry, unregulated and competitive markets, reliance on indigenous resources, family ownership of enterprises, small scale operation, labor intensive and adapted technology, skills acquired outside the formal school system."⁶ Sethuraman (1981) redefined ILO's definition by stating that "the informal sector consists of small scale units engaged in production and distribution of goods and services with the primary objective of generating employment and incomes to their participants notwithstanding the constraints on capital, both physical and human, and know-how."⁷ PREALC's⁸ definition is that "the informal labor market consists of those persons who develop activities for self-employment, those who work in small firms and those who provide low-productivity personal services".⁹ The concept involves the use of rudimentary technology, low labor productivity and that the businesses are unregulated, unlicensed and basically unknown to the governments. This allows the owners to avoid tax obligations, social security and minimum wage laws. In addition there exists the idea that working conditions in the informal sector are worse than in the formal sector and that working hours are more flexible.

⁶ Charmes, J. "A critical review of concepts, definitions and studies in the informal sector" in Turnham et al. (1990) p.13.

⁷ ILO definition in Sethuraman (1981), Contrapunto p.17.

⁸ ILO's regional employment program for Latin America and the Caribbean, in Spanish "Programa Regional de Empleo para America Latina y el Caribe" (PREALC).

⁹ PREALC 1974 cited in Fields (1990) "Labour market modeling and the urban informal sector: theory and evidence", In Turnham et al. (1990).

According to Sethuraman (1998), “informal employment consists of all employment in an economy that is outside the prevailing institutional framework. Informal employment, may be defined to include the following: a) self-employed or workers operating on own account, b) heads of microenterprises, c) unpaid workers and apprentices, d) wage workers (including paid family workers) in microenterprises, because they operate outside the recognised institutional framework, e) wage workers in the formal sector but belonging to the informal category, because their conditions of employment are not governed by the labor laws and regulations (i.e., the enterprises that engage these workers operate within the recognised institutional framework but part of the employment may be undeclared), f) wage workers not attached to any employer but who work regularly for households, and remain outside the recognised institutional framework (i.e., undeclared activities) e.g., domestic servants working for single or multiple households, g) wage workers not attached to any employer that provide services to individuals, households and enterprises (including the government and its agencies) but on a casual basis, all of which remain outside the recognised institutional framework (i.e., undeclared activities) e.g., porters, messengers, babysitters, caretakers, brokers, etc.”

By trying to make operational the definitions, based on the data restrictions, the literature offers also a wide range of different definitions of informal sector. According to Fields (1990), “Webb defines the informal sector to be small firms, plus all of the self-employed excluding liberal professions. Merrick defines the informal sector to be those employers who did not make payments to Brazil’s social security system. Banerjee defines the informal sector as all that are not employed in the government or in a private firm with more than 20 workers. Mazumdar classified workers in the factory sector as formal and those in small-scale enterprises and casual employment as informal.”¹⁰ According to Weeks (1975): “The formal sector includes government activity itself and those enterprises in the private sector which are officially recognized, nurtured and regulated by the State. ... Operations in the informal sector are characterized by an absence of such benefits.” From the macroeconomic point of view, the “informal economic activity covers those activities which ... are not recorded in the national income accounts.”¹¹

According to Fields (1990),¹² by definition the formal sector jobs pay better than the informal sector jobs because formal sector jobs are not available for all who seek them. Based on this fact, labor earnings have also been used as a criterion to define informal sector. Sethuraman (1981)¹³ incorporates the view that labor productivity could be seen as a summary of a set of criteria defining informality, and suggested that the minimum legal wage should be used as a threshold for defining the informal sector. This, however, resembles the definition of poverty line, and “even though the poorest are in the main part of the informal sector,”¹⁴

¹⁰ In Turnham et al. (1990) p.64

¹¹ Thomas, J.J. (1992).

¹² Labor market modeling and the urban informal sector: theory and evidence. In Turnham et al . p. 55.

¹³ Cited in Turnham et al. (1990) p.15.

¹⁴ In Turnham et al. (1990) p. 15.

poverty has a much broader scope and different units of observations¹⁵ and analysis.

According to Marquez (1994), by the early 1980's many Latin American economists were working with labor market models that included an informal sector, trying to adopt empirically the notion as it was introduced by PREALC. The informal sector was first conceptualized as a problem of poverty and underemployment, leading to the conclusion that the size of the informal sector must be reduced. Later, the sector was equally seen as a potential tool for development.

An extreme view of the informal sector as a tool for development extensively cited in the literature is the one introduced by Hernando de Soto (1989) in his book called "The other path."¹⁶ He argues that informality results from the promulgation of unjust and excessive regulations by local and national governments that limit enterprise. According to Bromley in Rakowski (1994),¹⁷ "De Soto's informal activities are illegal because they do not comply with official regulations on licensing, location or form of operation. ... At any time enterprises could be confiscated. ... To minimize the risks the informals are forced to keep their business small ... remain undetected, or to pay bribes to police and other officials so as to keep operating. The informals have no access to public credit, subsidies, technical assistance ... because their businesses and homes do not officially exist as authorized activities and establishments".

Fields (1990) summarizes the results of previous studies by the following facts: i) some of the activities which appear to be free entry are not; ii) individuals working in small firms, in firms not covered by social security and in self-employment have been in those jobs for long periods of time,¹⁸ and iii) many individuals who work in small firms or in self-employment are there by choice.¹⁹

These facts contradict the idea that "persons working in the [informal] sector are at the bottom of the job structure and hope to get out."²⁰ Some authors refer to an "elite" inside the informal sector, which is constituted by the employers or firm owners in the sector, that earn incomes higher than the average income in the formal sector.

¹⁵ Poverty is defined at the household level, and informality at the individual level.

¹⁶ The name of the famous guerilla movement in Peru was "Sendero Luminoso" or "Shining Path".

¹⁷ In Rakowski (1994) p.134.

¹⁸ In Yamada (1996) it is shown that self-employed have been in their type of job for 7.5 years on average, and informal wage earners 2.4 years on average.

¹⁹ Citing Fields, "When interviewed for the reasons for being informals many informal workers in Costa Rica gave the following answers most frequently: i) they felt they could make more money than they could earn in the formal sector, ii) even though they made less money they enjoyed their work more because it allowed them to choose their own hours, to work in the open air, to talk to friends, etc.". p. 66 in Turnham et al. (1990).

²⁰ In Fields in Turnham et al (1990) p.68.

1.2 The size of the sector

As it should be clear from the previous section, many difficulties arise when trying to compare data on informal sector across countries. The main difficulties lie in “i) differences in definition, ii) differences in sources and methods, and iii) differences in reference points.”²¹

Under the definition of “informal sector = non wage employment”, the size of the informal sector in Latin America was 26% in 1980 and increased to 30.7% in 1985. In particular the size of the informal sector in Colombia was 32% in 1980 and 35.4% in 1985.²²

Based on a 1984 Colombian household survey, “Coyuntura Economica”²³ shows that 75% of the informal workers²⁴ work in retail. On the other hand, 46% of the industry urban employment is in firms of less than 10 workers and 56% of construction workers belong to the informal sector. They also find that the informal sector is mainly chosen by less educated workers: 81% of the workers with zero years of schooling and 70% of the workers with primary education belong to the sector. However, the percentage of informals among those with college education is far from being small (23%).

Yamada (1996), using data from Peruvian household surveys, shows that in Metropolitan Lima between 1985-1986, 34.2% of the potential labor force were informal self-employed, and 19.4% were informal wage earners.²⁵ By 1990 both figures increased respectively to 37.2% and 21%. With the decline of GDP in Perú during that same period, the growth in the size of the informal sector in the period confirms a strong negative correlation between the level of per capita GDP and the share of informal employment in the labor force.²⁶

The evidence has reported that wages and earnings in the informal sector are lower than in the formal sector. According to Sethuraman (1998), “in Bogotá (1984) for example 92 percent of informal sector workers earned below legal minimum wage of US\$54 per month; in contrast, among formal sector workers, only 5.5 percent.” This result is confirmed in this paper.

²¹ Charmes in Turnham et al. (1990) p. 31.

²² Figures come from (page 22) Charmes, J. in Turnham et al. (1990)

²³ Publication by FEDESARROLLO.

²⁴ Defined as workers and patrons of firms of less than 10 workers, self employed (except independent professionals), family workers without pay and domestic servants.

²⁵ Defined as those workers with wage jobs but without formal contracts or social security.

²⁶ Yamada includes figures from a cross country self employment share for a number of countries sorted by per capita GDP data analysis, showing that whereas in Ghana the share of self employment is around 70% and in the Philippines of 40%, in the most developed countries is less than 10%. This figures are based on the World Development Report 1992.

1.3 Gender and the informal sector

Barros et al (1995) study the gender gap in wages in metropolitan Brazil. Their analysis by type of employment shows that, relative to men, women are underrepresented in the highest income groups (employers), are equally represented in the self-employment category and are over-represented in the low-income group of informal employees.²⁷ By averaging data from each year between 1981 and 1989, they find that 20.3% of the female occupied labor force were self-employed and 16.7% were informal employees. The respective male percentages were 20.9% and 9.5%.

Most of the gender aspects of informality in the literature have been analyzed from the point of view of the earnings differentials in the informal and formal sectors. Sethuraman (1998) mentions that “several studies in Latin America have attempted to assess the income differential by estimating earning functions based on data from household surveys. In Panama (1989) women self-employed were predicted to earn some 35 percent less than other women workers, which includes mostly wage employees in the formal sector. In urban Ecuador (1987), women employees in the formal sector earned 26.5 percent more than other women workers. ... In urban Uruguay (1989), average income of women in the informal sector was predicted to be lower by 43 percent compared with the average income of other women workers. Average income of women in the informal sector in Colombia in 1986 was only 60 percent that of women in the formal sector.”

In this paper it is shown that the male / female earnings differentials persist within the informal sector. However, the evidence shows that these are worse in the formal sector. Tokman (1987) [cited in Turnham et al p.39] analyzing the formal / informal earnings differentials by gender finds that earnings of self-employed men and women in Colombia²⁸ in 1984 were respectively 0.8 and 0.5 the average wage in the modern (formal) sector. In this paper it is found that earnings of self-employed men and women in Colombia²⁹ in 1997 were respectively 0.25 and 0.39 the respective average earnings in the formal sector, showing a much higher disparity between both sectors 13 years later. Looking at wages, it is found that wages of men who work in firms of ten or fewer workers are on average 0.5 the respective average male wage in firms with more than ten workers. For female average wages this relationship is 0.41.

According to Sethuraman (1998), “income differential between men and women persists not only in the two sectors, but also across all employment categories. ... The evidence from Brazil shows that women in the informal sector earned only 34 percent of men’s income, also in the same sector. In Guatemala (1989), income of self-employed women was estimated to be 73 percent of self-employed men. In Honduras (1989) income of self-employed women was only 62

²⁷ It is not clear, however, what definition of informality they are using.

²⁸ This result is for the 10 largest cities.

²⁹ This result is for the urban sample of the ENCV-97 that covers the 10 largest cities and more urban areas.

percent that of self-employed men. Similar differences seem to exist in other countries, and in specific branches within the informal sector.”

Comparing the earnings in the informal sector to the minimum wage by gender, Sethuraman (1998), reports that “in La Paz (in 1989) almost three quarters of women in informal employment earned below legal minimum wage but only 36 percent of men were in a similar situation. In Panama in 1983, 76.8 percent of women in the informal sector earned below the legal minimum wage of US \$140 per month compared to only 51.3 percent of men in the same category.” The evidence is used to conclude that “a greater proportion of women in the informal sector have poorer quality of employment than men.” Similar findings for Colombia are reported by López (1996). He reports that in 1994 37.9% of self employed excluding professionals had earnings below the legal minimum wage, but his analysis is not separated by gender.

Nothing, however, has been analyzed in Colombia to determine whether or not the reasons for participation in the informal sector are different by gender.

1.4 Regulatory framework for the informal sector in Latin America

In this section the regulatory framework that governs the non-formal sectors of employment in Latin America is briefly described. Clearly a complete analysis of these issues could take many pages, but it is not the objective of this study.

According to Otero (1994),³⁰ the government and society attitude toward this sector have been experiencing changes in the last decades. As the informal sector grows in Latin American and Caribbean cities, most of the states have been changing their positions from a detached (lack of interest and no defined policies) or passive role (no position and maintains distance), to a more active (interested and defining national level policies) and directive role (defines role as an implementator of programs to promote the sector growth). The first to aid the informal sector in Latin America were the NGO's, with the aim of creating and maintaining self-sufficient programs to alleviate poverty. In 1989, the countries that were adopting a more active and directive roles were Nicaragua, Guatemala and Colombia. Honduras, Bolivia and Brazil, on the other hand presented more passive roles toward the informal sector.

According to López (1996), the recent reform of the Social Security introduced in Colombia (Law 100 of 1993)³¹ represents the biggest effort to “formalize the informal”. Other than that, the programs to promote the microenterprises have been the main component of the effort to alleviate the informality. “Colombia's National Plan of Microenterprise Development started in 1982. ... It channels

³⁰ “The role of governments and private institutions in addressing the informal sector in Latin America” by Maria Otero, chapter 10 in Rakowski, 1994.

³¹ “The Integral System of Social Security guarantees the rights of individuals to obtain the living standard according with human dignity through the protection from the contingencies that may affect them.” From Law 100 of 1993 – Sistema de Seguridad Social Integral. Republica de Colombia.

resources and guarantees lines of credit for the informal sector through private foundations (including \$8 million from the Inter-American Bank of Development) while the government also contributes (in this case \$2 million). ... The Plan coordinated lending with the largest and best known government training center in the country (SENA) which trains micro-entrepreneurs and conducts research on the informal sector.”³² Similar programs exist in other countries such as Ecuador and Guatemala.

According to Otero (1994), the main advantages of having the governments involved in promoting the informal sector are that they can disseminate the information, obtain larger amount of funds, place the informal sector inside a macroeconomic perspective of the economy and mobilize human resources in public and private sectors. The disadvantages are the excessive bureaucracy, politization of programs, lack of real incentives to make programs work, and lack of mechanisms for long term sustainability. She concludes that the government is not the most appropriate implementator of micro-enterprise programs, but it should keep its active collaborator role coordinating various institutions involved.

According to Marquez (1994),³³ the micro-enterprise promotion policies ended up supporting informal small firms that do not comply with legally established requirements in terms of wages, hours and job security. According to some authors cited in Marquez (1994), the existence of these illegal conditions of work is what creates the competitive advantages for the small firms to exist. “Ironically, this results in governments investing resources in those very enterprises that openly violate public regulation of the labor market. These same governments tend to deny requests by formal firms to change the overall system of labor regulations to allow for more hiring and firing flexibility”.³⁴ This leads slowly to create a two-tiered system, somehow encouraged by the states. How likely are these sort of policies to promote long term growth is something that remains to be seen.

Informal employment is criticized for its fraudulent behavior that deprives the states of fiscal revenues as well as for its character of exploitation of a weak and unprotected workforce that does not find employment in the modern sector of the economy. Very few literature has analyzed in detail the regulation of the informal employment in Colombia.

According to López (1996), the legal minimum wage in Colombia cannot be judicially guaranteed for the independent workers and it is valid only “in principle” for the wage sector. The wages of the informals depend only on the nature of their small businesses and on the general behavior of the economy. In periods of growth the percentage of self employed with earnings below the minimum wage decreases, and the opposite happens in periods of depression. Similarly, 92% of the self-employed workers (excluding professionals) did not receive any kind of

³² Otero, in Rakowski, p. 191.

³³ “Inside informal sector policies in Latin America: an economist’s view” by Gustavo Marquez, chapter 9 in Rakowski, 1994.

³⁴ Márquez, in Rakowski, p. 171.

“prestaciones sociales” in 1994. The legal minimum work schedule (48 hours a week) does not apply for the informal sector (defined as independent workers), and 30% of them were offering more hours than that in June 1994. Particularly 58% of domestic servants work more than 48 hours per week.

The previous paragraphs show that the regulatory framework of informal sector in Latin America is a very complex subject that could be the subject of a separate study.

2. The data

The data for this study comes from the Encuesta Nacional de Condiciones de Vida 1997 (ENCV97), a national survey conducted by DANE³⁵ between July and December of 1997 in urban and rural regions of most “departamentos” of Colombia. The urban part of this survey covers 621 urban neighborhoods, 5,368 urban housing units (a housing unit hosts one or more households), and 38,518 persons, 50.6% of them are females. The urban sample has 21,625 individuals of all ages and 55.4% of the total population are covered by some sort of social security.

From this sample, the children in the households younger than 12 and the children in the households younger than 5, that were children or step-children of the household head, were matched to the household heads and their respective spouses, in order to have a crude measure of fertility.³⁶ Characteristics of child-care were also matched to the household head and spouse, to know how many of their young children are attending school, how many are staying home with one of the parents, or how many are going to child-care centers supported by government social programs. The final sample contains only individuals 18 years old and older, leaving a working sample of 13,471 individuals. Among them, those who are heads or spouses are linked to the number of children younger than 12 and the number of children younger than 5 and their child-care characteristics.

The main module of the survey used in the paper includes individual characteristics (age, sex, rural origins, non-labor incomes and marital status), human capital characteristics and labor force characteristics. Regarding labor force, it covers aspects of labor contracts, working conditions, work place, hours of work, wages and earnings, social security coverage, and defines clearly the occupational positions and the sector of activity for each worker. In addition, the module contains data on use of social programs such as daycare centers, community mothers, food, school vouchers, credits and subsidies. Details of family background (where did the parents live and what was their occupation type) are also included. Some variables from the survey were aggregated at the

³⁵ Departamento Administrativo Nacional de Estadística. This is the government entity in charge of collecting household surveys in Colombia.

³⁶ Unfortunately the survey does not provide fertility information for all women, like specific fertility surveys do.

level of the municipality to be used as instruments for fertility (such as the use of childcare government programs).

Data from the module that defines the main characteristics of the household (number of members in the household) and of the housing unit (material of walls, connections to basic services, number of rooms) is also included. The paper makes use of the survey module that characterizes the community where the individual lives, in terms of availability of parks, schools, health centers and so on. The survey has a special module on “condiciones de vida”³⁷ from which it was possible to extract information on some household assets (such as whether the household has television, car, refrigerator, etc.) A special module on family businesses is also included. There, it is evident that a large number of family businesses do not pay social security for their employees and do not pay taxes either.

Other consulted sources were the ICBF,³⁸ for information on family planning programs that may affect fertility decisions, and the DANE-DNP,³⁹ for information on unemployment rates and on total male and female populations in each municipality in the survey year. These variables are used as instruments for fertility outcomes.

3. Definitions of informal sector and descriptive statistics

This section will discuss different definitions of informal employment that can be obtained from the data and the characteristics of the different groups formed using these alternative definitions. The characteristics of the different groups are also presented by gender.

3.1 Definitions of informal sector

Some of the definitions of informal sector most commonly found in Latin America are the following:

- urban informal self-employment⁴⁰
- informal wage sector i.e. wage jobs without formal contracts or social security⁴¹
- workers and patrons of firms of less than 10 workers, self-employed (except independent professionals), family workers without pay and domestic servants.⁴²

³⁷ It mainly describes how the individual feels in his/her environment (security issues, reaction to attacks and confidence in the authorities).

³⁸ Instituto Colombiano de Bienestar Familiar.

³⁹ Departamento Nacional de Planeación (DNP). Departamento Administrativo Nacional de Estadística (DANE).

⁴⁰ Yamada, 1996.

⁴¹ Yamada, 1996.

⁴² FEDESARROLLO, 1985.

In this paper the following four definitions of informal labor sector are considered separately:

Definition 1:

Self-employment excluding independent professionals. This is defined with “posición ocupacional” equal to “independent worker” or “worker in own farm”.⁴³ “Independent professional” is a separate category in the list of possible responses and it is not included in this definition of informal worker.

Definition 2:

Family workers without pay, domestic servants and self-employment excluding independent professionals. This is defined with “posición ocupacional” adding the categories: “independent worker” or “worker in own farm”, “unpaid family worker” and “domestic servant”.

Definition 3:

Employment in firms of less than 10 workers. This is defined based on a specific question about the size of the firm.⁴⁴

Definition 4:

Employment not covered by any sort of social security in health, not covered by social security in pensions and without formal labor contracts. This is defined by combining three questions: 1) Are you covered by social security in health? , 2) Are you affiliated to a pension fund, and 3) Do you have a formal labor contract? The informal sector here is defined as the set of workers that do not have social security in health, intersected with those that do not have social security in pensions, intersected with those that do not have formal labor contracts.

At the descriptive level of this study, the four definitions are kept for the following reasons. First, the definition of informal sector as those workers who are self-employed excluding independent professionals is widely used in the informal sector literature not only in Latin America, but throughout the world. It involves the idea of a small entrepreneur who participates in the market as an individual. A second definition commonly reviewed in the literature adds to the previous group the unpaid family workers and domestic servants. This constitutes a wider group of population enlarging the informal sample. Clearly the unpaid family workers and domestic servants are workers who earn less than the others, and the character of their work is highly “informal”. It does not require formal education, the relationship between the employer and the employee can be terminated at any time and the working hours are flexible. The third definition related to the size of the firm (of less than ten workers) also tries to capture the

⁴³ Given that the sector considered is only urban, only 1% of workers belongs to the category of “worker in own farm”.

⁴⁴ The question of firm size in the questionnaire is given as: how many persons including you work in the firm or business? And the answers are: a) Only you, b) 2 to 5 persons, c) 6 to 10 persons, d) 11 to 49 persons, e) 50 or more.

self-employed as well as work in the medium, small and micro-enterprises.⁴⁵ These firms, due to their size, are believed to be more capable of “avoiding social security payments, minimum wage legislation, regulations concerning working conditions, hours and age restrictions, resulting in increased outwork and sub-contractual contracts”.⁴⁶ Finally, the definition that captures the informality of labor arrangements regarding the lack of social security in health or in pensions, as well as the lack of formal labor contracts, proves to be the one that defines a smaller group of the population. This latter one probably defines the group that is working in more “informal” conditions.⁴⁷

The application of each definition shifts significantly the number of workers participating in the informal sector. Table 1 shows the percentages of workers classified in the informal sector depending on each definition.

Table 1. Size of the urban informal sector

Definitions of informal employment	Informal workers
1. Self-employed (excluding professionals) plus workers in own farm	36.5%
2. Self-employed (excluding professionals), plus workers in own farm, plus domestic servants, plus unpaid family workers	43.4%
3. Workers in firms with 10 or fewer workers	63.6%
4. Workers without labor contracts and without social security health coverage and without affiliation to a pensions fund	26.2%

Source: ENCV-97

Table 1 shows that the size of the non-formal sector is large, under any definition of non-formal sector. In particular, when the criterion of working in small firms is used, almost 64% of the occupied labor force are informal. The most restrictive definition is definition four, under which the size of the informal sector is the smallest, but still involves more than a quarter of workers.

3.2 Descriptive statistics

The following descriptive analysis shows the main aspects of the samples formed using each definition, and also how these definitions overlap with each other. In order to look at the characteristics of the informal workers compared with the formal workers, consider first the descriptive statistics of the sample. Table 2

⁴⁵ In Spanish called “pymes = pequeñas y medianas empresas.”

⁴⁶ Rakowski, 1994, p. 28.

⁴⁷ This is what Yamada (1996) found.

shows how the whole sample is distributed by labor force participation and by gender.

Table 2. Sample sizes

	All	Col. %	Males	Col. %	Females	Col. %
Individuals older than 18	13471	100%	6019	100%	7452	100%
Row %		100%		45%		55%
Out of labor force	4154	30.1%	894	14.8%	3260	43.7%
Row %		100%		22%		78%
Unemployed	1089	8.1%	472	7.8%	617	8.3%
Row %		100%		43%		57%
Workers	8228	61%	4653	77.3%	3575	48%
Row %		100%		57%		43%

Source: ENCV-97

Table 3⁴⁸ contains descriptive statistics of the main characteristics of individuals from the whole sample (18 years old or older) desegregated in three groups: those out of the labor force,⁴⁹ those that are unemployed,⁵⁰ and workers.⁵¹ This total sample has 55% males and 45% females. In general individuals out of the labor force are older, and unemployed individuals are younger. The majority of persons out of labor force are married and they perceive non-labor incomes more frequently and on average higher than the other two groups. The size of the household is higher for unemployed individuals, who also on average have more children and are more represented among the lowest socioeconomic strata for public services prices. Differences in housing or neighborhood characteristics are not striking, but one can say that conditions are slightly better for workers than for the other two samples. Also workers and unemployed have on average more years of schooling than persons out of the labor force. Individuals out of the labor force are those who suffer more from chronic diseases and claim to have a very good health status less frequently.

Of all workers, 48% have a labor contract.⁵² Of those who have a labor contract, only 19% have a fixed term contract. Of those who have a fixed term contract, 41% have a contract for 6 months or less and only 2% have a contract for more than a year. Around 24% of workers do not receive “prestaciones sociales”⁵³ and

⁴⁸ The tables that are not included in the text are included in Appendix 1.

⁴⁹ Out of the labor force are those who are not workers or unemployed.

⁵⁰ The unemployed category includes those who have made some job search in the last week or in the last 12 months before the survey.

⁵¹ The workers category includes: a) those who worked the week before the survey, b) those that did not work that week but did have a job, c) those who worked in a family business without payment for more than 15 hours in the last week and d) those who worked last week for one hour or more with pay.

⁵² Definitions of labor contracts, fixed term labor contracts and indefinite term labor contracts are included in Appendix 2.

⁵³ “Prestaciones sociales” is what by law the employer owes to the employee to cover for the risks incurred by the worker when he enters the labor relationship. It is not a wage because it is not paid as retribution for work, and it is not a premium because it does not depend on damages caused by the employer. It includes

only 33% are affiliated to a pension fund.⁵⁴ Social security in health covers 65% of workers.⁵⁵ The mean workweek lasts 47.7 hours⁵⁶ and 64% of workers are employed in firms of ten workers or less. Most workers (56%) receive wages, 42% of workers receive earnings and 2% of workers do not receive wages or earnings.⁵⁷ The mean hourly wages are 2,158 Colombian pesos⁵⁸ and the mean hourly earnings are 1,713 Colombian pesos. The main sectors of urban economic activity are services (32%), retail (26%) and industry (16%).

Table 4 presents the statistics of the main variables for various classifications of workers under the different definitions of the formal and informal sectors considered in the paper. The analysis of those tables shows a series of stylized facts about the informal sector in Colombia that are true under any definition of informal sector. Informal workers are older than formal workers and tend to be more from rural origins than formal workers. They also tend more to be informal in their marital agreement, in the sense that free union is more likely to be their marital status. Their non-labor incomes are on average smaller and they receive them less frequently (except for lottery rewards). Their families tend to be larger and their houses have on average fewer rooms for the family members. Given that the measure of children used here does not come from a specific fertility survey, the means of number of children younger than 12 or younger than 5 may not be very accurate.⁵⁹ Therefore, even if one would expect that informal workers also have more children, the means of the data do not confirm it.⁶⁰ The fact that informal workers are on average older may imply the fact that they have less young children.⁶¹ Informal workers are more represented among the lowest socioeconomic strata, live in houses and neighborhoods with less “good” conditions than formal workers, and tend more frequently to have family businesses in their own houses.

Regarding the working conditions, the table shows that they are more or less similar in both formal and informal sectors. Contrary to what was expected, formal workers complain more frequently than informal workers for excess requirements of physical or intellectual effort in their work, and more informal

benefits for work accidents, illness and maternity leaves among others. See Appendix 2 for the complete definition.

⁵⁴ A pension fund is a fund where the worker saves his pensions. It can be private (the worker chooses to which fund to be affiliated) or it can be the Instituto de Seguros Sociales [ISS]. The objective of the pensions is to guarantee the coverage for contingencies such as aging (retirement), disabilities and death. According to the Law 100 of 1993, the retirement pension is assumed by the ISS or by the private pension funds.

⁵⁵ An individual covered by social security in health has the right to receive a basic package of services or benefits in health (Mandatory Health Plan- in Spanish Plan Obligatorio de Salud [POS]). These services are provided by the EPS (in Spanish Entidad Promotora de Salud), which are the basic units of the Social Security System of Health (Sistema de Seguridad Social en Salud).

⁵⁶ The legal maximum working week lasts 48 hours. See detailed explanation in Appendix 2.

⁵⁷ Wages and earnings are reported in two separate questions.

⁵⁸ Figures in Colombian pesos of 1997. In 1997 the exchange rate with U.S. dollars was approximately 1000 Colombian pesos for one dollar.

⁵⁹ The construction of these variables was previously explained in the data section.

⁶⁰ By checking the survey it was found that the informals are heads of household or spouses as frequently as the formal workers.

⁶¹ In addition, it is likely that informal workers delay less the decision of having children, maybe due to their lower education levels or their higher rural origin which would also contribute to the evidence that on average they have less young children.

workers claim to have “no problem” in their working conditions than formal workers do. One could also argue that formal workers could be expected to complain more because their higher education makes them have higher expectations about their working environments, or because they work in environments where their complaints are more likely to be taken into consideration by their employers.

Probably due to the differences in activities they perform, the working places differ highly between both sectors. Informal workers work very frequently in the house where they live (between 22% and 30%) or in the street (between 12% and 17%), while formal workers tend to go to their company’s offices (between 56% and 70%). This coincides with the fact that mean commuting time is smaller for informal workers. This also coincides with a hypothesis of this paper that many informal workers (mainly women) may choose to belong to this sector because it is more convenient for their childcare and house care needs.

Table 5 is derived from Table 4 to show the differences in the most important variables of that table. The education gap between formal and informal workers is always positive, and highest under definition 3 (workers in large firms have on average 3.3 more years of schooling than workers in firms with 10 or fewer workers). Contrary to a common perception, informal workers spend on average 2 to 3 hours less at work per week than formal workers under the first three definitions of informality. Under the last definition, the difference in hours between formal and informal workers is negligible. Regarding wages and earnings, the differences between the two sectors are more striking. Hourly wages are considerably higher for formal workers. The differences in hourly earnings are even higher. Notice here that under our definitions not all the informal workers receive earnings but some receive wages, and also not all the formal workers receive wages, but some receive earnings.⁶² The wages and earnings gaps between formal and informal workers obtained from the data are very large. According to Definition 2 (self employed excluding professionals, domestic servants and unpaid family workers), hourly wages in the informal sector are 29% of hourly wages in the formal sector, and hourly earnings in the informal sector are 27% of hourly earnings in the formal sector. According to Definition 3 (firm size of 10 or less) the size of these gaps is 45% and 36% respectively.

3.3 Descriptive statistics by gender

Given that the focus of this paper is whether or not women and men participate in the informal sector for different reasons, it is interesting to show the previous statistics for the samples desegregated by gender. This analysis is included in Table 6.

⁶² In the survey there is a specific question for wages and a specific question for labor earnings. They are separate and an individual can only have a positive entry in one of them, not in both.

Informal women tend to have slightly less children than informal men and similar number of children as formal women. This, however, might be due to the fact that only young children who can be linked as sons of the household head are being considered. The fact that the informal samples are older implies that they are less likely to have small children, which may be causing in part this result.

Looking at the generalities of socioeconomic strata, informal women are less in the lower strata than informal men, and informal women have slightly better housing characteristics than informal men. They also tend to be covered by social security more often. More informal women declare having a family business in the households. According to all definitions, informal women tend to work in their own home more often than informal men do (46% of women and 16% of men under Definition 2) or in someone else's home (25% of women and 8% of men under Definition 2).

Table 7 is derived from Table 6 to show the differences in the most important variables from that table. The education gap between informal men and informal women is small, indicating that among the informal, men and women have similar education levels (the sign of the gap differs across definitions). Informal men are on average 2 years older than informal women. Informal women tend to work on average between 6 and 11 hours less per week than informal men (the size of the gap changes between definitions). Informal women gain lower hourly wages and earnings than informal men, but the gender gap in wages or earnings is not as large as in the formal sector in general. The relationship varies according to the definition of informal sector that it is being used. For example, looking at Definition 2, hourly earnings of formal females are on average 54% of male formal hourly earnings, and the percentage in the informal sector is 84%. Looking at Definition 3, hourly wages of formal women are 95% and in the informal sector hourly wages of women are 78% of male.

3.4 Why the rest of the paper keeps only two definitions of informal sector?

The descriptive analysis of the previous section, based on four definitions of informal sector, shows that there are some trends that differentiate the two sector of the economy that are captured in some sense by any definition. Given the heterogeneity of the informal sector, it is clearly hard to keep a single definition of informal labor market. Since it is possible that these definitions are including similar populations, Table 8 provides statistics for the combinations between the different definitions, showing how the different definitions overlap with each other. For example, 52% of the informal workers under definition 1, are also informal under Definition 4. The highest overlaps are the following: 95% of workers in Definition 4 and 95% of workers in definitions 1 and 2 also work in firms of 10 or less workers (i.e. lie under definition 3).⁶³ In that respect, definitions 1, 2 and 4 would be preferable to definition 3, in the sense that they are keeping a smaller fraction of workers.

⁶³ This is not surprising, given the large size of the sector implied by definition 3.

Definition 2 covers a wider population than definition 1 but it may identify better the individuals who may be at a disadvantage. In addition, the inclusion of unpaid family workers and domestic servants captures a larger number of females, who are the focus of this study. Therefore, from Definitions 1 and 2, Definition 2 is kept.

The remaining Definitions 2 and 4 interact as shown in more detail in the following table:

Table 9. Interaction between Definitions 2 and 4

	Definition 4		
Definition 2	0	1	Total
0	4371	287	4658
row %	94 %	6 %	100 %
column%	72 %	13 %	57 %
1	1716	1854	3570
row %	48 %	52 %	100 %
column%	28 %	87 %	43 %
Total	6087	2141	8228
row %	74 %	26 %	100 %

Source: ENCV-97

The fact that most of the informals under Definition 4 (87%) are also informals under Definition 2, implies that Definition 4 is including Definition 2. It is interesting, however, to consider that the two definitions have a different “nature” in the sense that they come from different questions in the survey. The first one is based on the occupational categories, and the second one is based in the existence of labor contracts and coverage of social security for health and pensions. In addition to this, Definition 2 is including relatively more informal women (47% of informals under Definition 2 are women and 40% under Definition 4). Therefore, it seems valuable to keep both definitions for further analysis.

4. Models of participation in the informal sector

In this section the choice of participation in the informal labor market is modeled as a the result of socioeconomic and environmental characteristics of the individual. The individual's education, age, birthplace or sex determine his or her participation in this sector. Other variables that may affect participation in one or the other sector can be characteristics of the environment where the individual lives or aspects of the specific labor markets. Other specific characteristics of the household, such as the number of young children, may also imply that an individual may decide to participate in the informal sector because it offers a more flexible work schedule or because the work can be performed at home. The section is divided into four parts. First, the choice of participation in the informal

labor market is modeled as a result of socioeconomic and environmental characteristics of the individual, without considerations of number of children. The variables related to the number of children are included in Section 4.2. The third section contains a model of fertility for men and women. The last section considers fertility as a result of the process described by the model of section 4.3, and includes its fitted values as a regressor in the probability of being an informal worker.

4.1 Probit model of participation in the informal sector

In this section, the choice of participation in the informal labor market is modeled as a result of socioeconomic and environmental characteristics of the individual. The individual's education, age, birthplace or sex determine his or her participation in this sector. Some characteristics of the environment where the individual lives (neighborhood characteristics and social programs) and of the specific labor markets (the unemployment rate, the labor force participation rate, the proportion of employment in "industry" or the size of the city) may be linked to the decision of participating in the informal sector.

The main hypothesis is that the different characteristics of men and women make them more or less likely to enter this sector of employment. Specifically, this paper will test whether or not women with young children may be more likely to participate in the informal labor market. A variety of reasons may lead to this behavior. It may be because the informal sector provides more flexible schedules, less hours of work, more possibilities to work at home, presenting overall characteristics that may alleviate the load of child care.⁶⁴ However, in the paper the choice of sector is not modeled as depending on the characteristics of the work,⁶⁵ but on the characteristics of the individuals.

In this section, a model of sector participation is estimated for the whole sample of workers.⁶⁶ Participation in the labor force, a choice that varies highly between men and women, is a subject of other studies such as Ribero and Meza (1996) and would divert us from the focus here. The implicit assumption is that individuals belong to the workers sample randomly and selection bias issues are not considered. Clearly this is a strong assumption, but it is imposed in order to simplify the analysis and to focus on the informal sector, rather than on the participation decision or unemployment.

⁶⁴ It may be that the informal sector is the only choice for women who may have lost their jobs or had to quit them to have children and later do not find the opportunity to be reinserted in the formal sector. This analysis, however, would require of detailed panel data and unfortunately cannot be tested with this data.

⁶⁵ As is the case in the conditional logit models explained in Greene (1997), p. 914-915.

⁶⁶ Multinomial logit models were estimated for all individuals in the labor force, assigning the numbers 1 for unemployed, 2 for informal workers and 3 for formal workers. Leaving 3 as a base category for this model, the coefficients for the informal sector were very similar to the coefficients of a Logit model of the same sort as (1). The coefficients for the multinomial logit, however, are more difficult to interpret intuitively. Therefore the model is estimated as a binary choice only for workers.

The model to estimate is given by:

$$\begin{aligned}
z_i^* &= \gamma' p_i + u_i \\
z_i &= 1 \text{ if } z_i^* > 0 \\
z_i &= 0 \text{ if } z_i^* \leq 0 \\
\text{Prob}(z_i = 1) &= \Phi(\gamma' p_i) \\
\text{Prob}(z_i = 0) &= 1 - \Phi(\gamma' p_i)
\end{aligned} \tag{1}$$

The dependent variable in the models $z_i = 1$ when the individual i works in the informal sector and $z_i = 0$ when individual i works in the formal sector. Φ is the standard normal cumulative distribution function, the error term u is assumed to be distributed with mean zero and variance one, i refers to individuals and γ are the parameters estimated in the Probit model. The variables p_i determine the decision of participation in the informal sector.

The model is estimated for the whole sample and separately for men and women. Tests of differences in the male and female coefficients in the separate gender models have been performed implying that the model deserves to be estimated separately for men and women. Only these results are included.

The independent variables are:

- Age;
- Non-labor income (the sum of non-labor incomes that are 'permanent' to the person);⁶⁷
- Year of Schooling;
- Dummy variable =1 if the father has some years of secondary schooling or higher education level;⁶⁸
- Number of rooms in the house divided by number of persons in the household;
- Dummy variable =1 if the house has telephone service;
- Dummy variable =1 if the house has color television;
- Dummy variable =1 if there is running water in the majority of houses of the neighborhood;
- Unemployment rate in 1997 in the region⁶⁹ where the person lives.

⁶⁷ This sum does not include lottery prizes or gains from sale of properties because these type of non-labor income are not 'permanent' and therefore may be less likely to determine labor decisions of an individual.

⁶⁸ The inclusion of this variable implies a decrease in the sample sizes, since there are many missing in this variable. The variable is kept only in some specifications, for being the only measure of the impact of human capital from one generation on the following generation.

⁶⁹ Unemployment rates are calculated in the seven major cities and extrapolated to other urban areas in same departamento. The values are summarized in Table 12C.

The results of these models are summarized in Table 10. The first two columns in the first page of the table are for female informality under Definition 2, and the two last ones for male informality under Definition 2. The second page is for informality under Definition 4. The values in the columns of derivatives indicate the changes in the probability of being informal as a response to an infinitesimal change in the variable of interest. The sample of females has 3,206 observations and the sample of males has 4,365 observations. When the dummy that indicates the individual father's education is taken into account as an explanatory variable, the samples decrease in size to 2,325 and 3,168 respectively.

The results under Definition 2 of informality indicate that for both samples older individuals tend to participate in the informal sector more than younger individuals.⁷⁰ The relationship between informality and age might be related to a life cycle mentioned by López (1996): "Since modern enterprises hire preferably young workers and discriminate against older individuals, they, using the labor savings from previous wage jobs, tend with age to establish small businesses".

The wealth indicators "have a color television" and "have a washing machine" or "having telephone service" as well as non-labor income are jointly significant and operate negatively, i.e. that the more the individual has of them, the less likely is to be informal. Similarly, "having running water in the neighborhood" is significant and operates in the same sense, but it is significant only for men. More years of schooling decrease the likelihood of being in the informal sector. One more year of education for a woman reduces in 0.05 the probability of being informal. For men the reduction in the probability of an additional year of schooling is of 0.02. Similarly, the higher the father's education, the less likely the person is in the informal sector, but this is significant only for women. This effect is almost twice as large as the own education effect. The higher the unemployment rate in the region where the person lives, more likely the person is informal, and also this coefficient is significant only for women. This result coincides with the fact that when the economy is growing faster the informal sector decreases in size, as mentioned by López (1996). The female model has a higher pseudo-r-squared than for men.

The next columns present the model estimated separately for men and women under Definition 4. The results for schooling indicate that also with this definition the penalty for having less education (or the reward for having more education) is higher for females than for men, in terms of belonging to the informal relative to the formal sector. For a woman, one more year of education represents a significantly higher decrease in the probability of being informal than for men. Some variables are significant in one model and not in the other, like non-labor income, having a telephone and living in a neighborhood with running water are significant for males and not for females. Also with this definition, the father's

⁷⁰ A dummy variable for "born in rural areas" was introduced but it was highly correlated with education. Its sign in the model without education was positive, indicating that persons with rural origin are more likely to be informal than those who come from urban areas.

education is significant for females and not for men. The models with Definition 2 have a better overall fit than the models with Definition 4.

4.2 Probit model of participation in the informal sector with fertility variables

Table 11 shows the coefficients of model (1) estimated for men and women separately, including two new variables:

- The number of children younger than 12, children of the household head or spouse;
- The number of children younger than 5, children of the household head or spouse that during the most part of the week spend the time with one of their parents either at home or at work.

This is designed to capture the intuition that one of the main differences between men and women that determines the choice of sector of the economy can be related to the number of children. A woman may prefer to choose the informal sector because she might be more likely to take care of the home and children. This change is included in a separate model because the fertility variable may be endogenous, and therefore the unobservables in the model may be correlated with unobservables that determine fertility. This endogeneity issue will be dealt with later.

Due to the form in which the fertility variable is built, the sample consists only of household heads or their spouses. Other individuals who might also be workers in the formal or informal sector and might also have children are not included in the samples. For example a daughter of the household head who lives in the household may have young children, but she is excluded from the sample because she is not a household head or spouse of the household head. The sample of women who are household heads or spouses has 2,123 individuals. The sample of men who are household heads or spouses has 3,159 individuals.

Table 11 is also presented first for females and males under Definition 2, and then under Definition 4. In the first two columns of the first page of Table 11, the variables of children are not instrumented, but they are as provided by the data (raw). Both variables are significant and positive on the probability of a woman to be informal under Definition 2. Having one more child younger than 12 increases the woman's probability of being informal by 0.03. Having one more child younger than 5 to take care of (presumably the parent who is taking care of the children is the mother, however, this is not specified in the question) increases her likelihood of informality by 0.20, the largest effect on the model, except for the unemployment rate. For men (second page) the number of children younger than 12 also is significant (a little bit less than for women) and positive on being informal under Definition 2, and its impact on increasing the probability of

informality is smaller (it increases the probability in 0.02), but the second variable has no significance.

The results of estimating the model with Definition 4 (first two columns of the next two pages of Table 11) show large differences in the size of the coefficients and their significance. In addition to differences in the probability of being informal relative to being formal under Definition 4 observed in the other variables, the children variables appear to be not significant under any model when Definition 4 is used, particularly for women and the signs are counterintuitive. This result, however, may change when the children variables are considered as endogenous.

The fact that fertility decisions are endogenous is taken into account in the following sections.

4.3 Fertility regressions

This section considers the issue that fertility is not an exogenous variable but that it is also an individual's choice. Economic analysis of fertility assumes that the utility of the parents depends on the “quantity” and “quality” of children (Becker, 1960). Parents search for the most suitable combination of number of children, their quality and other commodities to produce and consume. The endogenous variable for fertility is based in the following model:

$$y_i = a + \sum b_j X_{ji} + \sum c_k C_{ki} + \sum d_h H_{hi} + u_i$$

$$u_i \sim Normal(0, \sigma_u^2) \quad (2)$$

The dependent variable y_i is the number of children younger than 12, sons of a household head or his/her spouse, $\mathbf{X}$ contains only exogenous endowments that are not modified by the individual or family and $\mathbf{C}$ are reproducible forms of human capital. $\mathbf{H}$ contains variables that define the environment of the labor market and social programs that may affect fertility for individuals in a given region. The parameters $\mathbf{a}$, $\mathbf{b}$, $\mathbf{c}$ and $\mathbf{d}$ are estimated, the error term $\mathbf{u}$ is assumed to be zero mean independently distributed, i refers to individuals, and j , k and h refer to the specific variables in the sets denoted $\mathbf{X}$, $\mathbf{C}$ and $\mathbf{H}$ respectively.

This model is estimated separately for men and women, since tests of the coefficients in both models imply that they are statistically different.⁷¹

The reduced form above takes into account that fertility is the result of socio-demographic characteristics of the parents, as well as of environmental constraints. The community availability of childcare, as well as other programs of

⁷¹ These results are not included.

nutrition and education may make it less of a burden to have a child. The availability of community programs for family planning on the other hand may reduce the number of children in a family.

There are some available instruments to explain fertility. The first group is formed by some information on family planning programs, summarized in Table 12A and 12B. This information exists for few periods of time (this paper consider only the years 1995 and 1986), and it was matched for each individual corresponding with the municipality where the person was living before.

Migration can be taken into account only partially with this survey. The survey provides answers to the questions: “How long have you been living here?” and “In what municipality were you living before coming here?” There are no specific questions for the municipality where the individual was living five or ten years prior to the survey. In order to take into account this type of migration, some assumptions had to be made. If a respondent lives in a given municipality in 1997 and has been living there for 5 years or less, the relevant labor market indicators of 1992 for that individual are those in the municipality where the person was living at that time. Here it is assumed that the municipality where the person was living prior to the current location is where that individual resided in 1992. Similarly, it is assumed that this person lived in that same place in 1986 and 1987.⁷² The same match was made for the 1986 family planning programs and the 1987 labor market indicators (ten years before the ENCV97 survey) for those who migrated more than five years ago but less than ten.⁷³ However, the 1986 family planning programs did not show any impact on fertility, and only the 1995 variables proved to be significant.

On the other hand, from the same survey ENCV97, the number of children younger than five that attend the “hogares de madres comunitarias del ICBF” and the “CAIP”⁷⁴’s as main or secondary “activity” in a week, were added at the municipality level. Then, the numbers were normalized by the number of children in those age groups in the sample and in the municipality. These two variables were also included as determinants of fertility. However, only the first one showed a significant correlation with fertility.

Another variable analyzed as a possible determinant of fertility was the sex ratio (defined as the number of males over the number of females in the municipality). This variable is an indicator of the marriage markets in the region, and in other studies (Ribero, 1999) has proved to be positively correlated with fertility. However, in this case it was never significant. This might be due to the fact that the sample of analysis consists of persons who have children of the head of the household or spouse. In regressions determining the marital status of individuals in this sample the sex ratio was positive and highly significant.⁷⁵ However, the

⁷² In other words, the implicit assumption is that migrants have migrated only once in their lifetime.

⁷³ This procedure was implemented in all the models also for the unemployment rate and labor force participation rate relevant to where the migrant individual was living before moving.

⁷⁴ A government supported program of integral care to minor children younger than 5.

⁷⁵ These results are not included.

fact that this sample mostly consists of individuals who have already decided on being married or in free union implies that the sex ratio has already operated on marital status, and its effect left on fertility for this sample was insignificant.

The sample consists only of household heads or their spouses. Other individuals in the households who might also have children are not included in the samples. The female sample has 2,111 individuals, and the male sample has 3,150 individuals. Some observations are excluded because they have missing values in one of the explanatory variables of the model.

The results of the model of fertility are included in Table 13. There, the number of children of a household head or his/her spouse younger than 12 is modeled as a function of the individual's age and schooling, own wealth variables and social programs that are likely to determine fertility.

The independent variables are:

- Age;
- Year of schooling;
- A dummy variable for living in a house or an apartment;⁷⁶
- Non-labor income (the sum of non-labor incomes that are 'permanent' for the person);⁷⁷
- A dummy variable =1 if the house has telephone service;
- The percentage of women in the "departamento" who used modern contraceptive methods in 1995;
- The percentage of children younger than 5 in the municipality that attend "hogares de madres comunitarias del ICBF" as the main or secondary childcare "activity" in the week.

By looking at the fertility regressions, the model is explaining better the observed data for women than for men. The results show that older individuals tend to have fewer young children, but this is because the children included are of age 12 or younger. Generally when looking at children of all ages, fertility increases with age. Education has the expected sign of reducing fertility but it is significant only for women under the first specification. Living in a house or an apartment promotes having younger children. Having telephone as a measure of wealth decreases fertility. The family planning program is negative and it is very significant, indicating that to live in a region with extended use of modern contraceptive methods by women reduces fertility of both men and women.

The use in the municipality of the childcare program "hogares de madres comunitarias" provides assistance to women and seems to be related with higher levels of fertility. These "hogares de madres comunitarias" attend only children younger than 5. The causality between having young children and living in a municipality with more of these programs is not clear, since there may be more

⁷⁶ Instead of living in rented rooms or squatter.

⁷⁷ This sum does not include lottery prizes or gains from sale of properties, because these types of non-labor income are not 'permanent' and therefore may be less likely to determine labor decisions of individual.

“hogares de madres comunitarias” because there are more children or the contrary. The interaction term between schooling and the program of “hogares de madres comunitarias” is negative for women, indicating that the even though the impact of the program on fertility is positive, for more educated women this effect is lower. The results for males and females are similar in sign and significance, but the coefficients of both models are statistically different.

The models in (2) are used to calculate predicted values that are inserted into the model of equation (1) in order to see the effects of “fertility-instrumental variable” on the employment choice of individuals. The goal is to examine whether some policies that affect the fertility decision of the individuals (like childcare or family planning programs), as well as macroeconomic indicators (unemployment), have an impact on the choice of employment sector.

4.4 Probit model of participation in the informal sector with fertility as an endogenous variable

The models of participation in the informal sector with the instrumental-variables methodology for fertility are included in Table 11, columns 3 and 4. The models are basically the same as the models in section 4.2, but the fertility variable has been replaced by its fitted values derived from the models in equation (2), specifications 2 and 4 of Table 13 respectively for each gender.

The results show that when the variable is substituted by the fitted value from the fertility model, the male coefficient under Definition 2 for the effect of number of children on belonging to the informal sector increases in size, and particularly the value of the derivative is much larger. For women the instrumental-variables methodology produces an insignificant coefficient on the number of children younger than 12. A small but significant effect was observed in the specifications with the raw variable. For men, on the contrary, the effect is larger and more significant than for women: having one more child younger than 12 for a man increases his probability of being informal under Definition 2 by 0.52.

The results of the instrumental-variables under Definition 4 do not improve much the observed effects without instrumental-variables. For men the effects of having children on being an informal worker become positive. Having one more child for a man increases his probability of being informal under Definition 4 by 0.18. However, the coefficient is only significant at the 15% level. For women, under this Definition, the effect is insignificant with the instrumental-variables methodology as well as without it.

Once again Definition 2 provides models that have a better overall fit than Definition 4.

The most interesting aspect of these results is that not only women, but also men, do tend to participate more in the informal sector when they have more

children. This may be due to the fact that they share childcare responsibilities. However, there is also the fact that higher fertility levels are associated with poverty, which is also associated with informal jobs.

The result that the “number of children younger than 5 that during the most part of the week spend the time with one of their parents either at home or at work” is significant and positive only for women (Table 11 columns 1 and 3, first page) indicates that the childcare load seems to contribute more to female than to male informality. When the number of children is instrumented, the effect of the number of children seems to decrease for women, but the effect of the “number of children younger than 5 that during the most part of the week spend the time with one of their parents either at home or at work” is enlarged. For a woman, having a child who stays with her most of the time during the week, either at home or at work, increases her probability of being informal under Definition 2 by 0.22. For example, having one more child who stays with her increases the probability of being informal from 0.52 (observed probability of being informal) to 0.74. Under Definition 4 this variable is not significant under either specification.

5. Models of wages and earnings in the formal and informal sectors by gender

In this section Mincerian log hourly earnings functions are estimated separately for sector of employment and gender. The model to estimate is the following:

$$\begin{aligned} \log(w_i) &= a + \sum b_j X_{ji} + \sum c_k C_{ki} + f_i \\ f_i &\sim \text{Normal}(0, \sigma_f^2) \end{aligned} \quad (3)$$

where w_i is the productivity measure (hourly earnings or wages), X_{ji} contains only exogenous endowments that are not modified by the individual or family and C_{ki} are reproducible forms of human capital. The parameters a , b and c are estimated, the error term f is assumed to be zero mean independently distributed, i refers to individuals, and j , and k refer to the specific variables in the sets denoted X and C respectively. The samples include wage earners and the non-wage workers with positive labor earnings.

The dependent variable is the logarithm of hourly wages or earnings of individuals.⁷⁸ The independent variables are:

- Age;
- Age squared;
- Year of schooling;
- Unemployment rate in 1997 in the region⁷⁹ where the person lives.

⁷⁸ The reported monthly earnings or wages are divided by the reported number of hours that the individuals usually work in a week times 4.2857. Observations with missing wages, earnings or hours are excluded.

Age is used as a proxy for experience since the survey does not provide a measure of experience.

The estimation of these models is included in the first part of Table 14. In the first page the samples are separated according to Definition 2 and in the second page according to Definition 4. According to Definition 2, the highest returns to schooling are attained by informal women and the lowest for informal men. The unemployment rate decreases the wages/earnings in the formal sector, but their impact is not significant on informal wages/earnings. The models for the formal sector have a better overall fit than the models for the informal sector. The returns to schooling in the formal sector according to Definition 4 are considerably smaller than in the informal sector and also lower than the estimated returns to schooling under Definition 2. Under Definition 4, the highest returns to schooling are attained by informal women and the lowest by formal men. The unemployment rate has no significant effect on wages or earnings according to Definition 4.

The coefficients for age and age squared in Table 14 depict a relationship between age and wages / earnings that has an inverse U shape. This curve reaches its maximum at different points depending on the values of the coefficients, at the point that individuals in the given sector and gender are expected to be gaining their maximum wages / earnings. The values of those maximums change considerably between gender and sectors. According to Definition 2, the patterns of wages/earnings in the formal sector both for males and females reach their maximums at ages that imply retirement (74 years for women and 119 for men). In the informal sector the pattern of wages/earnings for females reaches its maximum at 54 years and for men at 43 years old. According to Definition 4, the estimated coefficients for age imply similar patterns.

In a second step, the hourly wage/earnings equations are estimated with a correction for the selection bias caused by the sample selection. The sample selection is due to the fact that the equations are being estimated only for individuals in one sector. The Probit equations of section 4 predicted the choice of employment sector with a vector of observable socioeconomic characteristics. From this step the inverses Mill's ratios (λ s) are obtained according to the individual's actual choice. These are means from truncated distributions measuring those unobservable characteristics that influence the employment choice and, potentially, the earnings performance. Those λ s are included in the Mincerian earnings regressions in addition to the observable human capital and socioeconomic characteristics. The estimated model can be described as follows:

⁷⁹ Unemployment rates are calculated in the seven larger cities and extrapolated to other urban areas in same "departamento". For urban areas in other "departamentos", an average from seven largest cities is inputted.

1. Probit for specific sector participation (Selection Mechanism):

$$\begin{aligned}
 z_i^* &= \gamma' p_i + u_i \\
 z_i &= 1 \text{ if } z_i^* > 0 \\
 z_i &= 0 \text{ if } z_i^* \leq 0 \\
 \text{Prob}(z_i = 1) &= \Phi(\gamma' p_i) \\
 \text{Prob}(z_i = 0) &= 1 - \Phi(\gamma' p_i)
 \end{aligned} \tag{4}$$

$z_i = 1$ when the individual i works in the informal (formal) sector, and $z_i = 0$ when individual i does not work in the informal (formal) sector. Φ is the standard normal cumulative distribution function, the error term u is assumed to be distributed with mean zero and variance one, i refers to individuals and γ are the parameters estimated in the Probit model. The variables p_i determine the decision of participation in one sector or another and are exogenous to the market wage offer.

2. Hourly earnings equation:

$$\begin{aligned}
 \log(w_i) &= a + \sum b_j X_{ji} + \sum c_k C_{ki} + f_i, \text{ observed if } z_i = 1 \\
 (u_i, f_i) &\sim \text{Bivariate Normal}(0,0,1,\sigma_f^2,\rho)
 \end{aligned} \tag{5}$$

The hourly earnings equation (5) is equal to equation (3), but it is observed only when the individual is a worker in the given sector. σ_f is the standard deviation of the error term f , and ρ is the correlation coefficient between the error terms u and f . The variables z_i and p_i are observed for a random sample of individuals, but $\log(w_i)$ is observed only when $z_i = 1$. The model to estimate is:

$$E[\log(w_i) | z_i = 1] = a + \sum b_j X_{ji} + \sum c_k C_{ki} + \rho \sigma_f \lambda(\gamma' p_i) \tag{6}$$

where $\lambda(\gamma' p_i) = \phi(\gamma' p_i) / \Phi(\gamma' p_i)$ and ϕ is the standard normal probability density function.

The variables used to explain participation in a given sector p_i proxy the individual's non-labor income. When the λ 's coefficient is positive and significant, the unobservables that contribute to the probability of participation in one sector are positively associated with receiving higher market earnings, for reasons not accounted for in the earnings equation. When the coefficient for λ is negative and significant, the opposite happens. It is not obvious a priori what sign to expect for λ .

The estimation of these models with the Heckman correction for selection bias caused by separating the sample into formal and informal sectors are included in the bottom of Table 14. The selection models that determine the lambdas are not included here, because they are equivalent to the models in specifications 1 and 3 from Table 10.

The λ determines when the sample selection was producing OLS biased results. When λ is not significant the sample selection problem is not significant, and the OLS coefficients are unbiased. In fact, the obtained coefficients under the OLS and Heckman specifications are very similar when λ is not significant. For the samples of formal women and informal males under Definition 2, the coefficient for λ is significant and under Definition 4 it is insignificant only for the sample of informal females. In all cases in which λ is significant and also positive, the unobservables that contribute to the probability of participation in one sector are positively associated with receiving higher market earnings, for reasons not accounted for in the earnings equation. This is the case in almost all the cases. This implies that individuals are choosing the sector where their unobservables would yield higher wages/earnings for them. Those unobservables are summarized in the error terms and may contain variables not accounted by the data.

Only for formal males under Definition 4 the lambda is negative, but not very significant. The sign would indicate that the unobservables that contribute for a male to work in a firm of more than ten workers are negatively associated with the unobservables that contribute for him to have higher hourly wages.

Once the selection bias is taken into account, the unbiased returns to schooling are the highest for formal males under Definition 2. Under Definition 4 the maximum returns to schooling are for informal females. As before, the results show that the unemployment rate has a negative effect only on formal wages / earnings under Definition 2.

The age returns with the selection bias correction do not change significantly, except for the sample of formal females under Definition 2. For them, the age at which the wages/earning reaches its maximum drops from 74 years old to 53 years old. Under Definition 4 the results remain consistent with those obtained without the selection bias correction.

6. Conclusions

This paper analyzed some aspects of the informal sector in Colombia considering in particular gender issues. The informal sector size depends on which definition is adopted. In Colombia, the size of the informal sector range is between 26% of workers, when the informal sector is defined as those workers without labor contracts or social security in health or in pensions, to 63.6% of workers, when the informal sector is defined as those workers who work in firms of ten or fewer

workers. Based on DANE's definition,⁸⁰ the size of the sector has remained more or less constant in the last 15 years, as shown in López (1996) of about 55%.

The various definitions of informal sector overlap each other in various ways and any one of them is grouping workers that are very heterogeneous in the type of occupation, earnings, working conditions as well as in the sector of activity. However, there are a list of trends that make the informal workers different from the formal workers, under any definition used in this paper. Although a broad set of definitions is used to initially describe the data, for the estimation of the models the paper is based in two definitions that are applicable to the data available, and use a different set of criteria to characterize informality. These definitions of informal workers are:

- Family workers without pay, domestic servants and self-employed workers excluding independent professionals.
- Workers not covered by any sort of social security in health, not covered by social security in pensions and without formal labor contracts.

Very little can be said about the regulation of the informal sector in Colombia. The government has had the role of a promotor of the informal sector, with its National Plan of microenterprise development, training microentrepreneurs and lending resources to begin small businesses. The majority of the resources come from credits with international institutions (such as IABD). However, the relationship between the promotion of informal small businesses and long term growth is not clear yet. The regulations of minimum wages and social security in health or in pensions are hard to apply even in the modern sector, leaving the informal sector basically unregulated. The only hope is that the Reform to Social Security, introduced in 1993, that intends to provide every individual with its rights to health and pensions, becomes operative and provides benefits for all the population, including informal workers and their families.

The data for this study comes from the urban part of the Encuesta Nacional de Condiciones de Vida 1997 including 21,625 individuals of all ages, 55.4% of whom are covered by some sort of social security. From this sample, two crude measures of fertility were constructed, one that measures the number of children younger than 12 and one that measures the number of children younger than 5 that stay most of the time at home or at work with one of their parents. The final sample contains only individuals 18 years old and older (13,471 individuals) that live in urban areas of Colombia.

The descriptive analysis of the data shows a series of stylized facts about the informal sector in Colombia that hold under any definition of informal sector analyzed in this paper. Informal workers are older than formal workers and tend to be more from rural origins than formal workers. Their non-labor incomes are on average smaller, and they receive them less frequently (except for lottery

⁸⁰ DANE's definition includes Self-employed (excluding professionals), plus workers in own farm, plus domestic servants, plus unpaid family workers plus wage workers who work for firms of 10 or less workers.

rewards). They have larger families and their houses have fewer rooms for the family members. Informal workers are more represented among the lowest socioeconomic strata, live in houses and neighborhoods with less “good” conditions than formal workers, and tend more frequently to have family businesses in their own houses.

Informal workers work very frequently in the house where they live or in the street while formal workers tend to go to their company’s offices, but the working conditions are more or less similar in both sectors. Informal workers spend on average 2 to 3 hours less at work per week than formal workers under most definitions of informality. This coincides with the hypothesis of this paper that many informal workers, specially women, belong to this sector because it is more convenient for their childcare and house care needs. This also contradicts the findings of other studies (López (1996)) that report that in the informal sector the working schedule is larger than in the formal sector.

The most important differences between both sectors are found in human capital endowments and in labor wages or earnings. Workers for large firms have on average 3.3 more years of schooling than workers for firms with ten or fewer workers. Hourly wages are considerably higher for formal workers and the differences in hourly earnings are even higher. When the informal sector is defined as workers self employed excluding professionals, domestic servants and unpaid family workers, mean hourly wages in the informal sector are 29% of mean hourly wages in the formal sector, and mean hourly earnings in the informal sector are 27% of mean hourly earnings in the formal sector. When the informal sector is defined as those workers who work in firms of size 10 or less, hourly wages in the informal sector are on average 45% of hourly wages in the formal sector, and hourly earnings in the informal sector are on average 36% of hourly earnings in the formal sector.

The differences across sectors and by gender have also been described. Informal women are less in the lower strata than informal men, and have slightly better housing characteristics than informal men. They also tend to be covered by social security more often. More informal women have a family business in the household. Women in the informal sector tend to work in their own home more often than informal men. Among the informal, men and women have similar education levels and informal men are on average 2 years older than informal women. A large difference between informal men and women is that informal women tend to work on average between 6 and 11 hours less per week than informal men. Informal women gain lower hourly wages and earnings than informal men. With most of the definitions of informal sector, the gender gap in wages or earnings is not as large as in the formal sector, but the size of the gap varies highly between definitions.

The choice of participation in the informal labor market has been modeled as a result of socioeconomic and environmental characteristics of the individual. When informals are defined as family workers without pay, domestic servants and self-employed workers excluding independent professionals, for both male and

female samples, older individuals tend to participate in the informal sector more than younger individuals. For men, however, age is more of a determinant of participation than for women. Also for both genders, higher wealth indicators as well as more years of schooling decrease the probability of being in the informal sector. For women one more year of education represents a significantly higher decrease in the probability of being informal than for men. For both genders the unemployment rate in the place where the individual resides has a large effect on the likelihood of being informal, higher for women than for men. This may be because in periods of low employment it is easier for women to take jobs as domestic servants than for men. The models with this definition have a better overall fit than the models with the informal sector defined by lack of social security coverage or labor contracts. This means that, although the informal sector is highly heterogeneous, the group of self-employed, domestic servants and unpaid family workers constitutes a more homogeneous population than the group of workers lacking social security or labor contracts. With this latter definition the unemployment rate has no significant impact on the likelihood of being informal.

Looking at the effects of fertility on the probability of being informal, it is found that having one more child increases the woman's probability of being informal by 0.03. This variable also has a positive effect on the man's probability of being informal, increasing it by 0.02. However, taking care of the children during most of the week at home or at work increases the female's probability of belonging to the informal sector by 0.19 per child, whereas for men this variable is not significant. The children variables are not significant when the definition of informal sector by lack of social security coverage or labor contracts is used. This implies that fertility and childcare have an effect on an individual's decision to become self-employed, domestic servant or unpaid family worker, but not necessarily on the decision to take jobs lacking social security or labor contracts.

A further step takes into account that fertility might not be an exogenous variable, but that it is another decision of the family, that can be altered by socioeconomic characteristics as well as by environmental factors. A series of data on family planning programs at the time of the survey and 10 years prior to it were collected from other sources different than the survey. The survey of 1997 was also used to summarize data on social programs of childcare at the municipality level. These environmental factors were used as instruments for fertility. The fertility regressions show that more education and wealth reduce fertility and the family planning program effect is negative and it is very significant, indicating that to live in a region with extended use of modern contraceptive methods by women reduces fertility of both men and women. These models are used to calculate predicted values that are inserted into the model of employment choice of individuals in order to see the effects of "fertility-instrumental variable". The most interesting aspect of these results is that not only women but also men tend to participate more in the informal sector when they have more children younger than 12. The most relevant variable for women is the "number of children younger than 5 that during the most part of the week spend the time with one of their parents either at home or at work". It is significant and positive only for

women indicating that the childcare load contributes more to female than to male informality, confirming the hypothesis of this paper. When the number of children is instrumented, the effect of this variable is enlarged. For a woman, having a child who stays with her most of the time during the week, either at home or at work, increases her probability of being informal by 0.22. For example, having one more child who stays with her increases the probability of being informal from 0.52 (observed probability of being informal) to 0.74. This result holds under the definition of informal employment as family workers without pay, domestic servants and self-employed workers excluding independent professionals. Under the definition based on lack of social security or labor contracts this variable is not significant in either specification.

The paper also estimated models of log hourly wages/earnings separately by gender and by sector of employment. According to the definition of informal employment as family workers without pay, domestic servants and self-employed workers excluding independent professionals, the unemployment rate decreases the wages/earnings in the formal sector, but its impact is not significant on informal wages/earnings. The unemployment rate has no effect on wages or earnings according to the other definition. The results on schooling returns change between definitions. In a second step, the hourly wage/earnings equations are estimated with a correction for the selection bias caused by the fact that the equations are being estimated only for individuals in one sector, without consideration of the choice of that sector.

The Probit equations that predicted the choice of employment sector with a vector of observable socioeconomic characteristics are used to compute the inverses Mill's ratios (λ). Those λ s are included in Mincerian earnings regressions in addition to the observable human capital and socioeconomic characteristics. λ is significant in most cases and it is also positive, meaning that the unobservables that contribute to the probability of participation in one sector are positively associated with receiving higher market earnings, for reasons not accounted for in the earnings equation. This implies that individuals are choosing the sector where their unobservables would yield higher wages/earnings for them. Those unobservables are summarized in the error terms and may contain variables not accounted by the data.

Once the selection bias is taken into account, the unbiased returns to schooling are the highest for formal females (27%) under the definition of informal employment as family workers without pay, domestic servants and self-employed workers excluding independent professionals. Under the definition of informality as lack of social security or labor contracts, the maximum returns to schooling are for informal females (25%). As before, the results show that the unemployment rate has a negative effect on formal wages / earnings only under the definition of informal employment as family workers without pay, domestic servants and self-employed workers excluding independent professionals.

References

- Barros et al (1995) "Gender differences in Brazilian labor markets" in "Investment in Women's Human capital" edited by T. P. Schultz.
- Becker, Gary. (1960) "An economic analysis of fertility" in Demographic and Economic Change in Developed Countries. Princeton, N.J. NBER.
- Coyuntura Económica– 1985 - Empleo y Salarios- Fedesarrollo.
- Greene, William H. "Econometric Analysis" Third edition. Prentice Hall, 1997.
- Heckman, J. "Sample selection bias as a specification error" *Econometrica*, 47, 1979.
- Law 50 of 1990 – Reforma Laboral. Republica de Colombia. ECOE ediciones.
- Law 100 of 1993 – Sistema de Seguridad Social Integral. Republica de Colombia. ECOE ediciones.
- López C. Hugo. "Ensayos sobre economía laboral colombiana" FONADE 1996.
- Rakowski, Cathy A. "Contrapunto: the informal sector debate in Latin America" State University of New York Press (1994).
- Ribero, R. and Meza, C. "Ingresos laborales de hombres y mujeres en Colombia: 1976-1995" DNP Archivo de Macroeconomía. Documento # 62, Mimeo 1997.
- Ribero, Rocío. "Do family structure and fertility determine child quality in Colombia?" Mimeo. Economic Growth Center. Yale University. 1999.
- Sethuraman, S.V. "The urban informal sector in developing countries" Geneva: International Labor Office, 1981.
- Sethuraman, S.V. "Gender, Informality and Poverty: A Global Review" Washington, D.C.: The World Bank. In WIEGO (Women in Informal Employment: Globalizing and Organizing) www.wiego.org, 1998.
- Thomas, J. J. "Informal economic activity". LSE Handbooks of Economics, 1992.
- Thurnam , Salome and Schwarz. "The informal sector revisited" OECD - Development Centre Seminars, 1990.
- Weeks, J. "Policies for expanding employment in the informal urban sector of developing economies" *International Labor Review*, 111, 1975.

Yamada, Gustavo. (1996) "Urban informal employment and self-employment in developing countries: theory and evidence" *Economic Development and Cultural Change*

Appendix 1-Tables

Table 3

Descriptive statistics of main characteristics of whole sample aged 18 and older

		out of labor force		unemployed		workers	
individual characteristics							
Variables	Variable name	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
observations		4154		1089		8228	
gender (male=1, female=0)	genero	0,22	0,4	0,43	0,5	0,57	0,5
age	e02	46,47	20,3	30,58	12,1	37,06	12,7
born in rural areas=1, 0 otherwise	e013a	0,15	0,4	0,11	0,3	0,13	0,3
marital status %							
free union=1, 0 otherwise	free union	19,69		21,67		25,26	
married =1, 0 otherwise	married	35,03		19,47		34,37	
widows=1, 0 otherwise	widows	14,47		1,38		2,82	
separated=1, 0 otherwise	separated	7,46		9,83		9,81	
single=1, 0 otherwise	single	23,35		47,66		27,75	
monthly non-labor income							
receives pensions=1, 0 otherwise	j46a	0,11	0,3	0,02	0,1	0,02	0,1
pension amount	ja46b	43755	198415	9777	126758	8729	79577
receives alimony=1, 0 otherwise	j47a	0,03	0,2	0,04	0,2	0,03	0,2
alimony amount	ja47b	4124	39150	4188	24843	2910	28289
receives interests=1, 0 otherwise	j48a	0,02	0,1	0,02	0,1	0,02	0,1
interests amount	ja48ba	7448	237923	2063	33743	4054	67710
receive monetary help=1, 0 otherwise	j49a	0,16	0,4	0,15	0,4	0,05	0,2
monetary help amount	ja49ba	10536	54382	7241	30875	2727	33158
rents property=1, 0 otherwise	j50a	0,09	0,3	0,03	0,2	0,06	0,2
rents earnings	ja50ba	12046	86328	2616	22144	6743	59597
sold property last 12 months=1, 0 otherwise	j51a	0,01	0,1	0,01	0,1	0,02	0,1
sold property amount	ja51ba	22135	738425	1307	30642	12536	313088
won lottery last 12 months=1, 0 otherwise	j56a	0,01	0,1	0,03	0,2	0,03	0,2
lottery winnings amount	ja56ba	280	4158	617	6440	964	11270

Table continues next page

Table 3 - continuation

Table 3 - continuation		out of labor force		unemployed		workers	
Variable	Variable name	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
household characteristics							
household size	perhoga	4,75	2,3	5,25	2,5	4,68	2,2
#rooms/#persons	hacina	1,02	0,8	0,78	0,5	0,93	0,6
observations		2756		464		5519	
children younger than 12	ninme (1)	0,65	1,0	1,01	1,0	0,94	1,1
children younger than 5	ni5	0,27	0,6	0,45	0,7	0,35	0,6
estrato de energia %							
estrato de energia 0	0	3,22		3,59		3,75	
estrato de energía 1 to 3	1-3	82,7		86,38		81,72	
estrato de energía 4 to 6	4-6	12,94		9,01		12,88	
estrato de energía 9 (not available?)	9	1,14		1,01		1,66	
housing characteristics							
fixed structure (walls)=1, 0 otherwise	b02	0,86	0,3	0,88	0,3	0,88	0,3
garage=1, 0 otherwise	b0603	0,16	0,4	0,13	0,3	0,17	0,4
yard=1, 0 otherwise	b0605	0,06	0,2	0,06	0,2	0,07	0,3
electricity=1, 0 otherwise	c03	0,99	0,1	1,00	0,1	1,00	0,1
pays electricity=1, 0 otherwise	c04 (2)	0,94	0,2	0,92	0,3	0,94	0,2
own separate kitchen=1, 0 otherwise	c07	0,86	0,4	0,81	0,4	0,82	0,4
owner occupied housing=1, 0 otherwise	d01	0,68	0,5	0,59	0,5	0,58	0,5
running water connection=1, 0 otherwise	c11	0,96	0,2	0,96	0,2	0,94	0,2
pays for water=1, 0 otherwise	c23 (2)	0,93	0,3	0,92	0,3	0,93	0,3
running water inside house =1, 0 otherwise	c13 (2)	0,93	0,3	0,89	0,3	0,93	0,3
toilet- sewage=1, 0 otherwise	c17	0,95	0,2	0,94	0,2	0,96	0,2
trash collected=1, 0 otherwise	c22	0,92	0,3	0,92	0,3	0,93	0,2
telephone=1, 0 otherwise	c29	0,62	0,5	0,56	0,5	0,62	0,5
refrigerator=1, 0 otherwise	k2001	0,79	0,4	0,74	0,4	0,80	0,4
color t.v.=1, 0 otherwise	k2005	0,81	0,4	0,79	0,4	0,83	0,4
car =1, 0 otherwise	k2009	0,15	0,4	0,09	0,3	0,17	0,4
washing machine=1, 0 otherwise	k2016	0,27	0,4	0,21	0,4	0,28	0,4
personal computer=1, 0 otherwise	k2020	0,05	0,2	0,04	0,2	0,07	0,2

Table continues next page

Table 3 - continuation

Table 3 - continuation		out of labor force		unemployed		workers		
Variable	Variable name	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
neighborhood characteristics								
clean municipal running water=1, 0 otherwise	u07	0,79	0,4	0,75	0,4	0,78	0,4	
no interruptions running water=1, 0 otherwise	u0601	0,91	0,3	0,93	0,3	0,90	0,3	
running water in majority of houses =1, 0 otherwise	u04	0,28	0,5	0,28	0,5	0,29	0,5	
no sewage related problems =1, 0 otherwise	u09	0,49	0,5	0,48	0,5	0,50	0,5	
no natural disasters=1, 0 otherwise	u10	0,32	0,5	0,31	0,5	0,33	0,5	
health center=1, 0 otherwise	u1101	0,76	0,4	0,80	0,4	0,75	0,4	
child care facilities=1, 0 otherwise	u1102	0,07	0,3	0,09	0,3	0,07	0,2	
kindergarten=1, 0 otherwise	u1103	0,04	0,2	0,04	0,2	0,04	0,2	
primary schools=1, 0 otherwise	u1104	0,52	0,5	0,52	0,5	0,51	0,5	
escuela nueva (PILOT school?)=1, 0 otherwise	u1106	0,34	0,5	0,35	0,5	0,32	0,5	
secondary schools=1, 0 otherwise	u1107	0,56	0,5	0,56	0,5	0,57	0,5	
sports arenas=1, 0 otherwise	u1110	0,05	0,2	0,03	0,2	0,05	0,2	
children park=1, 0 otherwise	u1111	0,37	0,5	0,45	0,5	0,40	0,5	
public phones=1, 0 otherwise	u1112	0,06	0,2	0,06	0,2	0,06	0,2	
street night lights=1, 0 otherwise	u1116	0,46	0,5	0,42	0,5	0,48	0,5	
street cleaning=1, 0 otherwise	u1201	0,55	0,5	0,51	0,5	0,52	0,5	
paved streets=1, 0 otherwise	u13	0,83	0,4	0,82	0,4	0,83	0,4	
parks=1, 0 otherwise	u17	0,53	0,5	0,58	0,5	0,55	0,5	
social assistance=1, 0 otherwise	u26	0,05	0,2	0,05	0,2	0,06	0,2	
infrastructure works in last 5 y.=1, 0 otherwise	u30	0,14	0,4	0,16	0,4	0,16	0,4	
family business in household								
family business on household=1, 0 otherwise	o01_4	0,10	0,3	0,09	0,3	0,19	0,4	
observations		401		103		1525		
size family business	o09	(3)	1,75	1,3	1,70	1,1	2,00	1,5
self-consumption household=1, 0 otherwise	o15		0,37	0,5	0,47	0,5	0,48	0,5
pays social security workers=1, 0 otherwise	o18		0,02	0,2	0,01	0,1	0,03	0,2
pays taxes from business=1, 0 otherwise	o20		0,26	0,4	0,12	0,3	0,29	0,5

Table continues next page

Table 3 - continuation

Table 3 - continuation		out of labor force		unemployed		workers	
Variable	Variable name	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
human capital characteristics							
years of schooling	educa (4)	5,53	3,9	7,95	3,9	8,08	4,5
	missing educa	0,11		0,14		0,08	
knows read & write=1, 0 otherwise	h001	0,89	0,3	0,97	0,2	0,96	0,2
training courses last 12m=1, 0 otherwise	i001	0,04	0,2	0,14	0,3	0,20	0,4
technical education=1, 0 otherwise	tecnic	0,01	0,1	0,03	0,2	0,04	0,2
covered social insurance health=1, 0 otherwise	f001	0,62	0,5	0,41	0,5	0,65	0,5
health status very good=1, 0 otherwise	f009	0,09	0,3	0,12	0,3	0,15	0,4
chronic diseases=1, 0 otherwise	f015	0,27	0,4	0,10	0,3	0,12	0,3
work characteristics (5)							
observations							
receives wages or earnings=1, 0 otherwise	cond3	--		--		0,98	0,2
fondo de pensiones=1, 0 otherwise	j40a	--		--		0,33	0,5
pays retencion fuente=1, 0 otherwise	j34	--		--		0,06	0,2
size of firm =<10	j35a	--		--		0,64	0,5
weekly hours of work last week	horas	--		--		47,12	20,0
normal weekly hours of work	horas1	--		--		47,70	19,3
has a labor contract=1, 0 otherwise	j18c	--		--		0,48	0,5
labor contracts							
observations							
fixed term contracts=1, 0 otherwise	j18a (7)	--		--		0,19	0,4
no prestaciones or salario integral=1, 0 otherwise	j20a	--		--		0,24	0,4
afiliado ARP=1, 0 otherwise	j21a	--		--		0,33	0,5
subsidy for food, transp. or housing=1, 0 otherwise	j23_25	--		--		0,52	0,5
bonus or primas=1, 0 otherwise	j28	--		--		0,69	0,5
observations							
contract for more than 6 months=1, 0 otherwise	j18b (8)	--		--		0,59	0,5

Table continues next page

Table 3 - continuation

	out of labor force		unemployed		workers	
Variable	Variable name	Mean Std. Dev.	Mean Std. Dev.	Mean Std. Dev.	Mean Std. Dev.	Mean Std. Dev.
wages and earnings		--	--			
observations		--	--	4583		
monthly wages	salmes (9)	--	--	388635	547710	
observations		--	--	4581		
hourly wages	j29h (10)	--	--	2158,51	3177,5	
observations		--	--	3454		
monthly earnings	j33m (11)	--	--	266489	579579	
observations		--	--	3446		
hourly earnings	j33mh	--	--	1713,74	5583,7	
working conditions (5)						
extreme physical or intelectual effort =1, 0 otherwise	j36_1	--	--	0,18	0,4	
noises - vibrations=1, 0 otherwise	j36_3	--	--	0,06	0,2	
bad lighting and air quality=1, 0 otherwise	j36_6	--	--	0,01	0,1	
insect bites=1, 0 otherwise	j36_7	--	--	0,02	0,1	
weather changes=1, 0 otherwise	j36_8	--	--	0,03	0,2	
psicological pressure=1, 0 otherwise	j36_9	--	--	0,04	0,2	
no problems (A)=1, 0 otherwise	j36_10	--	--	0,54	0,5	
work place % (5)						
company office	j37_1	--	--	0,44	0,5	
own office outside home	j37_2	--	--	0,07	0,3	
home office	j37_3	--	--	0,14	0,4	
office in another home	j37_4	--	--	0,08	0,3	
street merchant (ambulante)	j37_5	--	--	0,08	0,3	
street merchant (estacionario)	j37_6	--	--	0,02	0,1	
kiosk	j37_7	--	--	0,01	0,1	
door to door	j37_8	--	--	0,01	0,1	
in car or truck	j37_9	--	--	0,06	0,2	
construction	j37_11	--	--	0,04	0,2	
farm owned or rented	j37_12	--	--	0,02	0,1	
another person farm	j37_13	--	--	0,03	0,2	
work accidents in life=1, 0 otherwise	j43a	--	--	0,14	0,4	
secondary job?=1, 0 otherwise	j44	--	--	0,10	0,3	

Table continues next page

Table 3 - continuation

Variable	out of labor force		unemployed		workers	
	Variable name	Mean Std. Dev.	Mean Std. Dev.	Mean Std. Dev.	Mean Std. Dev.	Mean Std. Dev.
observations		0	0	7040		
commuting minutes to work	j39a (6)	--	--	27,55	29,6	
occupation position % (5)						
worker in private firm	j17=1	--	--	39,9		
worker government	j17=2	--	--	8,5		
daily paid worker	j17=3	--	--	2,77		
domestic servant	j17=4	--	--	4,59		
independent professional	j17=5	--	--	1,08		
self-employed	j17=6	--	--	35,49		
employer - manager	j17=7	--	--	4,36		
works own farm	j17=8	--	--	1,05		
unpaid family worker	j17=9	--	--	2,26		
sector of activity % (5)						
industry	rama3	--	--	0,16		
construction	rama5	--	--	0,06		
retail	rama6	--	--	0,26		
services	rama9	--	--	0,32		
other sectors	other sec.	--	--	0,19		

(A) means none of the above + no deficient security+ no extreme temperatures.

These aspects were excluded from table because present no differences between categories.

Notes:

- (1) only those individuals that are heads of household or spouses
- (2) percentage relative to those who have the service
- (3) including only those households that do have family business
- (4) mean calculated only for those with variable not missing
- (5) only for workers
- (6) mean only for those who report commuting time to work
- (7) of those who have contracts

- (8) of those who have fixed term contracts
 - (9) those who report wages
 - (10) those who report wages and hours
 - (11) those who report earnings
- Monetary figures in colombian pesos of 1997

Table 4

Descriptive statistics of main characteristics of samples 4 definitions of informal sector

self-employed (excl.professionals) +domestic serv.+unpaid family worker					self-employed (excludes professional)			
Formal					Informal			
individual characteristics								
Variables	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
observations	4658		3570		5222		3006	
% Informal	43%				37%			
genero	0,59	0,5	0,53	0,5	0,54	0,5	0,61	0,5
e02	35,11	11,5	39,60	13,7	35,08	11,7	40,50	13,6
e013a	0,11	0,3	0,15	0,4	0,12	0,3	0,15	0,4
marital status %								
free union	23,01		28,18		22,52		30,01	
married	35,53		32,86		33,88		35,23	
widows	1,82		4,12		1,99		4,26	
separated	8,52		11,48		9,17		10,91	
single	31,11		23,36		32,44		19,59	
monthly non-labor income								
j46a	0,02	0,1	0,02	0,2	0,02	0,1	0,03	0,2
ja46b	9138	90390	8196	62734	8379	85733	9338	67571
j47a	0,03	0,2	0,02	0,2	0,03	0,2	0,02	0,1
ja47b	3249	31624	2467	23224	3162	30783	2472	23327
j48a	0,03	0,2	0,01	0,1	0,03	0,2	0,02	0,1
ja48ba	5160	59746	2610	76855	4658	56525	3005	83658
j49a	0,04	0,2	0,07	0,3	0,05	0,2	0,07	0,2
ja49ba	2897	40606	2505	19565	2850	38748	2513	20035
j50a	0,06	0,2	0,06	0,2	0,06	0,2	0,06	0,2
ja50ba	8246	69898	4781	42491	7498	66162	5431	46000
j51a	0,01	0,1	0,02	0,1	0,01	0,1	0,02	0,1
ja51ba	14234	390662	10321	163732	12773	368994	12124	178338
j56a	0,03	0,2	0,03	0,2	0,03	0,2	0,03	0,2
ja56ba	888	10444	1064	12265	822	9895	1211	13324
household characteristics								
perhoga	4,62	2,1	4,76	2,3	4,67	2,1	4,70	2,2
hacina	0,96	0,6	0,90	0,6	0,95	0,6	0,90	0,7
observations	3007		2512		3267		2252	
ninme (1)	0,96	1,0	0,92	1,1	0,95	1,0	0,93	1,1
ni5	0,38	0,6	0,32	0,6	0,37	0,6	0,32	0,6
estrato de energia %								
0	2,49		5,40		2,91		5,21	
1-3	80,06		83,90		79,20		86,20	
4-6	15,82		9,03		16,20		7,10	
9	1,63		1,69		1,74		1,50	

Table continues next page

Table 4 - continuation

self-employed-domestic serv.-family work.without pay					self-employed (excludes professional)			
Variable	Formal		Informal		Formal		Informal	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
housing characteristics								
b02	0,90	0,3	0,86	0,3	0,90	0,3	0,86	0,3
b0603	0,19	0,4	0,13	0,3	0,19	0,4	0,12	0,3
b0605	0,09	0,3	0,05	0,2	0,09	0,3	0,04	0,2
c03	1,00	0,0	0,99	0,1	1,00	0,0	0,99	0,1
c04 (2)	0,95	0,2	0,92	0,3	0,95	0,2	0,92	0,3
c07	0,84	0,4	0,80	0,4	0,84	0,4	0,80	0,4
d01	0,58	0,5	0,59	0,5	0,58	0,5	0,58	0,5
c11	0,94	0,2	0,94	0,2	0,94	0,2	0,94	0,2
c23 (2)	0,94	0,2	0,91	0,3	0,94	0,2	0,91	0,3
c13 (2)	0,95	0,2	0,91	0,3	0,94	0,2	0,90	0,3
c17	0,97	0,2	0,94	0,2	0,97	0,2	0,93	0,2
c22	0,94	0,2	0,92	0,3	0,94	0,2	0,91	0,3
c29	0,68	0,5	0,54	0,5	0,67	0,5	0,53	0,5
k2001	0,83	0,4	0,75	0,4	0,82	0,4	0,75	0,4
k2005	0,88	0,3	0,78	0,4	0,87	0,3	0,77	0,4
k2009	0,19	0,4	0,15	0,4	0,19	0,4	0,13	0,3
k2016	0,32	0,5	0,21	0,4	0,32	0,5	0,20	0,4
k2020	0,09	0,3	0,04	0,2	0,09	0,3	0,03	0,2
neighborhood characteristics								
u07	0,80	0,4	0,76	0,4	0,80	0,4	0,76	0,4
u0601	0,92	0,3	0,89	0,3	0,92	0,3	0,88	0,3
u04	0,29	0,5	0,29	0,5	0,29	0,5	0,29	0,5
u09	0,51	0,5	0,48	0,5	0,51	0,5	0,47	0,5
u10	0,32	0,5	0,35	0,5	0,32	0,5	0,34	0,5
u1101	0,75	0,4	0,75	0,4	0,75	0,4	0,76	0,4
u1102	0,07	0,3	0,06	0,2	0,07	0,3	0,06	0,2
u1103	0,04	0,2	0,04	0,2	0,04	0,2	0,04	0,2
u1104	0,52	0,5	0,49	0,5	0,52	0,5	0,49	0,5
u1106	0,30	0,5	0,34	0,5	0,30	0,5	0,35	0,5
u1107	0,58	0,5	0,55	0,5	0,58	0,5	0,55	0,5
u1110	0,04	0,2	0,05	0,2	0,04	0,2	0,05	0,2
u1111	0,41	0,5	0,39	0,5	0,41	0,5	0,39	0,5
u1112	0,06	0,2	0,06	0,2	0,06	0,2	0,06	0,2
u1116	0,52	0,5	0,43	0,5	0,51	0,5	0,42	0,5
u1201	0,54	0,5	0,49	0,5	0,54	0,5	0,48	0,5
u13	0,85	0,4	0,80	0,4	0,84	0,4	0,80	0,4
u17	0,55	0,5	0,55	0,5	0,55	0,5	0,54	0,5
u26	0,06	0,2	0,07	0,3	0,06	0,2	0,08	0,3
u30	0,15	0,4	0,17	0,4	0,15	0,4	0,17	0,4

Table continues next page

Table 4 - continuation

self-employed-domestic serv.-family work.without pay					self-employed (excludes professional)			
Variable	Formal		Informal		Formal		Informal	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
family business in household								
o01_4	0,11	0,3	0,28	0,5	0,12	0,3	0,29	0,5
observations	514		1011		641		884	
o09 (3)	2,21	1,8	1,90	1,4	2,35	1,8	1,75	1,3
o15	0,44	0,5	0,50	0,5	0,46	0,5	0,50	0,5
o18	0,05	0,2	0,01	0,1	0,04	0,2	0,01	0,1
o20	0,29	0,5	0,28	0,5	0,32	0,5	0,26	0,4
human capital characteristics								
educa (4)	9,43	4,5	6,41	3,9	9,00	4,6	6,59	3,9
missing educa	0,10		0,05		0,10			
h001	0,98	0,1	0,94	0,2	0,97	0,2	0,94	0,2
i001	0,28	0,5	0,09	0,3	0,26	0,4	0,10	0,3
tecnic	0,05	0,2	0,03	0,2	0,05	0,2	0,03	0,2
f001	0,79	0,4	0,48	0,5	0,75	0,4	0,48	0,5
f009	0,19	0,4	0,11	0,3	0,18	0,4	0,11	0,3
f015	0,10	0,3	0,13	0,3	0,11	0,3	0,13	0,3
work characteristics (5)								
observations	4658		3570		5222		3006	
cond3	1,00	0,0	0,95	0,2	0,96	0,2	1,00	0,0
j40a	0,53	0,5	0,06	0,2	0,48	0,5	0,06	0,2
j34	0,08	0,3	0,04	0,2	0,08	0,3	0,04	0,2
j35a	0,39	0,5	0,95	0,2	0,46	0,5	0,95	0,2
horas	48,53	17,1	45,28	23,0	48,65	17,7	44,44	23,1
horas1	48,77	16,5	46,30	22,3	48,93	17,2	45,57	22,4
j18c	0,85	0,4	0,00	0,0	0,76	0,4	0,00	0,0
labor contracts								
observations	3982		0		3982		0	
j18a (7)	0,19	0,4	--		0,19	0,4	--	--
j20a	0,24	0,4	--		0,24	0,4	--	--
j21a	0,33	0,5	--		0,33	0,5	--	--
j23_25	0,52	0,5	--		0,52	0,5	--	--
j28	0,69	0,5	--		0,69	0,5	--	--
observations	743,00				743,00		0	
j18b (8)	0,59	0,5	--		0,59	0,5	--	--
wages and earnings								
observations	4205		378		4583		0	
salmes (9)	414087	564595	105494	61140	388635	547710	--	--
observations	4203		378		4581		0	
j29h (10)	2292,00	3269,8	674	1041	2158,51	3177,5	--	--
observations	448		3006		448 (12)		3006	
j33m (11)	765911	1333878	192058	280356	765911	1333878	192058	280356
observations	448,00		2998		448,00		2998	
j33mh	4673,40	12742,4	1271,48	3180,6	4673,40	12742,4	1271,48	3180,6

Table continues next page

Table 4 - continuation

self-employed-domestic serv.-family work.without pay					self-employed (excludes professional)			
Variable	Formal		Informal		Formal		Informal	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
working conditions (5)								
j36_1	0,16	0,4	0,20	0,4	0,16	0,4	0,21	0,4
j36_3	0,07	0,3	0,04	0,2	0,06	0,2	0,05	0,2
j36_6	0,02	0,1	0,01	0,1	0,01	0,1	0,01	0,1
j36_7	0,02	0,1	0,01	0,1	0,02	0,1	0,02	0,1
j36_8	0,03	0,2	0,04	0,2	0,03	0,2	0,04	0,2
j36_9	0,04	0,2	0,03	0,2	0,04	0,2	0,03	0,2
j36_10	0,53	0,5	0,55	0,5	0,55	0,5	0,52	0,5
work place (5)								
j37_1	0,71	0,5	0,10	0,3	0,64	0,5	0,11	0,3
j37_2	0,05	0,2	0,09	0,3	0,05	0,2	0,11	0,3
j37_3	0,03	0,2	0,30	0,5	0,07	0,3	0,27	0,4
j37_4	0,02	0,1	0,16	0,4	0,06	0,2	0,11	0,3
j37_5	0,05	0,2	0,11	0,3	0,04	0,2	0,13	0,3
j37_6	0,01	0,1	0,04	0,2	0,01	0,1	0,04	0,2
j37_7	0,00	0,1	0,01	0,1	0,00	0,1	0,01	0,1
j37_8	0,01	0,1	0,01	0,1	0,01	0,1	0,02	0,1
j37_9	0,04	0,2	0,07	0,3	0,04	0,2	0,08	0,3
j37_11	0,03	0,2	0,05	0,2	0,03	0,2	0,06	0,2
j37_12	0,00	0,1	0,03	0,2	0,00	0,1	0,04	0,2
j37_13	0,05	0,2	0,01	0,1	0,04	0,2	0,01	0,1
j43a	0,14	0,3	0,14	0,4	0,13	0,3	0,16	0,4
j44	0,11	0,3	0,09	0,3	0,10	0,3	0,10	0,3
observations	4534		2506		4854		2186	
j39a (6)	28,47	29,0	25,90	30,6	28,24	28,9	26,03	31,1
occupation position % (5)								
j17=1	70,48		--		62,87		--	
j17=2	15,01		--		13,39		--	
j17=3	4,89		--		4,37		--	
j17=4	--		10,59		7,24		--	
j17=5	1,91		--		1,7		--	
j17=6	--		81,79		--		97,14	
j17=7	7,71		--		6,87		--	
j17=8	--		2,41		--		2,86	
j17=9	--		5,21		3,56		--	
sector of activity % (5)								
rama3	18,23		13,33		16,85		14,80	
rama5	4,85		7,96		4,33		9,45	
rama6	22,74		30,98		22,65		32,67	
rama9	31,26		32,72		35,37		25,85	
other sector	22,93		15,01		20,80		17,23	

Notes:

- (1) only those individuals that are heads of household or spouses
(2) percentage relative to those who have the service
(3) including only those households that do have family business
(4) mean calculated only for those with variable not missing
(5) only for workers
(6) mean only for those who report commuting time to work
(7) of those who have contracts
(8) of those who have fixed term contracts
(9) those who report wages
(10) those who report wages and hours
(11) those who report earnings
Monetary figures are in colombian pesos of 1997
(12) those are patrons or independent professionals

NAMES OF VARIABLES ARE SAME OF TABLE 3

Table continues next page

Table 4 - continuation

Descriptive statistics of main characteristics of samples 4 definitions of informal sector

size of firm =<10					no (social security in health or in pensions or labor contracts)			
					Formal		Informal	
individual characteristics								
Variables	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
observations	2996		5232		6087		2141	
% Informal	64%				26%			
genero	0,57	0,5	0,56	0,5	0,56	0,5	0,60	0,5
e02	35,21	10,7	38,11	13,6	36,64	12,3	38,23	13,6
e013a	0,10	0,3	0,15	0,4	0,12	0,3	0,16	0,4
marital status %								
free union	20,76		27,83		23,49		30,27	
married	38,85		31,80		37,51		25,46	
widows	1,94		3,33		2,53		3,64	
separated	8,51		10,55		8,95		12,24	
single	29,94		26,49		27,52		28,40	
monthly non-labor income								
j46a	0,02	0,1	0,02	0,1	0,03	0,2	0,00	0,0
ja46b	9368	86862	8364	75094	11596	91807	579	16871
j47a	0,04	0,2	0,02	0,1	0,03	0,2	0,02	0,1
ja47b	3407	29050	2625	27842	3143	29593	2248	24194
j48a	0,03	0,2	0,02	0,1	0,03	0,2	0,01	0,1
ja48ba	4774	42803	3641	78492	5085	78090	1122	16458
j49a	0,04	0,2	0,06	0,2	0,05	0,2	0,07	0,3
ja49ba	2715	30153	2734	34765	2664	36411	2907	21361
j50a	0,07	0,3	0,05	0,2	0,06	0,2	0,05	0,2
ja50ba	8100	51803	5966	63624	8102	68213	2880	20041
j51a	0,02	0,1	0,02	0,1	0,02	0,1	0,01	0,1
ja51ba	7626	116362	15347	382613	14042	349973	8255	168797
j56a	0,03	0,2	0,03	0,2	0,03	0,2	0,03	0,2
ja56ba	767	7738	1077	12862	944	10998	1023	12012
household characteristics								
perhoga	4,54	2,0	4,76	2,3	4,63	2,1	4,82	2,4
hacina	1,00	0,6	0,89	0,6	0,96	0,6	0,86	0,7
observations	1972		3547		4138		1381	
ninme	0,95	1,0	0,94	1,1	0,95	1,1	0,90	1,1
ni5	0,37	0,6	0,34	0,6	0,37	0,6	0,31	0,6
estrato de energia %								
0	3,00		4,18		3,04		5,77	
1-3	78,97		83,30		80,77		84,42	
4-6	16,69		10,68		14,63		7,88	
9	1,34		1,84		1,56		1,92	

Table continues next page

Table 4 - continuation

Variable	size of firm =<10				no social security in health pensions or labor contracts			
	Formal		Informal		Formal		Informal	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
* housing characteristics								
b02	0,92	0,3	0,86	0,3	0,90	0,3	0,84	0,4
b0603	0,20	0,4	0,14	0,4	0,19	0,4	0,11	0,3
b0605	0,10	0,3	0,06	0,2	0,08	0,3	0,05	0,2
c03	1,00	0,0	0,99	0,1	1,00	0,0	0,99	0,1
c04	0,95	0,2	0,93	0,3	0,95	0,2	0,91	0,3
c07	0,86	0,3	0,81	0,4	0,84	0,4	0,77	0,4
d01	0,60	0,5	0,57	0,5	0,58	0,5	0,57	0,5
c11	0,95	0,2	0,94	0,2	0,94	0,2	0,94	0,2
c23	0,94	0,2	0,92	0,3	0,94	0,2	0,89	0,3
c13	0,95	0,2	0,92	0,3	0,94	0,2	0,89	0,3
c17	0,97	0,2	0,94	0,2	0,97	0,2	0,92	0,3
c22	0,95	0,2	0,92	0,3	0,94	0,2	0,91	0,3
c29	0,73	0,4	0,56	0,5	0,67	0,5	0,48	0,5
k2001	0,87	0,3	0,75	0,4	0,83	0,4	0,71	0,5
k2005	0,91	0,3	0,79	0,4	0,87	0,3	0,73	0,4
k2009	0,20	0,4	0,15	0,4	0,19	0,4	0,11	0,3
k2016	0,36	0,5	0,22	0,4	0,31	0,5	0,16	0,4
k2020	0,09	0,3	0,05	0,2	0,08	0,3	0,03	0,2
* neighborhood characteristics								
u07	0,79	0,4	0,78	0,4	0,79	0,4	0,75	0,4
u0601	0,92	0,3	0,90	0,3	0,91	0,3	0,89	0,3
u04	0,29	0,5	0,29	0,5	0,29	0,5	0,29	0,5
u09	0,52	0,5	0,48	0,5	0,51	0,5	0,47	0,5
u10	0,32	0,5	0,34	0,5	0,33	0,5	0,33	0,5
u1101	0,75	0,4	0,75	0,4	0,75	0,4	0,76	0,4
u1102	0,07	0,3	0,06	0,2	0,07	0,3	0,06	0,2
u1103	0,03	0,2	0,04	0,2	0,04	0,2	0,04	0,2
u1104	0,52	0,5	0,50	0,5	0,51	0,5	0,49	0,5
u1106	0,29	0,5	0,33	0,5	0,30	0,5	0,35	0,5
u1107	0,59	0,5	0,56	0,5	0,58	0,5	0,54	0,5
u1110	0,04	0,2	0,05	0,2	0,05	0,2	0,05	0,2
u1111	0,42	0,5	0,39	0,5	0,42	0,5	0,36	0,5
u1112	0,05	0,2	0,06	0,2	0,06	0,2	0,06	0,2
u1116	0,52	0,5	0,46	0,5	0,50	0,5	0,42	0,5
u1201	0,55	0,5	0,50	0,5	0,53	0,5	0,50	0,5
u13	0,84	0,4	0,82	0,4	0,83	0,4	0,81	0,4
u17	0,56	0,5	0,55	0,5	0,55	0,5	0,56	0,5
u26	0,06	0,2	0,07	0,2	0,06	0,2	0,06	0,2
u30	0,14	0,3	0,17	0,4	0,16	0,4	0,17	0,4

Table continues next page

Table 4 - continuation

Variable	size of firm =<10				no social security in health pensions or labor contracts			
	Formal		Informal		Formal		Informal	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
* family business in household								
o01_4	0,08	0,3	0,25	0,4	0,16	0,4	0,27	0,4
observations	238		1287		945		580	
o09	1,84	1,8	2,03	1,5	1,99	1,6	2,02	1,5
o15	0,42	0,5	0,49	0,5	0,49	0,5	0,47	0,5
o18	0,03	0,2	0,03	0,2	0,04	0,2	0,01	0,1
o20	0,21	0,4	0,30	0,5	0,28	0,5	0,29	0,5
* human capital charactersitics								
educa	10,22	4,4	6,94	4,1	8,79	4,5	6,15	3,8
education missing	0,12		0,05		0,09			
h001	0,99	0,1	0,94	0,2	0,97	0,2	0,92	0,3
i001	0,37	0,5	0,11	0,3	0,25	0,4	0,07	0,3
tecnic	0,06	0,2	0,03	0,2	0,05	0,2	0,02	0,1
f001	0,89	0,3	0,52	0,5	0,88	0,3	0,00	0,0
f009	0,20	0,4	0,13	0,3	0,17	0,4	0,11	0,3
f015	0,10	0,3	0,12	0,3	0,12	0,3	0,11	0,3
* work charactersitics								
observations	2996		5232		6087		2141	
cond3	1,00	0,0	0,96	0,2	0,98	0,1	0,96	0,2
j40a	0,70	0,5	0,11	0,3	0,44	0,5	0,00	0,0
j34	0,11	0,3	0,04	0,2	0,08	0,3	0,03	0,2
j35a	0,00	0,0	1,00	0,0	0,53	0,5	0,95	0,2
horas	47,90	16,3	46,66	21,8	47,16	19,0	46,99	22,5
horas1	47,87	15,6	47,60	21,1	47,62	18,3	47,94	21,8
j18c	0,92	0,3	0,24	0,4	0,65	0,5	0,00	0,0
labor contracts								
observations	2745		1237		3982		0	
j18a	0,20	0,4	0,16	0,4	0,19	0,4		
j20a	0,13	0,3	0,47	0,5	0,24	0,4		
j21a	0,41	0,5	0,16	0,4	0,33	0,5		
j23_25	0,59	0,5	0,35	0,5	0,52	0,5		
j28	0,78	0,4	0,47	0,5	0,69	0,5		
observations	545		198		743,00			
j18b	0,61	0,5	0,56	0,5	0,59	0,5		
wages and earnings								
observations	2779		1804		4233		350	
salmes	496670	638421	222211	297777	411009	563773	118033	69528
observations	2779		1802		4231		350	
j29h	2751,84	3695,0	1243,48	1798,6	2279,67	3268,3	694	837
observations	210		3244		1750		1704	
j33m	591517	1489451	245449	455420	327583	705822	203746	402092
observations	210		3236		1745,00		1701	
j33mh	4291,58	16723,6	1546,46	3830,6	2024,55	4810,8	1394,90	6263,9

Table continues next page

Table 4 - continuation

Variable	size of firm =<10				no social security in health pensions or labor contracts			
	Formal		Informal		Formal		Informal	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
working conditions								
j36_1	0,16	0,4	0,18	0,4	0,17	0,4	0,20	0,4
j36_3	0,08	0,3	0,04	0,2	0,06	0,2	0,04	0,2
j36_6	0,02	0,1	0,01	0,1	0,01	0,1	0,00	0,1
j36_7	0,01	0,1	0,02	0,1	0,01	0,1	0,03	0,2
j36_8	0,03	0,2	0,03	0,2	0,03	0,2	0,04	0,2
j36_9	0,05	0,2	0,03	0,2	0,04	0,2	0,03	0,2
j36_10	0,51	0,5	0,56	0,5	0,54	0,5	0,53	0,5
work place (5)								
j37_1	0,79	0,4	0,25	0,4	0,56	0,5	0,11	0,3
j37_2	0,01	0,1	0,10	0,3	0,06	0,2	0,10	0,3
j37_3	0,01	0,1	0,22	0,4	0,10	0,3	0,26	0,4
j37_4	0,01	0,1	0,12	0,3	0,05	0,2	0,15	0,4
j37_5	0,05	0,2	0,09	0,3	0,06	0,2	0,11	0,3
j37_6	0,01	0,1	0,03	0,2	0,01	0,1	0,04	0,2
j37_7	0,00	0,0	0,01	0,1	0,01	0,1	0,01	0,1
j37_8	0,01	0,1	0,01	0,1	0,01	0,1	0,01	0,1
j37_9	0,04	0,2	0,06	0,2	0,06	0,2	0,05	0,2
j37_11	0,03	0,2	0,05	0,2	0,04	0,2	0,06	0,2
j37_12	0,00	0,1	0,02	0,2	0,01	0,1	0,03	0,2
j37_13	0,02	0,1	0,04	0,2	0,02	0,1	0,06	0,2
j43a	0,15	0,4	0,14	0,3	0,14	0,4	0,14	0,4
j44	0,11	0,3	0,09	0,3	0,11	0,3	0,08	0,3
observations	2966		4074		5454		1586	
j39a	29,61	28,2	26,05	30,6	27,60	28,9	27,39	31,9
occupation position %								
j17=1	68,32		23,62		53,93		--	
j17=2	23,3		0,02		11,48		--	
j17=3	1,23		3,65		1,51		6,35	
j17=4	0,03		7,21		2,69		10	
j17=5	0,67		1,32		1,17		0,84	
j17=6	5,21		52,83		23,15		70,57	
j17=7	1		6,29		3,71		6,21	
j17=8	0,13		1,57		0,72		1,96	
j17=9	0,1		3,5		1,63		4,06	
sector of activity %								
rama3	18,99		14,45		0,17		0,13	
rama5	4,71		7,05		0,05		0,09	
rama6	13,79		33,49		0,25		0,30	
rama9	39,95		27,27		0,32		0,30	
other sector	22,56		17,74		0,20		0,17	

Notes:

- (1) only those individuals that are heads of household or spouses
(2) percentage relative to those who have the service
(3) including only those households that do have family business
(4) mean calculated only for those with variable not missing
(5) only for workers
(6) mean only for those who report commuting time to work
(7) of those who have contracts
(8) of those who have fixed term contracts
(9) those who report wages
(10) those who report wages and hours
(11) those who report earnings
Monetary figures are in colombian pesos of 1997
(12) those are patrons or independent professionals

NAMES OF VARIABLES ARE SAME OF TABLE 3

Table 5

INFORMALITY GAPS IN MAIN VARIABLES

Variables

	name	DEF.1	DEF.2	DEF. 3	DEF. 4
individual characteristics					
age	e02	-4,49	-5,42	-2,90	-1,59
years of schooling	educa (4)	3,02	2,40	3,27	2,64
normal weekly hours of work	horas1	2,47	3,36	0,27	-0,32
hourly wages	j29h (10)	1617,83	--	1508,37	1585,91
hourly earnings	j33mh	3401,92	3401,92	2745,12	629,64

GAP is defined as mean value for formal - mean value for informal. Based on Table 4

Table 7

GENDER GAPS IN MAIN VARIABLES

		definition1		definition 2		definition 3		definition 4	
		formal	informal	formal	informal	formal	informal	formal	informal
Variables									
	name								
individual characteristics									
age	e02	1,69	2,30	1,45	1,09	1,22	1,99	1,57	1,88
years of schooling	educa (4)	-1,44	0,23	-0,37	-0,20	-1,29	-0,10	-0,56	0,13
normal weekly hours of work	horas1	7,53	7,48	6,05	11,26	8,86	6,91	8,45	5,20
hourly wages	j29h (10)	40,67	384,44	309,49	--	120,77	311,97	248,89	161,90
hourly earnings	j33mh	2454,07	222,19	2454,07	222,19	3105,46	478,89	595,31	797,31

GAP is defined as mean value for males - mean value for females. Based on Table 6

Table 6

Descriptive statistics of main characteristics of samples 4 definitions of informal sector by gender

self-employed (excl.professionals) +domestic serv.+unpaid family worker								
Variables	Formal				Informal			
	Female		Male		Female		Male	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
individual characteristics								
observations	1908		2750		1667		1903	
% Informal					47%		41%	
genero	0,00	0,0	1,00	0,0	0,00	0,0	1,00	0,0
e02	34,11	10,5	35,80	12,0	38,37	13,0	40,67	14,2
e013a	0,09	0,3	0,12	0,3	0,17	0,4	0,14	0,3
marital status %								
free union	16,51		27,53		22,32		33,32	
married	29,35		39,82		26,99		37,99	
widows	3,77		0,47		6,54		2,00	
separated	14,73		4,22		17,46		6,25	
single	35,64		27,96		26,69		20,44	
monthly non-labor income								
j46a	0,02	0,1	0,02	0,1	0,01	0,1	0,04	0,2
ja46b	9197	89622	9098	90935	3181	38039	12589	77949
j47a	0,06	0,2	0,01	0,1	0,04	0,2	0,00	0,1
ja47b	7025	48062	629	8663	4789	32679	434	8233
j48a	0,03	0,2	0,03	0,2	0,01	0,1	0,01	0,1
ja48ba	2993	33675	6663	72491	1196	13749	3849	104473
j49a	0,06	0,2	0,03	0,2	0,10	0,3	0,05	0,2
ja49ba	4272	50599	1943	31859	3297	21078	1811	18114
j50a	0,05	0,2	0,07	0,3	0,05	0,2	0,06	0,2
ja50ba	7104	77800	9039	63847	4523	35250	5008	47951
j51a	0,01	0,1	0,02	0,1	0,01	0,1	0,02	0,2
ja51ba	10611	258901	16747	460466	6530	124440	13642	191615
j56a	0,02	0,1	0,04	0,2	0,03	0,2	0,04	0,2
ja56ba	525	7214	1139	12187	549	6308	1515	15716
household characteristics								
perhoga	4,52	2,1	4,69	2,1	4,76	2,2	4,75	2,3
hacina	1,01	0,6	0,93	0,6	0,91	0,6	0,89	0,7
observations	1145		1862		1119		1393	
ninme (1)	0,87	1,0	1,01	1,0	0,87	1,1	0,96	1,1
ni5	0,31	0,5	0,43	0,7	0,26	0,5	0,36	0,6
estrato de energia %								
0	2,31		2,62		5,41		5,39	
1-3	78,03		81,45		80,71		86,70	
4-6	18,15		14,20		11,78		6,60	
9	1,52		1,71		2,10		1,32	

table continues in next page

Table 6 - continuation

self-employed (excl.professionals) +domestic serv.+unpaid family worker

Variables	Formal				Informal			
	Female		Male		Female		Male	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
housing characteristics								
b02	0,91	0,3	0,90	0,3	0,87	0,3	0,85	0,4
b0603	0,21	0,4	0,18	0,4	0,15	0,4	0,12	0,3
b0605	0,10	0,3	0,08	0,3	0,06	0,2	0,04	0,2
c03	1,00	0,0	1,00	0,0	1,00	0,1	0,99	0,1
c04 (2)	0,96	0,2	0,95	0,2	0,92	0,3	0,92	0,3
c07	0,86	0,3	0,83	0,4	0,81	0,4	0,79	0,4
d01	0,58	0,5	0,57	0,5	0,61	0,5	0,58	0,5
c11	0,93	0,3	0,95	0,2	0,96	0,2	0,93	0,3
c23 (2)	0,96	0,2	0,93	0,2	0,91	0,3	0,91	0,3
c13 (2)	0,95	0,2	0,94	0,2	0,91	0,3	0,90	0,3
c17	0,97	0,2	0,97	0,2	0,94	0,2	0,93	0,3
c22	0,95	0,2	0,94	0,2	0,93	0,3	0,91	0,3
c29	0,73	0,4	0,65	0,5	0,55	0,5	0,52	0,5
k2001	0,87	0,3	0,80	0,4	0,76	0,4	0,75	0,4
k2005	0,90	0,3	0,86	0,3	0,78	0,4	0,78	0,4
k2009	0,20	0,4	0,18	0,4	0,15	0,4	0,15	0,4
k2016	0,37	0,5	0,30	0,5	0,22	0,4	0,21	0,4
k2020	0,09	0,3	0,08	0,3	0,05	0,2	0,03	0,2
neighborhood characteristics								
u07	0,81	0,4	0,80	0,4	0,77	0,4	0,75	0,4
u0601	0,93	0,3	0,92	0,3	0,88	0,3	0,89	0,3
u04	0,29	0,5	0,29	0,5	0,29	0,5	0,29	0,5
u09	0,52	0,5	0,50	0,5	0,49	0,5	0,48	0,5
u10	0,31	0,5	0,32	0,5	0,35	0,5	0,34	0,5
u1101	0,75	0,4	0,76	0,4	0,74	0,4	0,76	0,4
u1102	0,07	0,2	0,07	0,3	0,05	0,2	0,07	0,2
u1103	0,03	0,2	0,04	0,2	0,03	0,2	0,04	0,2
u1104	0,53	0,5	0,52	0,5	0,49	0,5	0,48	0,5
u1106	0,28	0,4	0,31	0,5	0,33	0,5	0,35	0,5
u1107	0,60	0,5	0,57	0,5	0,55	0,5	0,55	0,5
u1110	0,04	0,2	0,05	0,2	0,05	0,2	0,06	0,2
u1111	0,42	0,5	0,41	0,5	0,38	0,5	0,39	0,5
u1112	0,06	0,2	0,05	0,2	0,06	0,2	0,06	0,2
u1116	0,54	0,5	0,50	0,5	0,44	0,5	0,42	0,5
u1201	0,55	0,5	0,54	0,5	0,48	0,5	0,49	0,5
u13	0,86	0,3	0,84	0,4	0,80	0,4	0,80	0,4
u17	0,55	0,5	0,55	0,5	0,55	0,5	0,54	0,5
u26	0,06	0,2	0,06	0,2	0,07	0,3	0,07	0,3
u30	0,14	0,3	0,16	0,4	0,16	0,4	0,17	0,4

table continues in next page

Table 6 - continuation

self-employed (excl.professionals) +domestic serv.+unpaid family worker

Variables	Formal				Informal			
	Female		Male		Female		Male	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
family business in household								
o01_4	0,10	0,3	0,12	0,3	0,34	0,5	0,23	0,4
observations	196		318		568		443	
o09 (3)	2,41	2,1	2,09	1,6	1,87	1,3	1,93	1,4
o15	0,42	0,5	0,45	0,5	0,53	0,5	0,46	0,5
o18	0,06	0,2	0,04	0,2	0,01	0,1	0,02	0,1
o20	0,31	0,5	0,29	0,5	0,26	0,4	0,32	0,5
human capital characteristics								
educa (4)	10,31	4,2	8,87	4,6	6,29	3,8	6,52	3,9
Not missing e	1635,00		2537,00		1571,00		1828,00	
h001	0,99	0,1	0,97	0,2	0,92	0,3	0,95	0,2
i001	0,34	0,5	0,24	0,4	0,12	0,3	0,08	0,3
tecnic	0,08	0,3	0,04	0,2	0,02	0,1	0,03	0,2
f001	0,83	0,4	0,76	0,4	0,50	0,5	0,46	0,5
f009	0,18	0,4	0,19	0,4	0,09	0,3	0,13	0,3
f015	0,12	0,3	0,09	0,3	0,16	0,4	0,11	0,3
work characteristics (5)								
observations	1908		2750		1667		1903	
cond3	1,00	0,0	1,00	0,0	0,92	0,3	0,97	0,2
j40a	0,58	0,5	0,50	0,5	0,05	0,2	0,06	0,2
j34	0,07	0,3	0,09	0,3	0,02	0,1	0,05	0,2
j35a	0,35	0,5	0,42	0,5	0,96	0,2	0,95	0,2
horas	44,26	15,6	51,49	17,6	41,54	24,5	48,54	21,1
horas1	44,33	14,8	51,85	16,9	42,31	23,9	49,79	20,2
j18c	0,93	0,3	0,80	0,4	0,00	0,0	0,00	0,0
labor contracts								
observations	1776		2206					
j18a (7)	0,19	0,4	0	0	0,00			
j20a	0,23	0,4	0	0				
j21a	0,29	0,5	0	0				
j23_25	0,56	0,5	0	0				
j28	0,69	0,5	1	0				
observations	342,00		401					
j18b (8)	0,56	0,5	1	0				
wages and earnings								
observations	1787		2418		368		10	
salmes (9)	377393	545196	441206	577128	103106	59731	193371	47761
observations	1787		2416		368		10	
j29h (10)	2268,62	3133,1	2309	3368	664,00	1046,3	1048	796
observations	120		328		1165		1841	
j33m (11)	467384	687873	875128	1488388	125876	226618	233938	302239
observations	120,00		328		1160,00		1838	
j33mh	2876,67	4565,5	5330,74	14585,9	1135,26	3907,2	1357,44	2617,9

table continues in next page

Table 6 - continuation

self-employed (excl.professionals) +domestic serv.+unpaid family worker

Variables	Formal				Informal			
	Female		Male		Female		Male	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
working conditions (5)								
j36_1	0,14	0,3	0,18	0,4	0,18	0,4	0,21	0,4
j36_3	0,06	0,2	0,08	0,3	0,02	0,2	0,06	0,2
j36_6	0,03	0,2	0,01	0,1	0,01	0,1	0,01	0,1
j36_7	0,01	0,1	0,02	0,1	0,01	0,1	0,02	0,1
j36_8	0,01	0,1	0,04	0,2	0,02	0,1	0,05	0,2
j36_9	0,04	0,2	0,04	0,2	0,03	0,2	0,03	0,2
j36_10	0,61	0,5	0,47	0,5	0,65	0,5	0,47	0,5
work place (5)								
j37_1	0,86	0,3	0,60	0,5	0,09	0,3	0,11	0,3
j37_2	0,03	0,2	0,06	0,2	0,06	0,2	0,12	0,3
j37_3	0,04	0,2	0,02	0,1	0,46	0,5	0,16	0,4
j37_4	0,02	0,1	0,01	0,1	0,25	0,4	0,08	0,3
j37_5	0,02	0,1	0,06	0,2	0,06	0,2	0,16	0,4
j37_6	0,01	0,1	0,01	0,1	0,03	0,2	0,04	0,2
j37_7	0,01	0,1	0,00	0,0	0,01	0,1	0,01	0,1
j37_8	0,01	0,1	0,01	0,1	0,01	0,1	0,02	0,1
j37_9	0,00	0,0	0,07	0,3	0,00	0,1	0,13	0,3
j37_11	0,00	0,1	0,06	0,2	0,00	0,1	0,10	0,3
j37_12	0,00	0,0	0,01	0,1	0,00	0,1	0,06	0,2
j37_13	0,01	0,1	0,08	0,3	0,00	0,0	0,02	0,1
j43a	0,06	0,2	0,20	0,4	0,05	0,2	0,23	0,4
j44	0,10	0,3	0,11	0,3	0,08	0,3	0,11	0,3
observations	1841		2693		903		26	31
j39a (6)	26,30	24,3	29,95	31,8	25,09	29,5		
occupation position % (5)								
j17=1	73,79		68,18					
j17=2	19,29		12,04					
j17=3	0,63		7,85					
j17=4					22,08		0,53	
j17=5	1,83		1,96					
j17=6					69,77		92,33	
j17=7	4,45		9,96					
j17=8					0,12		4,41	
j17=9					8,04		2,73	
sector of activity % (5)								
rama3	0,15		0,21		0,16		0,11	
rama5	0,01		0,07		0,00		0,15	
rama6	0,29		0,19		0,35		0,28	
rama9	0,42		0,24		0,46		0,21	
other sector	0,13		0,29		0,03		0,26	

table continues in next page

Table 6 - continuation

Descriptive statistics of main characteristics of samples 4 definitions of informal sector by gender

Variables	self-employed (excludes professional)							
	Formal				Informal			
	Female		Male		Female		Male	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
individual characteristics								
observations	2410		2812		1165		1841	
% Informal					33%		40%	
genero	0,00	0,0	1,00	0,0	0,00	0,0	1,00	0,0
e02	34,29	11,1	35,75	12,1	39,83	12,6	40,92	14,2
e013a	0,12	0,3	0,12	0,3	0,15	0,4	0,14	0,4
marital status %								
free union	16,85		27,38		24,12		33,73	
married	27,55		39,30		29,70		38,73	
widows	3,78		0,46		7,73		2,06	
separated	14,98		4,20		18,11		6,36	
single	36,85		28,66		20,34		19,12	
monthly non-labor income								
j46a	0,02	0,1	0,02	0,1	0,01	0,1	0,03	0,2
ja46b	7457	80056	9169	90321	4188	44574	12597	78565
j47a	0,05	0,2	0,01	0,1	0,05	0,2	0,00	0,1
ja47b	6134	44178	616	8567	5669	35740	448	8371
j48a	0,02	0,1	0,03	0,2	0,02	0,1	0,02	0,1
ja48ba	2489	30300	6517	71694	1465	15167	3979	106216
j49a	0,06	0,2	0,03	0,2	0,10	0,3	0,04	0,2
ja49ba	3909	45739	1943	31528	3628	22394	1807	18358
j50a	0,05	0,2	0,07	0,3	0,07	0,3	0,06	0,2
ja50ba	5928	69489	8845	63152	5844	41311	5169	48743
j51a	0,01	0,1	0,02	0,1	0,01	0,1	0,02	0,2
ja51ba	8557	230426	16387	455366	9020	148680	14087	194800
j56a	0,02	0,1	0,04	0,2	0,03	0,2	0,04	0,2
ja56ba	477	6512	1119	12054	659	7377	1560	15975
household characteristics								
perhoga	4,63	2,1	4,70	2,1	4,64	2,2	4,74	2,3
hacina	0,98	0,6	0,93	0,6	0,92	0,6	0,89	0,7
observations	1384		1883		880		1372	
ninme (1)	0,87	1,0	1,01	1,0	0,87	1,1	0,97	1,1
ni5	0,30	0,5	0,43	0,7	0,26	0,5	0,36	0,6
estrato de energia %								
0	3,24		2,64		4,82		5,46	
1-3	76,20		81,70		85,64		86,52	
4-6	18,73		14,00		7,82		6,66	
9	1,83		1,67		1,72		1,36	

table continues in next page

Table 6 - continuation

self-employed (excludes professional)								
Variables	Formal				Informal			
	Female		Male		Female		Male	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
housing characteristics								
b02	0,90	0,3	0,90	0,3	0,87	0,3	0,85	0,4
b0603	0,21	0,4	0,18	0,4	0,12	0,3	0,12	0,3
b0605	0,10	0,3	0,08	0,3	0,05	0,2	0,04	0,2
c03	1,00	0,0	1,00	0,0	1,00	0,1	0,99	0,1
c04 (2)	0,95	0,2	0,95	0,2	0,93	0,3	0,92	0,3
c07	0,85	0,4	0,83	0,4	0,82	0,4	0,79	0,4
d01	0,59	0,5	0,57	0,5	0,60	0,5	0,58	0,5
c11	0,94	0,2	0,95	0,2	0,95	0,2	0,93	0,3
c23 (2)	0,95	0,2	0,94	0,2	0,91	0,3	0,91	0,3
c13 (2)	0,95	0,2	0,94	0,2	0,91	0,3	0,90	0,3
c17	0,97	0,2	0,97	0,2	0,94	0,2	0,93	0,3
c22	0,95	0,2	0,94	0,2	0,92	0,3	0,91	0,3
c29	0,69	0,5	0,65	0,5	0,55	0,5	0,52	0,5
k2001	0,84	0,4	0,80	0,4	0,77	0,4	0,74	0,4
k2005	0,88	0,3	0,86	0,3	0,77	0,4	0,77	0,4
k2009	0,20	0,4	0,18	0,4	0,12	0,3	0,15	0,4
k2016	0,35	0,5	0,29	0,5	0,19	0,4	0,21	0,4
k2020	0,09	0,3	0,08	0,3	0,03	0,2	0,02	0,2
neighborhood characteristics								
u07	0,80	0,4	0,80	0,4	0,77	0,4	0,75	0,4
u0601	0,92	0,3	0,91	0,3	0,88	0,3	0,89	0,3
u04	0,29	0,5	0,29	0,5	0,29	0,5	0,28	0,4
u09	0,52	0,5	0,50	0,5	0,47	0,5	0,47	0,5
u10	0,32	0,5	0,33	0,5	0,35	0,5	0,34	0,5
u1101	0,74	0,4	0,75	0,4	0,75	0,4	0,76	0,4
u1102	0,06	0,2	0,07	0,3	0,06	0,2	0,07	0,2
u1103	0,03	0,2	0,04	0,2	0,03	0,2	0,04	0,2
u1104	0,52	0,5	0,52	0,5	0,50	0,5	0,48	0,5
u1106	0,28	0,4	0,31	0,5	0,35	0,5	0,35	0,5
u1107	0,59	0,5	0,57	0,5	0,56	0,5	0,55	0,5
u1110	0,04	0,2	0,05	0,2	0,05	0,2	0,06	0,2
u1111	0,40	0,5	0,41	0,5	0,39	0,5	0,39	0,5
u1112	0,06	0,2	0,06	0,2	0,06	0,2	0,06	0,2
u1116	0,53	0,5	0,50	0,5	0,42	0,5	0,42	0,5
u1201	0,54	0,5	0,53	0,5	0,47	0,5	0,49	0,5
u13	0,85	0,4	0,84	0,4	0,81	0,4	0,79	0,4
u17	0,55	0,5	0,56	0,5	0,55	0,5	0,54	0,5
u26	0,05	0,2	0,06	0,2	0,08	0,3	0,07	0,3
u30	0,14	0,3	0,16	0,4	0,17	0,4	0,17	0,4

table continues in next page

Table 6 - continuation

self-employed (excludes professional)								
Variables	Formal				Informal			
	Female		Male		Female		Male	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
family business in household								
o01_4	0,12	0,3	0,12	0,3	0,40	0,5	0,22	0,4
observations	293		348		471		413	
o09 (3)	2,55	1,9	2,17	1,6	1,67	1,1	1,84	1,4
o15	0,48	0,5	0,45	0,5	0,52	0,5	0,47	0,5
o18	0,05	0,2	0,04	0,2	0,00	0,1	0,02	0,1
o20	0,35	0,5	0,30	0,5	0,22	0,4	0,31	0,5
human capital characteristics								
educa (4)	9,20	4,6	8,83	4,6	6,71	3,9	6,51	3,9
missing educa	2096,00		2585,00		1110,00		1780,00	
h001	0,97	0,2	0,97	0,2	0,93	0,3	0,95	0,2
i001	0,28	0,4	0,24	0,4	0,15	0,4	0,07	0,3
tecnic	0,06	0,2	0,04	0,2	0,03	0,2	0,03	0,2
f001	0,76	0,4	0,75	0,4	0,52	0,5	0,45	0,5
f009	0,16	0,4	0,19	0,4	0,08	0,3	0,13	0,3
f015	0,13	0,3	0,09	0,3	0,16	0,4	0,11	0,3
work characteristics (5)								
observations	2410		2812		1165		1841	
cond3	0,94	0,2	0,98	0,1	1,00	0,0	1,00	0,0
j40a	0,48	0,5	0,49	0,5	0,05	0,2	0,06	0,2
j34	0,06	0,2	0,09	0,3	0,03	0,2	0,05	0,2
j35a	0,49	0,5	0,43	0,5	0,95	0,2	0,94	0,2
horas	45,49	17,3	51,37	17,6	37,82	24,5	48,63	21,1
horas1	45,67	16,7	51,72	17,1	38,66	23,9	49,92	20,1
j18c	0,74	0,4	0,78	0,4	0,00		0,00	
labor contracts								
observations	1776		2206					
j18a (7)	0,19	0,4	0	0				
j20a	0,23	0,4	0	0				
j21a	0,29	0,5	0	0				
j23_25	0,56	0,5	0	0				
j28	0,69	0,5	1	0				
observations	342,00		401					
j18b (8)	0,56	0,5	1	0				
wages and earnings								
observations	2155		2426		0			
salmes (9)	330554	507664	440185	576164				
observations	2155		2426		0			
j29h (10)	1994,61	2947,9	2304	3362				
observations	120		328		1165		1841	
j33m (11)	467384	687873	875128	1488388	125876	226618	233938	302239
observations	120,00		328		1160,00		1838	
j33mh	2876,67	4565,5	5330,74	14585,9	1135,26	3907,2	1357,44	2617,9

table continues in next page

Table 6 - continuation

self-employed (excludes professional)									
Variables	Formal				Informal				
	Female		Male		Female		Male		
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
working conditions (5)									
j36_1	0,14	0,3	0,18	0,4	0,20	0,4	0,22	0,4	
j36_3	0,05	0,2	0,08	0,3	0,03	0,2	0,06	0,2	
j36_6	0,02	0,1	0,01	0,1	0,01	0,1	0,01	0,1	
j36_7	0,01	0,1	0,02	0,1	0,01	0,1	0,02	0,1	
j36_8	0,01	0,1	0,04	0,2	0,02	0,2	0,05	0,2	
j36_9	0,04	0,2	0,04	0,2	0,03	0,2	0,03	0,2	
j36_10	0,64	0,5	0,48	0,5	0,60	0,5	0,46	0,5	
work place (5)									
j37_1	0,70	0,5	0,59	0,5	0,10	0,3	0,11	0,3	
j37_2	0,03	0,2	0,06	0,2	0,09	0,3	0,12	0,3	
j37_3	0,12	0,3	0,03	0,2	0,47	0,5	0,15	0,4	
j37_4	0,11	0,3	0,02	0,1	0,16	0,4	0,08	0,3	
j37_5	0,02	0,1	0,06	0,2	0,09	0,3	0,16	0,4	
j37_6	0,00	0,1	0,01	0,1	0,04	0,2	0,04	0,2	
j37_7	0,00	0,1	0,00	0,0	0,02	0,1	0,01	0,1	
j37_8	0,01	0,1	0,01	0,1	0,02	0,1	0,02	0,1	
j37_9	0,00	0,0	0,07	0,3	0,01	0,1	0,13	0,3	
j37_11	0,00	0,0	0,05	0,2	0,00	0,1	0,10	0,3	
j37_12	0,00	0,0	0,01	0,1	0,00	0,1	0,06	0,2	
j37_13	0,01	0,1	0,08	0,3	0,00	0,0	0,02	0,1	
j43a	0,06	0,2	0,20	0,4	0,05	0,2	0,23	0,4	
j44	0,09	0,3	0,11	0,3	0,08	0,3	0,11	0,3	
observations	2127		2727				1569		
j39a (6)	26,17	24,7	29,85	31,7	24,98	30,6	26,45	31,4	
occupation position % (5)									
j17=1	58,42		66,68						
j17=2	15,27		11,77						
j17=3	0,5		7,68						
j17=4	15,27		0,36						
j17=5	1,45		1,92						
j17=6					99,83		95,44		
j17=7	3,53		9,74						
j17=8					0,17		4,56		
j17=9	5,56		1,85						
sector of activity % (5)									
rama3	0,13		0,20		0,21		0,11		
rama5	0,01		0,07		0,01		0,15		
rama6	0,27		0,19		0,41		0,27		
rama9	0,48		0,24		0,34		0,20		
other sector	0,11		0,29		0,03		0,26		

table continues in next page

Table 6 - continuation

Descriptive statistics of main characteristics of samples 4 definitions of informal sector by gender

Variables	size of firm =<10							
	Formal				Informal			
	Female		Male		Female		Male	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
individual characteristics								
observations	1291		1705		2284		2948	
% Informal					64%		63%	
genero	0,00	0,0	1,00	0,0	0,00	0,0	1,00	0,0
e02	34,51	10,0	35,73	11,1	36,99	12,7	38,98	14,1
e013a	0,09	0,3	0,11	0,3	0,15	0,4	0,14	0,3
marital status %								
free union	14,72		25,34		21,76		32,53	
married	31,68		44,28		26,31		36,06	
widows	3,64		0,65		5,87		1,36	
separated	14,48		3,99		16,86		5,66	
single	35,48		25,75		29,20		24,39	
monthly non-labor income								
j46a	0,02	0,1	0,02	0,1	0,01	0,1	0,03	0,2
ja46b	10778	100564	8301	74851	3913	45254	11812	91628
j47a	0,06	0,2	0,02	0,1	0,05	0,2	0,00	0,1
ja47b	6674	42284	934	10750	5592	41232	327	6842
j48a	0,03	0,2	0,04	0,2	0,02	0,1	0,02	0,1
ja48ba	3597	38349	5666	45880	1340	15925	5424	103596
j49a	0,05	0,2	0,03	0,2	0,09	0,3	0,04	0,2
ja49ba	3402	22691	2195	34751	4052	46606	1712	21452
j50a	0,06	0,2	0,08	0,3	0,05	0,2	0,05	0,2
ja50ba	6549	41737	9274	58264	5534	70574	6301	57677
j51a	0,01	0,1	0,02	0,1	0,01	0,1	0,02	0,1
ja51ba	7259	129857	7905	105035	9527	240348	19857	463738
j56a	0,02	0,1	0,04	0,2	0,03	0,2	0,03	0,2
ja56ba	640	8448	863	7155	477	5672	1542	16378
household characteristics								
perhoga	4,50	2,0	4,58	2,0	4,71	2,2	4,79	2,3
hacina	1,04	0,6	0,97	0,6	0,91	0,6	0,88	0,7
observations	794		1178		1470		2077	
ninme	0,84	0,9	1,02	1,0	0,89	1,1	0,97	1,1
ni5	0,28	0,5	0,43	0,6	0,29	0,6	0,38	0,7
estrato de energia %								
0	2,71		3,23		4,34		4,06	
1-3	77,45		80,12		80,31		85,62	
4-6	18,36		15,43		13,37		8,59	
9	1,47		1,23		1,97		1,74	

table continues in next page

Table 6 - continuation

Variables	size of firm =<10							
	Formal				Informal			
	Female		Male		Female		Male	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
* housing characteristics								
b02	0,92	0,3	0,92	0,3	0,88	0,3	0,85	0,4
b0603	0,22	0,4	0,19	0,4	0,16	0,4	0,13	0,3
b0605	0,10	0,3	0,10	0,3	0,07	0,3	0,05	0,2
c03	1,00	0,0	1,00	0,0	1,00	0,1	0,99	0,1
c04	0,96	0,2	0,95	0,2	0,94	0,2	0,93	0,3
c07	0,87	0,3	0,85	0,4	0,82	0,4	0,80	0,4
d01	0,61	0,5	0,59	0,5	0,58	0,5	0,56	0,5
c11	0,95	0,2	0,95	0,2	0,94	0,2	0,94	0,2
c23	0,95	0,2	0,94	0,2	0,92	0,3	0,92	0,3
c13	0,96	0,2	0,94	0,2	0,92	0,3	0,91	0,3
c17	0,97	0,2	0,98	0,2	0,95	0,2	0,94	0,2
c22	0,96	0,2	0,94	0,2	0,93	0,3	0,92	0,3
c29	0,77	0,4	0,70	0,5	0,58	0,5	0,54	0,5
k2001	0,90	0,3	0,85	0,4	0,77	0,4	0,74	0,4
k2005	0,92	0,3	0,90	0,3	0,80	0,4	0,79	0,4
k2009	0,21	0,4	0,20	0,4	0,15	0,4	0,15	0,4
k2016	0,40	0,5	0,34	0,5	0,24	0,4	0,22	0,4
k2020	0,09	0,3	0,10	0,3	0,06	0,2	0,04	0,2
* neighborhood characteristics								
u07	0,82	0,4	0,77	0,4	0,77	0,4	0,78	0,4
u0601	0,93	0,3	0,91	0,3	0,89	0,3	0,90	0,3
u04	0,29	0,5	0,29	0,5	0,29	0,5	0,29	0,5
u09	0,52	0,5	0,52	0,5	0,50	0,5	0,47	0,5
u10	0,31	0,5	0,32	0,5	0,34	0,5	0,34	0,5
u1101	0,76	0,4	0,75	0,4	0,74	0,4	0,76	0,4
u1102	0,07	0,3	0,07	0,3	0,06	0,2	0,07	0,3
u1103	0,03	0,2	0,04	0,2	0,03	0,2	0,04	0,2
u1104	0,54	0,5	0,50	0,5	0,50	0,5	0,50	0,5
u1106	0,28	0,4	0,30	0,5	0,31	0,5	0,35	0,5
u1107	0,62	0,5	0,57	0,5	0,56	0,5	0,56	0,5
u1110	0,04	0,2	0,04	0,2	0,05	0,2	0,05	0,2
u1111	0,43	0,5	0,41	0,5	0,39	0,5	0,40	0,5
u1112	0,05	0,2	0,06	0,2	0,07	0,2	0,06	0,2
u1116	0,54	0,5	0,50	0,5	0,47	0,5	0,45	0,5
u1201	0,56	0,5	0,54	0,5	0,50	0,5	0,50	0,5
u13	0,86	0,3	0,83	0,4	0,82	0,4	0,81	0,4
u17	0,56	0,5	0,56	0,5	0,55	0,5	0,55	0,5
u26	0,06	0,2	0,06	0,2	0,06	0,2	0,07	0,3
u30	0,14	0,3	0,15	0,4	0,16	0,4	0,18	0,4

table continues in next page

Table 6 - continuation

size of firm =<10								
Variables	Formal				Informal			
	Female		Male		Female		Male	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
* family business in household								
o01_4	0,08	0,3	0,08	0,3	0,29	0,5	0,21	0,4
observations	97		141		667		620	
o09	2,04	2,2	1,70	1,4	2,00	1,4	2,06	1,5
o15	0,39	0,5	0,44	0,5	0,52	0,5	0,46	0,5
o18	0,04	0,2	0,01	0,1	0,02	0,1	0,03	0,2
o20	0,26	0,4	0,18	0,4	0,27	0,4	0,33	0,5
* human capital characteristics								
educa	10,97	4,0	9,69	4,5	7,00	4,1	6,90	4,1
education missing	1079,00		1544,00		2127,00		2821,00	
h001	0,99	0,1	0,98	0,1	0,94	0,2	0,95	0,2
i001	0,42	0,5	0,32	0,5	0,13	0,3	0,09	0,3
tecnic	0,08	0,3	0,05	0,2	0,03	0,2	0,03	0,2
f001	0,92	0,3	0,87	0,3	0,55	0,5	0,50	0,5
f009	0,19	0,4	0,21	0,4	0,11	0,3	0,14	0,3
f015	0,12	0,3	0,09	0,3	0,15	0,4	0,10	0,3
* work characteristics								
observations	1291		1705		2284		2948	
cond3	1,00	0,0	1,00	0,1	0,94	0,2	0,98	0,1
j40a	0,73	0,4	0,68	0,5	0,11	0,3	0,11	0,3
j34	0,09	0,3	0,12	0,3	0,02	0,1	0,05	0,2
j35a	0,00	0,0	0,00	0,0	1,00	0,0	1,00	0,0
horas	42,86	14,3	51,72	16,8	43,07	23,0	49,45	20,4
horas1	42,83	13,2	51,69	16,2	43,71	22,4	50,62	19,5
j18c	0,94	0,2	0,90	0,3	0,24	0,4	0,23	0,4
labor contracts								
observations	1217		1528		559		678	
j18a	0,20	0,4	0	0	0,17	0,4	0	0
j20a	0,12	0,3	0	0	0,46	0,5	0	1
j21a	0,36	0,5	0	0	0,14	0,4	0	0
j23_25	0,62	0,5	1	0	0,42	0,5	0	0
j28	0,79	0,4	1	0	0,47	0,5	0	0
observations	248,00		297		94,00		104	
j18b	0,56	0,5	1	0	0,56	0,5	1	1
wages and earnings								
observations	1221		1558		934		870	
salmes	441716	602819	539737	662000	185234	287254	261908	303869
observations	1221		1558		934		868	
j29h	2684,13	3518,3	2805	3828	1093,21	1562,6	1405	2010
observations	69		141		1216		2028	
j33m	291712	397725	738230	1780179	150168	309930	302580	515308
observations	69,00		141		1211,00		2025	
j33mh	2206,48	4111,1	5311,94	20152,4	1246,78	3993,2	1725,67	3719,4

table continues in next page

Table 6 - continuation

Variables	size of firm =<10							
	Formal				Informal			
	Female		Male		Female		Male	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
working conditions								
j36_1	0,15	0,4	0,18	0,4	0,16	0,4	0,20	0,4
j36_3	0,07	0,2	0,09	0,3	0,03	0,2	0,06	0,2
j36_6	0,03	0,2	0,01	0,1	0,01	0,1	0,01	0,1
j36_7	0,01	0,1	0,01	0,1	0,01	0,1	0,02	0,2
j36_8	0,02	0,1	0,05	0,2	0,02	0,1	0,04	0,2
j36_9	0,05	0,2	0,04	0,2	0,03	0,2	0,03	0,2
j36_10	0,58	0,5	0,46	0,5	0,66	0,5	0,48	0,5
work place (5)								
j37_1	0,90	0,3	0,70	0,5	0,28	0,4	0,22	0,4
j37_2	0,00	0,1	0,02	0,1	0,07	0,3	0,13	0,3
j37_3	0,02	0,1	0,00	0,0	0,35	0,5	0,12	0,3
j37_4	0,01	0,1	0,01	0,1	0,19	0,4	0,06	0,2
j37_5	0,03	0,2	0,07	0,3	0,05	0,2	0,12	0,3
j37_6	0,01	0,1	0,02	0,1	0,02	0,1	0,03	0,2
j37_7	0,00	0,0	0,00	0,0	0,01	0,1	0,01	0,1
j37_8	0,01	0,1	0,01	0,1	0,01	0,1	0,01	0,1
j37_9	0,00	0,1	0,08	0,3	0,00	0,1	0,11	0,3
j37_11	0,00	0,1	0,05	0,2	0,00	0,1	0,09	0,3
j37_12	0,00	0,0	0,00	0,1	0,00	0,1	0,04	0,2
j37_13	0,01	0,1	0,03	0,2	0,00	0,1	0,07	0,2
j43a	0,07	0,3	0,21	0,4	0,05	0,2	0,21	0,4
j44	0,10	0,3	0,12	0,3	0,08	0,3	0,10	0,3
observations	1264		1702		1480		2594	
j39a	28,14	24,9	30,71	30,3	23,99	27,0	27,23	32,4
occupation position %								
j17=1	65,84		70,21		24,43		23	
j17=2	28,43		19,41		0,04			
j17=3	0,23		1,99		0,39		6,17	
j17=4	0,08				16,07		0,34	
j17=5	0,39		0,88		1,31		1,32	
j17=6	4,49		5,75		48,38		56,28	
j17=7	0,46		1,41		3,46		8,48	
j17=8			0,23		0,09		2,71	
j17=9	0,08		0,12		5,82		1,7	
sector of activity %								
rama3	0,14		0,22		0,16		0,13	
rama5	0,01		0,07		0,01		0,12	
rama6	0,17		0,12		0,40		0,29	
rama9	0,53		0,30		0,39		0,19	
other sector	0,14		0,29		0,05		0,27	

table continues in next page

Table 6 - continuation

no (social security in health or in pensions or labor contracts)								
Variables	Formal				Informal			
	Female		Male		Female		Male	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
individual characteristics								
observations	2708		3379		867		1274	
% Informal					24%		27%	
genero	0,00	0,0	1,00	0,0	0,00	0,0	1,00	0,0
e02	35,77	11,4	37,34	12,9	37,12	13,2	38,99	13,8
e013a	0,12	0,3	0,12	0,3	0,17	0,4	0,14	0,4
marital status %								
free union	18,06		27,85		22,84		35,32	
married	31,20		42,56		19,03		29,83	
widows	4,51		0,95		6,81		1,49	
separated	15,21		3,94		18,45		8,01	
single	31,02		24,71		32,87		25,35	
monthly non-labor income								
j46a	0,02	0,1	0,03	0,2	0,00	0,0	0,00	0,0
ja46b	8376	80833	14177	99671	196	5774	840	21345
j47a	0,06	0,2	0,01	0,1	0,04	0,2	0,00	0,1
ja47b	6310	43037	605	8889	4960	36813	402	7325
j48a	0,03	0,2	0,03	0,2	0,01	0,1	0,01	0,1
ja48ba	2657	29798	7030	101324	586	9238	1487	19924
j49a	0,06	0,2	0,03	0,2	0,11	0,3	0,04	0,2
ja49ba	3401	42265	2073	30924	5120	30124	1400	12004
j50a	0,06	0,2	0,07	0,3	0,05	0,2	0,05	0,2
ja50ba	6591	69688	9312	66994	3743	23231	2293	17528
j51a	0,01	0,1	0,02	0,1	0,01	0,1	0,01	0,1
ja51ba	11018	237603	16465	418825	1495	29549	12856	217374
j56a	0,02	0,1	0,04	0,2	0,03	0,2	0,03	0,2
ja56ba	546	7481	1262	13147	504	4026	1376	15206
household characteristics								
perhoga	4,60	2,1	4,66	2,1	4,75	2,3	4,86	2,5
hacina	0,99	0,6	0,93	0,6	0,87	0,6	0,85	0,7
observations	1741		2397		523		858	
ninme (1)	0,88	1,0	1,01	1,1	0,84	1,1	0,94	1,1
ni5	0,30	0,6	0,41	0,6	0,23	0,5	0,36	0,6
estrato de energia %								
0	2,81		3,23		6,71		5,13	
1-3	78,98		82,21		80,23		87,29	
4-6	16,59		13,05		10,75		5,92	
9	1,63		1,51		2,31		1,66	

table continues in next page

Table 6 - continuation

no (social security in health or in pensions or labor contracts)

Variables	Formal				Informal			
	Female		Male		Female		Male	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
housing characteristics								
b02	0,90	0,3	0,90	0,3	0,85	0,4	0,84	0,4
b0603	0,20	0,4	0,18	0,4	0,13	0,3	0,09	0,3
b0605	0,09	0,3	0,07	0,3	0,06	0,2	0,04	0,2
c03	1,00	0,0	1,00	0,1	1,00	0,1	0,99	0,1
c04 (2)	0,96	0,2	0,95	0,2	0,91	0,3	0,90	0,3
c07	0,85	0,4	0,84	0,4	0,79	0,4	0,76	0,4
d01	0,59	0,5	0,58	0,5	0,58	0,5	0,57	0,5
c11	0,94	0,2	0,94	0,2	0,96	0,2	0,94	0,2
c23 (2)	0,95	0,2	0,94	0,2	0,88	0,3	0,89	0,3
c13 (2)	0,94	0,2	0,94	0,2	0,91	0,3	0,87	0,3
c17	0,97	0,2	0,97	0,2	0,93	0,2	0,92	0,3
c22	0,95	0,2	0,94	0,2	0,91	0,3	0,90	0,3
c29	0,69	0,5	0,65	0,5	0,51	0,5	0,47	0,5
k2001	0,84	0,4	0,81	0,4	0,74	0,4	0,69	0,5
k2005	0,88	0,3	0,87	0,3	0,75	0,4	0,72	0,4
k2009	0,19	0,4	0,19	0,4	0,12	0,3	0,11	0,3
k2016	0,33	0,5	0,30	0,5	0,18	0,4	0,15	0,4
k2020	0,08	0,3	0,07	0,3	0,04	0,2	0,03	0,2
neighborhood characteristics								
u07	0,80	0,4	0,79	0,4	0,76	0,4	0,74	0,4
u0601	0,91	0,3	0,91	0,3	0,89	0,3	0,89	0,3
u04	0,29	0,5	0,29	0,5	0,30	0,5	0,29	0,5
u09	0,51	0,5	0,50	0,5	0,48	0,5	0,46	0,5
u10	0,32	0,5	0,34	0,5	0,34	0,5	0,32	0,5
u1101	0,74	0,4	0,75	0,4	0,76	0,4	0,77	0,4
u1102	0,06	0,2	0,07	0,3	0,05	0,2	0,06	0,2
u1103	0,03	0,2	0,04	0,2	0,03	0,2	0,04	0,2
u1104	0,52	0,5	0,51	0,5	0,49	0,5	0,49	0,5
u1106	0,29	0,5	0,31	0,5	0,33	0,5	0,37	0,5
u1107	0,59	0,5	0,57	0,5	0,54	0,5	0,54	0,5
u1110	0,04	0,2	0,05	0,2	0,05	0,2	0,05	0,2
u1111	0,41	0,5	0,42	0,5	0,35	0,5	0,36	0,5
u1112	0,06	0,2	0,06	0,2	0,06	0,2	0,06	0,2
u1116	0,52	0,5	0,49	0,5	0,43	0,5	0,42	0,5
u1201	0,53	0,5	0,52	0,5	0,49	0,5	0,50	0,5
u13	0,84	0,4	0,83	0,4	0,83	0,4	0,80	0,4
u17	0,55	0,5	0,55	0,5	0,57	0,5	0,55	0,5
u26	0,06	0,2	0,07	0,2	0,06	0,2	0,06	0,2
u30	0,15	0,4	0,16	0,4	0,15	0,4	0,18	0,4

table continues in next page

Table 6 - continuation

no (social security in health or in pensions or labor contracts)

Variables	Formal				Informal			
	Female		Male		Female		Male	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
family business in household								
o01_4	0,18	0,4	0,14	0,3	0,33	0,5	0,23	0,4
observations	478		467		286			
o09 (3)	2,02	1,6	1,96	1,5	1,99	1,5	2,05	1,4
o15	0,50	0,5	0,48	0,5	0,52	0,5	0,43	0,5
o18	0,03	0,2	0,04	0,2	0,00	0,1	0,01	0,1
o20	0,27	0,4	0,29	0,5	0,27	0,4	0,32	0,5
human capital characteristics								
educa (4)	9,11	4,5	8,55	4,5	6,07	3,8	6,20	3,9
missing educ	2395,00		3131,00		811,00		1234,00	
h001	0,97	0,2	0,97	0,2	0,91	0,3	0,93	0,3
i001	0,28	0,5	0,22	0,4	0,09	0,3	0,06	0,2
tecnic	0,06	0,2	0,04	0,2	0,02	0,1	0,02	0,2
f001	0,90	0,3	0,87	0,3	0,00	0,0	0,00	0,0
f009	0,15	0,4	0,19	0,4	0,09	0,3	0,12	0,3
f015	0,14	0,3	0,11	0,3	0,15	0,4	0,08	0,3
work characteristics (5)								
observations	2708		3379		867		1274	
cond3	0,97	0,2	0,99	0,1	0,93	0,3	0,98	0,1
j40a	0,44	0,5	0,44	0,5	0,00	0,0	0,00	0,0
j34	0,06	0,2	0,09	0,3	0,01	0,1	0,04	0,2
j35a	0,53	0,5	0,52	0,5	0,97	0,2	0,94	0,2
horas	42,66	18,4	50,77	18,7	44,04	25,1	48,99	20,3
horas1	42,92	17,6	51,37	18,0	44,84	24,7	50,05	19,3
j18c	0,66	0,5	0,65	0,5	0,00	0,0	0,00	0,0
labor contracts								
observations	1776		2206		0		0	
j18a (7)	0,19	0,4	0	0				
j20a	0,23	0,4	0	0				
j21a	0,29	0,5	0	0				
j23_25	0,56	0,5	0	0				
j28	0,69	0,5	1	0				
observations	342,00		401					
j18b (8)	0,56	0,5	1	0				
wages and earnings								
observations	1941		2292		214		136	
salmes (9)	356191	528289	457432	588295	98024	63369	149518	67292
observations	1941		2290		214		136	
j29h (10)	2144,97	3051,4	2394	3438	630,86	1002,0	793	461
observations	691		1059		594		1110	
j33m (11)	193673	402418	414960	835818	116000	159614	250702	477830
observations	687,00		1058		593,00		1110	
j33mh	1663,61	5304,8	2258,92	4447,9	875,55	1300,5	1672,86	7689,5

table continues in next page

Table 6 - continuation

no (social security in health or in pensions or labor contracts)								
Variables	Formal				Informal			
	Female		Male		Female		Male	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
working conditions (5)								
j36_1	0,15	0,4	0,19	0,4	0,18	0,4	0,21	0,4
j36_3	0,05	0,2	0,08	0,3	0,03	0,2	0,05	0,2
j36_6	0,02	0,1	0,01	0,1	0,01	0,1	0,00	0,1
j36_7	0,01	0,1	0,01	0,1	0,02	0,1	0,03	0,2
j36_8	0,02	0,1	0,04	0,2	0,02	0,1	0,05	0,2
j36_9	0,04	0,2	0,04	0,2	0,03	0,2	0,03	0,2
j36_10	0,63	0,5	0,47	0,5	0,63	0,5	0,46	0,5
work place (5)								
j37_1	0,63	0,5	0,51	0,5	0,10	0,3	0,11	0,3
j37_2	0,04	0,2	0,07	0,3	0,07	0,3	0,12	0,3
j37_3	0,17	0,4	0,05	0,2	0,43	0,5	0,14	0,4
j37_4	0,09	0,3	0,03	0,2	0,26	0,4	0,08	0,3
j37_5	0,03	0,2	0,09	0,3	0,06	0,2	0,14	0,3
j37_6	0,01	0,1	0,02	0,1	0,04	0,2	0,04	0,2
j37_7	0,01	0,1	0,00	0,0	0,01	0,1	0,01	0,1
j37_8	0,01	0,1	0,01	0,1	0,01	0,1	0,01	0,1
j37_9	0,00	0,1	0,10	0,3	0,00	0,0	0,09	0,3
j37_11	0,00	0,0	0,06	0,2	0,01	0,1	0,11	0,3
j37_12	0,00	0,0	0,02	0,1	0,00	0,1	0,05	0,2
j37_13	0,00	0,1	0,04	0,2	0,01	0,1	0,09	0,3
j43a	0,06	0,2	0,21	0,4	0,05	0,2	0,21	0,4
j44	0,10	0,3	0,12	0,3	0,07	0,3	0,10	0,3
observations	2248		3206		496		1090	
j39a (6)	25,76	24,2	28,89	31,8	26,53	33,4	27,77	31,2
occupation position % (5)								
j17=1	51,99		55,49					
j17=2	13,59		9,8					
j17=3	0,3		2,49		0,46		10,36	
j17=4	5,83		0,18		24,22		0,31	
j17=5	1,03		1,27		0,81		0,86	
j17=6	22,42		23,73		64,13		74,96	
j17=7	2,03		5,06		3,46		8,08	
j17=8	0,04		1,27		0,12		3,22	
j17=9	2,77		0,71		6,81		2,2	
sector of activity % (5)								
rama3	0,16		0,19		0,15		0,12	
rama5	0,01		0,08		0,01		0,15	
rama6	0,30		0,21		0,35		0,27	
rama9	0,43		0,24		0,48		0,19	
other sector	0,10		0,28		0,03		0,27	

Notes:

- (1) only those individuals that are heads of household or spouses
 (2) percentage relative to those who have the service
 (3) including only those households that do have family business
 (4) mean calculated only for those with variable not missing
 (5) only for workers
 (6) mean only for those who report commuting time to work
 (7) of those who have contracts
 (8) of those who have fixed term contracts
 (9) those who report wages
 (10) those who report wages and hours
 (11) those who report earnings
 Monetary figures are in colombian pesos of 1997
 (12) those are patrons or independent professionals

NAMES OF VARIABLES ARE IN TABLE 3

Table 8
Relations between the four definitions of informal sector

		self-employed (excl.prof.)- domestic serv.- unpaid family worker	self-employed (excludes professional)	size of firm =<10	no labor contracts/social security in health or pensions
Definitions of informal sector		Mean	Mean	Mean	Mean
self-employed-domestic serv.- family worker without pay =1	0	--	0	0,39	0,06
	1	--	0,84	0,95	0,52
self-employed (excludes professional)=1	0	0,11	--	0,46	0,11
	1	1	--	0,95	0,52
(size of firm =<10)=1	0	0,05	0,05	--	0,03
	1	0,65	0,54	--	0,39
without labor contracts or social security in health or pensions=1	0	0,28	0,24	0,52	--
	1	0,86	0,72	0,95	--
Total		0,43	0,37	0,64	0,26

Source: ENCV-1997

Table 10

Probit models of informal sector - definition 2
 Dependent variable: probability of being an informal worker

Variable	Females						Males					
	1			2			3			4		
	Coeff.	t-statistic	dF/dx	Coeff.	t-statistic	dF/dx	Coeff.	t-statistic	dF/dx	Coeff.	t-statistic	dF/dx
Age	0,007	(3,12)	*	0,003	0,006105	(2,29)	*	0,002	0,01462	(8,97)	*	0,006
Years of schooling	-0,13112	(20,00)	*	-0,052	-0,12337	(15,93)	*	-0,049	-0,06257	(12,22)	*	-0,024
Dummy: Father's education is some secondary or more				-0,22917	(3,12)	-0,091				0,017591	(0,28)	0,007
Lives in house or apartment	0,41961	(3,04)	*	0,162	0,287583	(1,74)	*	0,113	-0,15564	(1,34)	-0,061	-0,15226
Non-labor income/100.000	-25,8419	(1,04)		-10,305	-18,6467	(0,77)		-7,432	-12,3287	(0,81)	-4,801	-29,2898
Ratio of rooms/persons in household	0,04659	(1,17)		0,019	0,023984	(0,53)		0,010	0,01377	(0,42)	0,005	0,016766
House has telephone	-0,11113	(1,99)	*	-0,044	-0,05711	(0,88)		-0,023	-0,10729	(2,37)	*	-0,042
House has color t.v.	-0,13351	(1,88)	*	-0,053	-0,07184	(0,85)		-0,029	-0,07814	(1,41)	-0,031	-0,07604
Running water in neighborhood	0,0024	(0,04)		0,001	-0,01692	(0,24)		-0,007	-0,10411	(2,18)	*	-0,041
Unemployment rate 1997 municipality	2,5753	(1,97)	*	1,027	2,5781	(1,63)		1,028	1,7584	(1,60)	0,685	1,6943
Intercept	0,2018	(0,85)			0,3022	(1,06)			-0,17053	(0,89)		-0,14102
Observed probability	0,49002				0,486882				0,41879			0,416982
Predicted probability (at means)	0,48769				0,483026				0,41307			0,410395
Number of observations	3206				2325				4365			3168
Log. Likelihood	-1860,08				-1360,75				-2762,89			-1982,4
Pseudo- R2	0,1627				0,1552				0,069			0,0788

* = significant at the 10 % level

Table continues in next page

Table 10 - continuation

Probit models of informal sector - definition 4
Dependent variable: probability of being an informal worker

Variable	Females							Males								
	Coeff.	1 t-statistic	dF/dx	Coeff.	2 t-statistic	dF/dx	Coeff.	3 t-statistic	dF/dx	Coeff.	4 t-statistic	dF/dx				
Age	-0,00651	(2,71)	*	-0,002	-0,00906	(3,09)	*	-0,003	0,00237	(1,37)	0,001	0,00333	(1,56)	0,001		
Years of schooling	-0,09569	(13,80)	*	-0,029	-0,09046	(10,89)	*	-0,027	-0,06062	(10,77)	*	-0,020	-0,06084	(9,06)	*	-0,019
Dummy: Father's education is some secondary or more					-0,17771	(2,13)	*	-0,051				-0,04305	(0,63)		-0,014	
Lives in house or apartment	0,26411	(1,85)	*	0,073	0,189525	(1,08)		0,053	0,14695	(1,22)	0,046	0,219278	(1,50)		0,064	
Non-labor income/100.000	-17,5345	(0,57)		-5,328	-13,5074	(0,44)		-4,041	-229,447	(4,96)	*	-74,622	-248,63	(4,53)	*	-78,860
Ratio of rooms/persons in household	0,03368	(0,78)		0,010	0,022583	(0,45)		0,007	0,03696	(0,99)	0,012	0,025337	(0,57)		0,008	
House has telephone	-0,10114	(1,75)	*	-0,031	-0,13048	(1,92)	*	-0,040	-0,15388	(3,28)	*	-0,050	-0,12688	(2,30)	*	-0,041
House has color t.v.	-0,2208	(3,21)	*	-0,071	-0,1555	(1,88)	*	-0,048	-0,28457	(5,11)	*	-0,097	-0,20845	(3,12)	*	-0,069
Running water in neighborhood	-0,02833	(0,46)		-0,009	-0,01921	(0,27)		-0,006	-0,05632	(1,13)	-0,018	-0,08426	(1,45)		-0,027	
Unemployment rate 1997 municipality	0,34401	(0,25)		0,105	0,296463	(0,18)		0,089	0,4565	(0,38)	0,148	-0,37843	(0,26)		-0,120	
Intercept	0,2439	(0,97)			0,3813	(1,25)			-0,06075	(0,29)		-0,10278	(0,41)			
Observed probability	0,25296				0,247742				0,2827			0,272412				
Predicted probability (at means)	0,2303				0,224062				0,26134			0,249113				
Number of observations	3206				2325				4365			3168				
Log. Likelihood	-1651,88				-1185,46				-2416,26			-1724,53				
Pseudo- R2	0,089				0,0892				0,0704			0,0705				

* = significant at the 10 % level

Table 11

Probit models of informal sector with fertility- definition 2
 Dependent variable: probability of being an informal worker

Variable	Females											
	1			2			3			4		
	Coeff.	t-statistic	dF/dx	Coeff.	t-statistic	dF/dx	Coeff.	t-statistic	dF/dx	Coeff.	t-statistic	dF/dx
Age	0,0159	(4,79) *	0,006	0,0151	(4,59) *	0,006	0,0269	(1,43)	0,011	0,0271	(1,42)	0,011
Years of schooling	-0,1166	(14,43) *	-0,046	-0,1161	(14,40) *	-0,046	-0,1132	(12,49) *	-0,045	-0,1121	(12,24) *	-0,045
Lives in house or apartment	0,3823	(2,55) *	0,150	0,3898	(2,62) *	0,153	0,3299	(1,79) *	0,130	0,3332	(1,88) *	0,132
Non-labor income/100.000	-34,4111	(1,24)	-13,713	-33,157	(1,22)	-13,213	-36,547	(1,27)	-14,563	-34,438	(1,12)	-13,723
Ratio of rooms/persons in household	0,0063	(0,13)	0,002	0,0058	(0,13)	0,002	-0,0139	(0,30)	-0,006	-0,0207	(0,42)	-0,008
House has telephone	-0,14461	(2,15) *	-0,058	-0,1463	(2,18) *	-0,058	-0,1042	(1,19)	-0,041	-0,1027	(1,18)	-0,041
House has color t.v.	-0,13051	(1,56)	-0,052	-0,1291	(1,54)	-0,051	-0,131	(1,57)	-0,052	-0,1298	(1,56)	-0,052
Running water in neighborhood	0,0063	(0,09)	0,003	0,0117	(0,16)	0,005	0,0001	(0,00)	0,000	0,0075	(0,10)	0,003
Unemployment rate 1997 municipality	4,9247	(3,03) *	1,963	4,8258	(2,96) *	1,923	5,0631	(3,10) *	2,017	4,9620	(3,06) *	1,977
Number of children younger than 12 (<i>I</i>)	0,0807	(2,34) *	0,032	0,0963	(2,84) *	0,038	0,3025	(0,74)	0,121	0,3413	(0,83)	0,136
Number of children younger than 5 that stay with one parent at home or work during weekdays	0,4999	(3,16) *	0,199				0,5503	(3,53) *	0,219			
Intercept	-0,56925	(1,88)		-0,5365	(1,78)		-1,1958	(1,06)		-1,2195	(1,07)	
Observed probability	0,5167			0,5167			0,5173			0,5173		
Predicted probability (at means)	0,5187			0,5187			0,5194			0,5194		
Number of observations	2.123			2.123			2.111			2.111		
Log. Likelihood	-1231,43			-1236,7			-1226,2			-1232,7		
Pseudo- R2	0,1625			0,1589			0,1613			0,1568		

(*I*) In columns 3 and 4 this is IV from models in Table 13.

* = significant at the 10 % level

Table continues in next page

Table 11 - continuation

Probit models of informal sector with fertility- definition 2
 Dependent variable: probability of being an informal worker

Variable	Males											
	1			2			3			4		
	Coeff.	t-statistic	dF/dx	Coeff.	t-statistic	dF/dx	Coeff.	t-statistic	dF/dx	Coeff.	t-statistic	dF/dx
Age	0,0163	(7,54) *	0,006	0,0165	(7,65) *	0,006	0,0597	(4,38) *	0,023	0,0597	(4,51) *	0,023
Years of schooling	-0,0637	(10,98) *	-0,025	-0,0637	(10,98) *	-0,025	-0,0560	(9,08) *	-0,022	-0,0560	(8,70) *	-0,022
Lives in house or apartment	-0,1486	(1,20)	-0,059	-0,1467	(1,18)	-0,058	-0,3911	(2,63) *	-0,155	-0,3911	(2,68) *	-0,155
Non-labor income/100.000	-4,7588	(0,32)	-1,869	-5,0006	(0,34)	-1,965	-2,60023	(0,18)	-1,021	-2,6068	(0,17)	-1,024
Ratio of rooms/persons in household	0,0226	(0,63)	0,009	0,0227	(0,63)	0,009	-0,0041	(0,12)	-0,002	-0,0041	(0,11)	-0,002
House has telephone	-0,1136	(2,14) *	-0,045	-0,1131	(2,13) *	-0,044	0,15154	(1,58)	0,059	0,15158	(1,60)	0,059
House has color t.v.	-0,0683	(1,06)	-0,027	-0,0664	(1,04)	-0,026	-0,06048	(0,94)	-0,024	-0,0604	(0,95)	-0,024
Running water in neighborhood	-0,0913	(1,63)	-0,036	-0,0906	(1,62)	-0,036	-0,0805	(1,44)	-0,032	-0,0805	(1,43)	-0,032
Unemployment rate 1997 municipality	2,3823	(1,84) *	0,936	2,3830	(1,84) *	0,936	3,0898	(2,33) *	1,214	3,0901	(2,33) *	1,214
Number of children younger than 12 (<i>I</i>)	0,0521	(2,14) *	0,020	0,0492	(2,06) *	0,019	1,3293	(3,32) *	0,522	1,3294	(3,41) *	0,522
Number of children younger than 5 that stay with one parent at home or work during weekdays	-0,0461	(0,55)	-0,018				-0,0011	(0,01)	0,000			
Intercept	-0,42	(1,82)		-0,4306	(1,88)		-3,57558	(3,56)		-3,5763	(3,63) *	
Observed probability	0,4356			0,4356			0,4352			0,4352		
Predicted probability (at means)	0,4304			0,4304			0,4299			0,4299		
Number of observations	3.159			3.159			3.150			3.150		
Log. Likelihood	-2009,2			-2009,3			-1998,76			-1998,8		
Pseudo- R ²	0,0713			0,0712			0,0733			0,0733		

(*I*) In columns 3 and 4 this is IV from models in Table 13.

* = significant at the 10 % level

Table continues in next page

Table 11 - continuation

Probit models of informal sector with fertility- definition 4
Dependent variable: probability of being an informal worker

Variable	Females											
	1			2			3			4		
	Coeff.	t-statistic	dF/dx	Coeff.	t-statistic	dF/dx	Coeff.	t-statistic	dF/dx	Coeff.	t-statistic	dF/dx
Age	-0,0022	(0,61)	-0,001	-0,0023	(0,63)	-0,001	-0,0121	(0,67)	-0,004	-0,0121	(0,68)	-0,004
Years of schooling	-0,0916	(10,32) *	-0,027	-0,0915	(10,29) *	-0,027	-0,0940	(9,51) *	-0,027	-0,0939	(9,39) *	-0,027
Lives in house or apartment	0,2243	(1,44)	0,060	0,2240	(1,44)	0,060	0,2777	(1,50)	0,073	0,2771	(1,50)	0,073
Non-labor income/100.000	0,793405	(0,03)	0,232	0,815	(0,03)	0,238	2,55241	(0,09)	0,745	2,6135	(0,08)	0,763
Ratio of rooms/persons in household	0,0217	(0,42)	0,006	0,0217	(0,42)	0,006	0,0218	(0,43)	0,006	0,0212	(0,41)	0,006
House has telephone	-0,21816	(3,08) *	-0,065	-0,2185	(3,09) *	-0,065	-0,2375	(2,65) *	-0,070	-0,2373	(2,68) *	-0,070
House has color t.v.	-0,18865	(2,32) *	-0,058	-0,188	(2,31) *	-0,057	-0,1954	(2,40) *	-0,060	-0,1949	(2,42) *	-0,060
Running water in neighborhood	-0,0169	(0,23)	-0,005	-0,0165	(0,22)	-0,005	-0,0140	(0,19)	-0,004	-0,0135	(0,18)	-0,004
Unemployment rate 1997 municipality	1,5689	(0,89)	0,458	1,5715	(0,89)	0,459	1,4565	(0,82)	0,425	1,4596	(0,82)	0,426
Number of children younger than 12 (<i>I</i>)	-0,0154	(0,43)	-0,004	-0,0129	(0,37)	-0,004	-0,2248	(0,58)	-0,066	-0,2203	(0,58)	-0,064
Number of children younger than 5 that stay with one parent at home or work during weekdays	0,0691	(0,40)	0,020				0,0579	(0,34)	0,017			
Intercept	-0,1102	(0,34)		-0,1078	(0,33)		0,4667	(0,42)		0,4621	(0,42)	
Observed probability	0,2407			0,2407			0,2406			0,2406		
Predicted probability (at means)	0,2146			0,2147			0,2147			0,2148		
Number of observations	2123			2123			2111			2,111		
Log. Likelihood	-1.056			-1.056			-1.050			-1050,6		
Pseudo- R2	0,0989			0,0988			0,0982			0,0982		

(*I*) In columns 3 and 4 this is IV from models in Table 13.

* = significant at the 10 % level

Table continues in next page

Table 11 - continuation

Probit models of informal sector with fertility- definition 4
Dependent variable: probability of being an informal worker

Variable	Males											
	1			2			3			4		
	Coeff.	t-statistic	dF/dx	Coeff.	t-statistic	dF/dx	Coeff.	t-statistic	dF/dx	Coeff.	t-statistic	dF/dx
Age	0,0035	(1,49)	0,001	0,0034	(1,50)	0,001	0,0234	(1,70) *	0,007	0,0236	(1,72) *	0,007
Years of schooling	-0,0594	(9,14) *	-0,019	-0,0594	(9,14) *	-0,019	-0,0561	(8,18) *	-0,018	-0,0561	(7,89) *	-0,018
Lives in house or apartment	0,0903	(0,71)	0,028	0,0898	(0,71)	0,027	-0,0352	(0,24)	-0,011	-0,0348	(0,22)	-0,011
Non-labor income/100.000	-218,06	(4,65) *	-68,711	-217,94	(4,65) *	-68,674	-216,187	(4,62) *	-68,120	-216,45	(4,97) *	-68,203
Ratio of rooms/persons in household	0,0104	(0,23)	0,003	0,0104	(0,23)	0,003	0,0268	(0,64)	0,008	0,0274	(0,72)	0,009
House has telephone	-0,1375	(2,46) *	-0,044	-0,1376	(2,46) *	-0,044	-0,02007	(0,20)	-0,006	-0,0193	(0,19)	-0,006
House has color t.v.	-0,2532	(3,89) *	-0,084	-0,2534	(3,91) *	-0,084	-0,25292	(3,89) *	-0,084	-0,2523	(3,91) *	-0,084
Running water in neighborhood	-0,0683	(1,16)	-0,022	-0,0684	(1,16)	-0,022	-0,0643	(1,09)	-0,020	-0,0640	(1,09)	-0,020
Unemployment rate 1997 municipality	-0,6829	(0,47)	-0,215	-0,6831	(0,47)	-0,215	-0,2294	(0,15)	-0,072	-0,2248	(0,16)	-0,071
Number of children younger than 12 (<i>I</i>)	-0,0379	(1,46)	-0,012	-0,0374	(1,46)	-0,012	0,5724	(1,41)	0,180	0,5743	(1,42)	0,181
Number of children younger than 5 that stay with one parent at home or work during weekdays	0,0081	(0,09)	0,003				-0,0184	(0,21)	-0,006			
Intercept	0,0641	(0,25)		0,0661	(0,26)		-1,42931	(1,39)		-1,4418	(1,41)	
Observed probability	0,2691			0,2691			0,2689			0,2689		
Predicted probability (at means)	0,2461			0,2461			0,2461			0,2461		
Number of observations	3159			3159			3150			3.150		
Log. Likelihood	-1.708			-1.708			-1.703			-1703,4		
Pseudo- R2	0,0713			0,0713			0,0711			0,0711		

(*I*) In columns 3 and 4 this is IV from models in Table 13.

* = significant at the 10 % level

Table 12-A

Percentage of women married or in free union that use contraceptive methods in 1995

Departamento	PF1	PF2
1 ANTIOQUIA (SIN MEDELLIN)	76,2	62,3
2 MEDELLIN	75,6	62,2
3 ATLANTICO	67,3	56,8
4 BOGOTA	77,9	64,6
5 BOLIVAR (SIN CARTAGENA)	61,4	52
6 CARTAGENA	67,3	56,8
7 BOYACA	74,5	58,8
8 CALDAS	77,6	66,1
9 CAQUETA	67,7	51,3
10 CAUCA	70,5	50
11 CESAR	63,7	57,3
12 CORDOBA	61,4	52
13 CUNDINAMARCA	74,5	58,8
14 CHOCO	56,8	51,3
15 HUILA	67,7	51,3
16 LA GUAJIRA	63,7	57,3
17 MAGDALENA	63,7	57,3
18 META	74,5	58,8
19 NARINHO	70,5	50
20 NORTE DE ST.	74,2	58,1
21 QUINDIO	77,6	66,1
22 RISARALDA	77,6	66,1
23 SANTANDER	74,2	58,1
24 SUCRE	61,4	52
25 TOLIMA	67,7	51,3
26 VALLE (SIN CALI)	75,2	64,7
27 CALI	81,6	68,7
28 SAN ANDRES Y PROVIDENCIA	56,8	51,3
29 ARAUCA	56,8	51,3
30 CASANARE	56,8	51,3
31 PUTUMAYO	56,8	51,3
32 AMAZONAS	56,8	51,3

SOURCE: ENCUESTA NACIONAL DE DEMOGRAFIA Y SALUD 1995

NOTE: Territorios Nacionales was imputed the value of Litoral Pacifico

PF1=Percentage of women married or in free union that have present use of contraceptive methods

PF2=Percentage of women married or in free union that have present use of modern contraceptive methods

Table 12 - B

Family planning programs - Radio messages and contraceptive pill usage

REGION	PF1_86	PF2_86	PF3_86	PF4_86
ATLANTICA	55,9	38,2	29,6	51,6
ORIENTAL	67,5	27,2	24	65,5
PACIFICA	60,4	33,5	24,7	66,1
CENTRAL	54	41,2	31,7	67,3
ANTIOQUIA	54	41,2	31,7	67,3
BOGOTA	51,1	43,8	18,4	74,8
ORINOQUIA	.	.	.	.
SAN ANDRES	.	.	.	.

SOURCE: ENCUESTA DE PREVALENCIA DEMOGRAFIA Y SALUD 1986

NOTE: ANTIOQUIA WAS INPUTED CENTRAL REGION VALUE

DEFINITIONS:

PF1_86=Percentage urban women that have never heard radio family planning programs.

PF2_86=Percentage urban women that have heard more than once radio family planning programs.

PF3_86=Percentage urban women that use contraceptive pills.

PF4_86=Percentage urban women married or in free union that use contraceptive methods.

Table 12 -C

Unemployment and labor force participation rates

	1992		1997	
	TGP	TD	TGP	TD
Barranquilla	0,56743	0,10917	0,54880	0,11747
Bogota	0,62724	0,08336	0,60476	0,10079
Cali	0,61112	0,09593	0,62246	0,17283
Medellin	0,59077	0,13775	0,57980	0,14799
Bucaramanga	0,63235	0,11957	0,63482	0,11305
Manizales	0,55586	0,09386	0,55938	0,12468
Pasto	0,61790	0,13329	0,64554	0,15015
Others (I)	0,60038	0,11042	0,59937	0,13242

(I) Others: the mean of the seven largest cities was inputed.

SOURCE: Encuestas de Hogares 1992 y 1997 siete principales ciudades (DNP)

Definitions: TGP=PEA/PE TD=DES/PEA

PEA = labor force

PET = population older than 12

DES = unemployed population

Table 13

"Fertility" regression - Sample of all workers heads of household or spouses (1)
 Dependent variable: number of children younger than 12 years old sons of household head or spouse

Variable	Females				Males			
	1		2		3		4	
	Coef.	t-statistic	Coef.	t-statistic	Coef.	t-statistic	Coef.	t-statistic
Age	-0,0462	(23,860) *	-0,0463	(23,908) *	-0,0336	(21,880) *	-0,0337	(21,895) *
Years of schooling	-0,0107	(2,148) *	-0,0016	(0,225)	-0,0055	(1,265)	-0,0002	(0,028)
Lives in house or apartment	0,2663	(2,699) *	0,2651	(2,689) *	0,1988	(2,056) *	0,2013	(2,081) *
Non-labor income/100.000	-5,9	(0,380)	-4,8	(0,311)	-1,4	(0,122)	-1,2	(0,100)
House has telephone	-0,0991	(2,160) *	-0,0969	(2,112) *	-0,1619	(3,917) *	-0,1615	(3,908) *
Percentage of women in dept. using modern contraceptive methods in 1995	-0,8497	(2,438) *	-0,8075	(2,312) *	-0,8775	(2,793) *	-0,8564	(2,721) *
Percentage of women who use "madres comunitarias" for children younger than 5 in municipality	0,5293	(2,710) *	1,0012	(2,994) *	0,3153	(1,770) *	0,6015	(1,856) *
Interaction between Years of schooling and Percentage of women who use "madres comunitarias" in municipality			-0,0744	(1,738) *			-0,0453	(1,057)
Constant	3,0506	(12,802)	2,9675	(12,215)	2,8355	(13,304)	2,7865	(12,776)
Number of observations	2111		2111		3150		3150	
Adjusted r-squared	0,2389		0,2396		0,162		0,1621	
F-statistic	95,6		84,11		87,99		77,14	

(1) The number of children is given only for those individuals who are household heads or spouses of the household head

* = significant at the 10% level

Table 14

Wage/earnings equations for formal and informal sectors under definition 2
 Dependent variable: log(hourly wages) or log (hourly earnings)

	Formal				Informal			
	Female		Male		Female		Male	
OLS regressions	Coef.	t-statistic	Coef.	t-statistic	Coef.	t-statistic	Coef.	t-statistic
Age	0,0748	(3,99)	0,0769	(4,35)	0,1898	(6,69)	0,0820	(6,86)
Age squared/100	-0,0505	(2,08)	* -0,0323	(1,50)	-0,1752	(5,33)	* -0,0938	(7,15) *
Years of schooling	0,1367	(16,52)	* 0,1467	(17,53)	* 0,2543	(13,79)	* 0,0709	(8,68) *
Unemployment rate 1997 municipality	-4,0499	(2,21)	* -7,3863	(3,69)	* 2,5892	(0,70)	-0,0321	(0,02)
Intercept	4,7729	(11,45)	* 5,2929	(12,37)	* 3,3661	(4,33)	* 9,8503	(27,36) *
Adjusted R-squared	0,189		0,186		0,143		0,077	
Number of observations	1.624		2.511		1.399		1.684	
HECKMAN selection model	Coef.	z-statistic	Coef.	z-statistic	Coef.	z-statistic	Coef.	z-statistic
Age	0,0631	(4,68)	* 0,0789	(4,46)	* 0,1947	(6,81)	* 0,0837	(6,98) *
Age squared /100	-0,0587	(3,45)	* -0,0316	(1,46)	-0,1786	(5,42)	* -0,0938	(7,15) *
Years of schooling	0,2739	(29,01)	* 0,1352	(13,17)	* 0,2023	(5,86)	* 0,0595	(6,25) *
Unemployment rate 1997 municipality	-6,5567	(3,20)	* -7,0955	(3,52)	* 4,3456	(1,13)	0,4206	(0,24)
Intercept	3,1274	(8,07)	* 5,4609	(12,50)	* 2,8061	(3,32)	* 9,5677	(25,17) *
Lambda (<i>I</i>)	1,7366	(0,04)	* -0,2989	(0,15)	0,6727	(0,38)	0,2484	(0,11) *
Log. Likelihood	-4437,9		-7921,4		-5121,6		-5463,1	
Number of observations	3.206		4.365		3.206		4.365	
Number of censored observations	1.624		2.511		1.399		1.684	

(*I*) Number in brackets is standard error for lambda

* = significant at the 10 % level

List of variables used to identify selection:

Age
 Years of schooling
 Lives in house or apartment
 Non-labor income/100.000
 Ratio of rooms/persons in household
 House has telephone
 House has color t.v.
 Running water in neighborhood
 Unemployment rate 1997 municipality

Table continues in next page

Table 14 continuation

Wage/earnings equations for formal and informal sectors under definition 4
 Dependent variable: log(hourly wages) or log (hourly earnings)

	Formal						Informal					
	Female			Male			Female			Male		
OLS regressions	Coef.	t-statistic		Coef.	t-statistic		Coef.	t-statistic		Coef.	t-statistic	
Age	0,1255	(5,90)	*	0,1022	(5,44)	*	0,2096	(5,41)	*	0,1663	(7,46)	*
Age squared/100	-0,0936	(3,58)	*	-0,0415	(1,88)	*	-0,1994	(4,37)	*	-0,1781	(7,08)	*
Years of schooling	0,0727	(7,13)	*	0,0554	(5,59)	*	0,2245	(8,34)	*	0,1870	(12,03)	*
Unemployment rate 1997 municipality	0,9387	(0,40)		-2,1484	(0,92)		5,2982	(0,99)		-4,3443	(1,30)	
Intercept	4,2568	(8,21)	*	5,4583	(11,21)	*	2,8333	(2,64)	*	7,2789	(10,81)	*
Adjusted R-squared	0,076			0,115			0,115			0,152		
Number of observations	2.289			3.030			734			1.165		
HECKMAN selection model	Coef.	z-statistic		Coef.	z-statistic		Coef.	z-statistic		Coef.	z-statistic	
Age	0,1153	(6,32)	*	0,1032	(5,50)	*	0,2106	(2,84)	*	0,1604	(7,19)	*
Age squared/100	-0,0863	(3,89)	*	-0,0420	(1,91)	*	-0,1986	(2,31)	*	-0,1721	(6,84)	*
Years of schooling	0,2076	(17,20)	*	0,0395	(3,23)	*	0,2500	(1,67)	*	0,1376	(7,32)	*
Unemployment rate 1997 municipality	0,4467	(0,16)		-2,0744	(0,88)		4,9383	(0,41)		-3,9376	(1,16)	
Intercept	2,2402	(4,22)	*	5,7703	(11,40)	*	3,0864	(1,05)		6,6910	(9,68)	*
Lambda (<i>I</i>)	2,5765	(0,05)	*	-0,4539	(0,20)	*	0,3397	(2,01)		0,8524	(0,18)	*
Log. Likelihood	-6582,3			-9443,5			(2)			-4754,6		
Number of observations	3.206			4.365			3.206			4.365		
Number of censored observations	2.289			3.030			734			1.165		

(*I*) Number in brackets is standard error for lambda

* = significant at the 10 % level

(2) Maximum likelihood did not converge - results from two step estimation

List of variables used to identify selection:

Age
 Years of schooling
 Lives in house or apartment
 Non-labor income/100.000
 Ratio of rooms/persons in household
 House has telephone
 House has color t.v.
 Running water in neighborhood
 Unemployment rate 1997 municipality

Appendix 2 - Summary of legal definitions (in Spanish) taken from “Coding Sustantivo del Trabajo”

PRESTACIONES SOCIALES

“Prestación social es lo que debe el patrono al trabajador en dinero, especie, servicios u otros beneficios, por ministerio de la ley o por haberse pactado en convenciones colectivas o en pactos colectivos, o en el contrato de trabajo, o establecida en el reglamento interno de trabajo, en fallos arbitrales o en cualquier acto unilateral del patrono, para cubrir los riesgos o necesidades del trabajador que se originan durante la relación de trabajo o con motivo de la misma. Se diferencia del salario en que no es retributiva de los servicios prestados y de las indemnizaciones laborales en que no repara perjuicios causados por el patrono. (...) Entendiéndose las prestaciones sociales como el mecanismo de seguridad social ideado por el legislador nacional para cubrir los riesgos que afectan el desempleo, la salud y la vida del trabajador, resulta apenas lógico que cualquier otro régimen, legal o convencional, orientado a amparar estas contingencias, constituirá igualmente una prestación social, en la misma forma que lo son las sumas de dinero o los beneficios que se reconocen por razón del accidente de trabajo, la enfermedad profesional o común, la maternidad, los gastos de entierro, el auxilio de cesantía, las pensiones de jubilación o vejez, las pensiones de viudez, orfandad e invalidez, garantías que no obstante su distinta finalidad específica se agrupan dentro del género de las ‘prestaciones sociales’ porque están dirigidas a cubrir riesgos laborales.”

JORNADA LABORAL

Con respecto a la jornada de trabajo en el Art. 161 se hace precisión acerca de la misma:

- Art. 161.- DURACION. Subrogado. L.50/90, art.20. La duración máxima legal de la jornada ordinaria de trabajo es de ocho (8) horas al día y cuarenta y ocho a la semana, salvo las siguientes excepciones:
 - a) En las labores que sean especialmente insalubres o peligrosas, el gobierno puede ordenar la reducción de la jornada de trabajo de acuerdo con dictámenes al respecto;
 - b) La duración máxima de la jornada de trabajo del menor se sujetará a las siguientes reglas: 1. El menor entre doce y catorce años solo podrá trabajar una jornada máxima de cuatro horas diarias y veinticuatro horas a la semana, en trabajos ligeros. 2. Los mayores de catorce y menores de dieciséis años sólo podrán trabajar una jornada máxima de seis (6) horas diarias y treinta y seis (36) horas a la semana.
- Art. 162.- Excepciones en determinadas actividades. 1. Quedan excluidos de la regulación sobre jornada máxima legal de trabajo los siguientes trabajadores:
 - a) Los que desempeñan cargos de dirección, de confianza o de manejo;

- b) (Los del servicio doméstico, ya se trate de labores en los centros urbanos o en el campo);
- c) Los que ejercen actividades discontinuas o intermitente y los de simple vigilancia, cuando residen en el lugar o sitio de trabajo.

Por otra parte en el mismo artículo se menciona que el número máximo de horas extras que pueden ser trabajadas, no podrá pasar de doce (12) por semana y se debe indicar si son diurnas o nocturnas y liquidarlas consecuentemente.

CONTRATOS DE TRABAJO

En el Código Sustantivo del Trabajo se menciona lo siguiente acerca de los contratos:

- Art. 45.- **Duración.** El Contrato de trabajo puede celebrarse por tiempo determinado, por el tiempo que dure la realización de una obra o labor determinada, por un tiempo indefinido o para ejecutar un trabajo ocasional, accidental o transitorio.

Por su duración, se determina la clasificación del contrato de trabajo, accidental o transitorio de duración inferior a un mes para llevar a cabo un trabajo ocasional; por el tiempo que dure la realización de la obra; por un término fijo y de duración indefinida.

Con respecto a los contratos a término indefinido, se dice lo siguiente:

- Art. 47.- **Subrogado. D.L. 2351/65, art.5º. Duración Indefinida.** 1. El contrato de trabajo no estipulado a término fijo o cuya duración no esté determinada por la de la obra o la naturaleza de la labor contratada, o no se refiera a un trabajo ocasional o transitorio, será contrato a término indefinido. 2. El contrato a término indefinido tendrá vigencia mientras subsistan las causas que le dieron origen y la materia del trabajo. Con todo, el trabajador podrá darlo por terminado mediante aviso escrito con antelación no inferior a treinta (30) días, para que el patrono lo reemplace. En caso de no dar el aviso oportunamente o de cumplirse sólo parcialmente, se aplicará lo dispuesto en el artículo 8º numeral 7º, para todo el tiempo, o para el lapso dejado de cumplir.

Relacionado con esto último, se define el llamado preaviso en el Art. 46, numeral 1; “ si antes de la fecha de vencimiento del término estipulado – el del contrato – ninguna de las partes avisare por escrito a la otra su determinación de no prorrogar el contrato, con una antelación no inferior a treinta (30) días, éste se entenderá renovado por un período igual al inicialmente pactado, y así sucesivamente.

Cuando un empleado se enfrenta a una terminación del contrato sin justa causa, el empleador si debe indemnizar al empleado, en los términos que se señalan en el Art.64, "1. En todo contrato de trabajo va envuelta la condición resolutoria por incumplimiento de lo pactado, con indemnización de perjuicios a cargo de la parte responsable. Esta indemnización comprende el lucro cesante y el daño emergente. 2. En caso de terminación unilateral del contrato de trabajo sin causa justa comprobada, por parte del empleador o si éste da lugar a la terminación unilateral por parte del trabajador por alguna de las causas justas contempladas en la ley, el primero deberá al segundo una indemnización en los términos que a continuación se señalan.3. En los contratos a término fijo, el valor de los salarios correspondientes al tiempo que faltare para cumplir el plazo estipulado del contrato; o el del lapso determinado por la duración de la obra o la labor contratada, caso en el cual la indemnización no será inferior a quince (15) días.

4. En los contratos a término indefinido, la indemnización se pagará así: a) Cuarenta y cinco (45) días de salario cuando el trabajador tuviere un tiempo de servicio no mayor de un (1) año; b) Si el trabajador tuviere mas de un (1) año de servicio continuo y menos de cinco (5), se le pagarán quince días adicionales de salario sobre los cuarenta y cinco (45) básicos del literal a), por cada uno de los años de servicio subsiguientes al primero, y proporcionalmente por fracción; c) Si el trabajador tuviere cinco (5) años o mas de servicio continuo y menos de diez (10), se le pagarán veinte (20) años adicionales de salario sobre los cuarenta y cinco (45) básicos del literal a), por cada uno de los años de servicio subsiguientes al primero, y proporcionalmente por fracción, y d) Si el trabajador tuviere diez (10) o más años de servicio continuo se le pagarán cuarenta días adicionales de salario sobre los cuarenta y cinco (45) días básicos del literal a), por cada uno de los años de servicio subsiguientes al primero, y proporcionalmente por fracción. (...) 5. Si es el trabajador quien da por terminado intempestivamente el contrato, sin justa causa comprobada, deberá pagar al empleador una indemnización equivalente a treinta (30) días de salario. El empleador podrá descontar el monto de esta indemnización de lo que le adeude el trabajador por prestaciones sociales. En caso de efectuar el descuento depositará ante el juez el valor correspondiente mientras la justicia decida.