

The Unemployment Insurance Program in Colombia: An Assessment*

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Abstract

We assess the effects of the Colombian Unemployment Insurance program on future labor participation, unemployment, formality, school attendance and earnings of its beneficiaries, on household earnings and school attendance of the household members, and on weight and height of their children at birth. We use both regression discontinuity and matching differences-in-differences methods and find similar results in all outcomes but labor participation for males and females. We do not find any significant effect of the program on future unemployment rates, school attendance of the beneficiaries or of the household members, neither of their children's weight or height at birth. We found a negative effect on formality measured as the enrollment on health insurance, and a reduction of both individual and household earnings of males and females, although weaker for females. Finally, labor participation of females is negatively affected although with mixed results, while that of males falls around 8 percent. The results are sensible to the type of training beneficiaries receive in the program.

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I. Introduction

The unemployment insurance, UI, that currently operates in Colombia is an “intervention mechanism for critical events experienced by economic cycles”. It takes the form of a subsidy which is equivalent to one and a half legal monthly salary, which will be provided in six equal monthly quotas, and which may be made effective through quotas to the health system, or food or educational bonus, according to the choice of the beneficiary. It is a benefit delivered only once.

The magnitude of the benefit is not prominent, although according to Carrasco (2009), funds available for the program in 2008 amounted to about COPS\$153,000 million, nearly 0.04 percent of Colombia’s GDP. This is a small figure when compared to the one implemented in the US, which according to Nicholson and Needels (2006) was about USD 34,000 millions in 2004, nearly 0.23 percent of US GDP, but still not as small, taking into account that their program has existed since the 1930s, while the Colombian exists only since 2003.

Access to such benefit is established in two forms: i) for heads of household without job but with previous association with Family Compensation Funds (CCF)¹; and ii) heads of household without previous association to such funds. Entry and exit rules are established within decree 2340 of year 2003.

In what follows we present the empirical regularities that characterize the Colombian labor market and the characteristics of the unemployment program we evaluate. Then we proceed to present the evaluation of the program, in which we explain its targeting system, the data we use, the outcomes we assess the identification strategy, and the results of our estimates. Finally, we include a policy section.

II. Facts of the Colombian Labor Market

1. Historical movements in the country’s unemployment rate

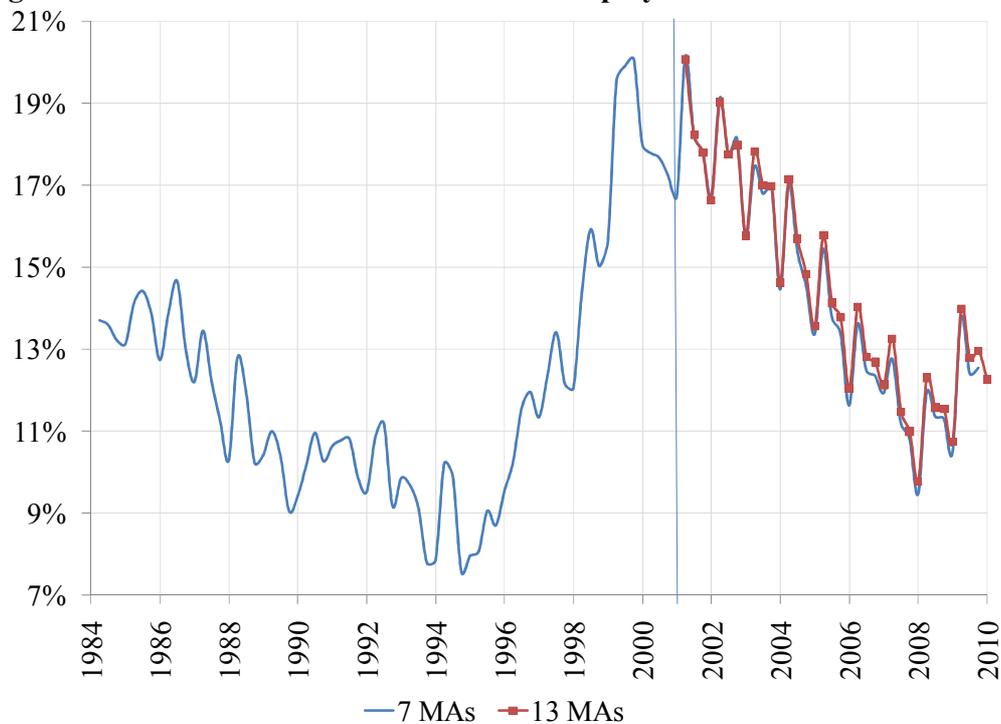
The Colombian urban unemployment rate has experienced two important peaks since the early 1980s: in the mid 1980s and in 1999-2000. Figure 1 illustrates the quarterly evolution of the unemployment rate, which is available since 1984 for the main 7 metropolitan areas, and since 2001 for the main 13 metropolitan areas.² The figure shows that since both series became available, their unemployment rates moved very closely. The highest peak of the unemployment rate took place due to the economic crisis of the late 1990s that increased the unemployment rate from about 9.5 percent in 1996 to more than 18 percent in 1999, and had terms with unemployment rates of 20 percent. At the moment the unemployment insurance began by 2003, the unemployment rate had been already reduced to between 16

¹ We understand by previous enrollment that the household head had been enrolled to a CCF for at least one year in the previous three years before applying for the subsidy.

² The seven main metropolitan areas, MAs, are Medellín, Cali, Bogotá, Bucaramanga, Barranquilla, Manizales, and Pasto. The 13 main MAs include in addition Cúcuta, Villavicencio, Pereira, Ibagué, Montería and Cartagena.

and 17 percent, and it has been below that level ever since, although it picked up with the most recent global economic crisis.

Figure 1. Evolution of Colombian urban unemployment rate in 7 and 13 MAs

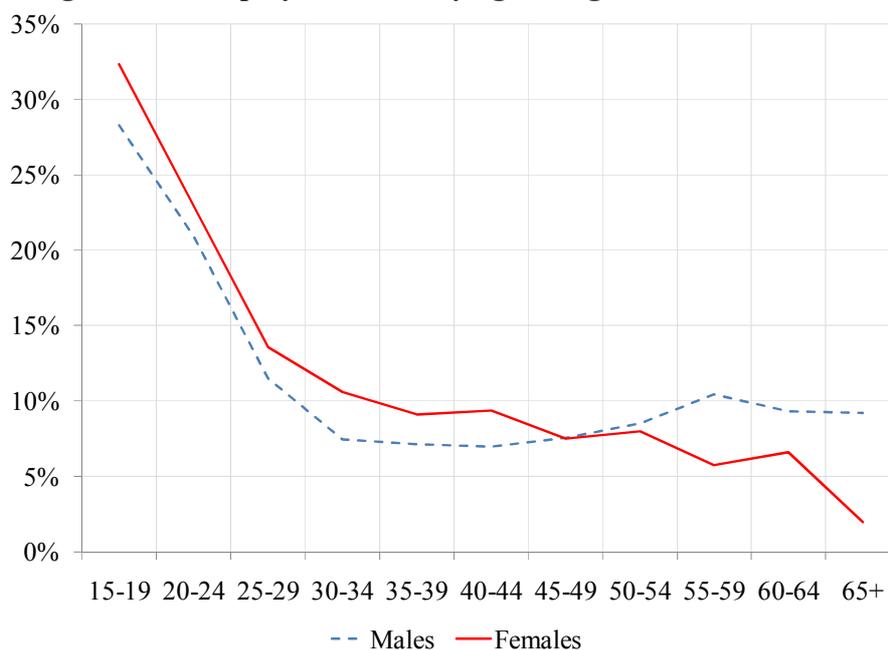


Source: López (2010). Seasonally adjusted series.

There is a close relationship between the overall unemployment rate and the share of uneducated workers either in the informal sector or unemployed, what suggests that informality could be seen as the exit strategy of the uneducated unemployed in the country.

Figure 2 shows that for both males and females, unemployment particularly hits the youngest, workers under 25 years.

Figure 2. Unemployment rate by age and gender. 13 MAs, 2009



2. The formal and informal sectors in urban Colombia

According to the International Labor Organization, ILO, the type of workers considered as informal are: (a) private employees or laborers in businesses or firms of up to 10 workers including their bosses or partners, (b) family workers without payment, (c) workers without payment in businesses or firms of other households, (d) domestic laborers, (e) self-employed workers if without higher education, (f) employers of firms with 10 or less workers. Employees or laborers of the government are excluded³.

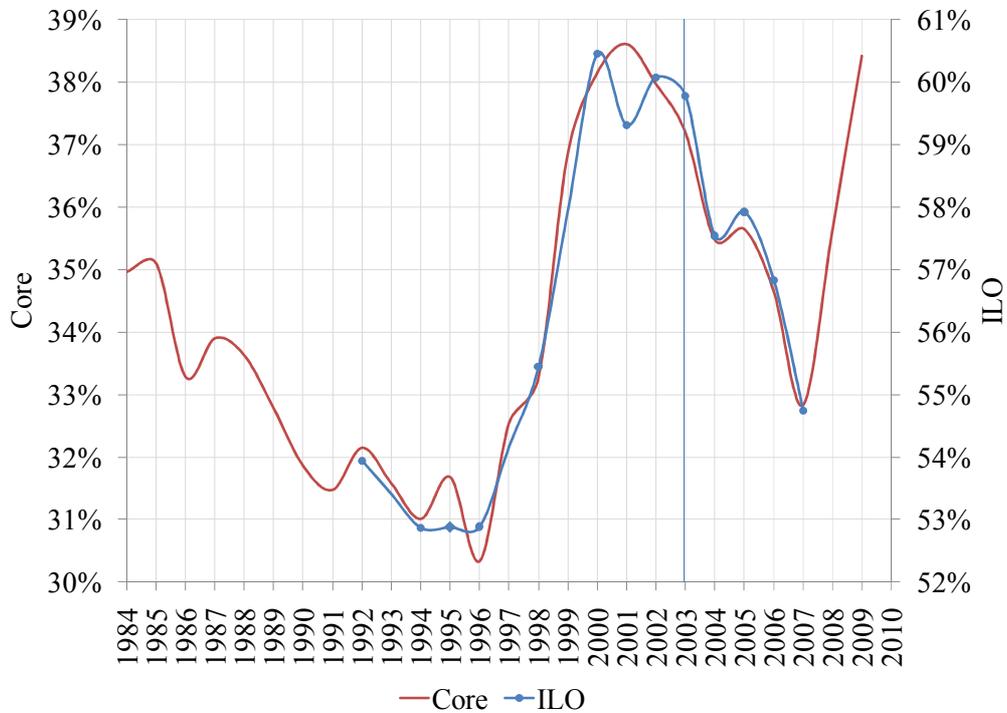
To measure informality according to ILO's definition we must bear in mind the following issues: (a) between 1986 and 2000 the Colombian household survey only allows measuring informality in the main 7 MAs, in the second quarter, every two years, (b) between 2001 and 2006 the measure can only be made in the second quarter, every two years, but for the main 13 MAs, and (c) between 2007 and 2008 we can estimate moving averages every three months to get monthly measures of informality. Since 2009, ILO's definition begins to classify as formal workers in a firm with more than 5 (rather than 10) workers.

To estimate more frequent and longitudinally comparable measures of informality, we propose what we define as "core informality", which includes self-employed workers (excludes all public or private employees and laborers) with no higher education. Figure 3 shows ILO's and our "core informality" definitions. Their fluctuations in the analyzed period are very similar, although our measure is about 20 percent lower than ILO's. Most

³ DANE adopted the ILO's criteria to measure informal employment (ILO, PREALC1 78 project).

of that difference is explained by wage earners and the self-employed educated working in firms of less than 10 (or 5 depending of the years considered) workers.⁴

Figure 3. Informality according to ILO's definition and the Core Informality (7 MAs)

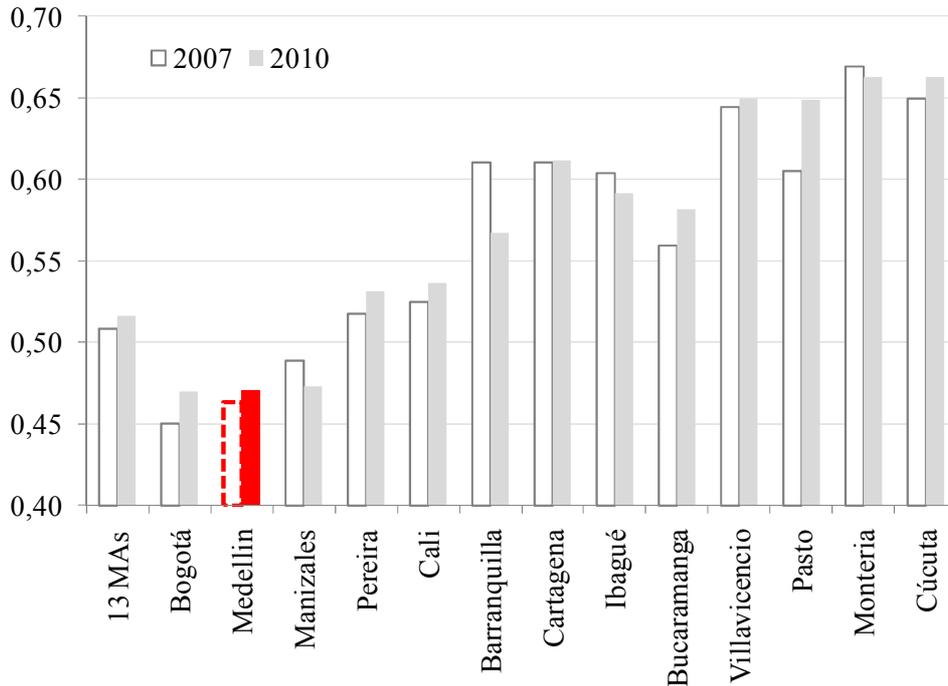


Source: López (2010).

Since our analysis below will focus on figures from Medellín, it is important to illustrate the magnitude of informality in Medellín compared to other Colombian cities. Figure 4 shows the shares of informal employment in the main 13 Colombian metropolitan areas according to the ILO. Medellín has the lowest levels of informality after Bogotá, and by 2010, the main Colombian cities, Bogotá, Medellín, Cali, and Barranquilla, are not farther than 5 percent away from the average of the main 13 MAs.

⁴ See also Figure 8.

Figure 4. Informality in the Main 13 Metropolitan Areas According to ILO



Source: Colombian Household Surveys, Dane.

2.1 Formality by concept and type of employment

Let us analyze the composition of employment according to self-employment and the characteristics linked to formality. Figure 5 shows the share of workers with contract, health insurance, retirement, by firm size, and any of those, by type of worker, in the main 7 metropolitan areas. In each category we know the share who are employed (either in the public or private sector), or self-employed. Self-employed can be educated, uneducated, employer, domestic employee, family worker with no payment or other. Less than 40 percent of workers have a written contract, and nearly 17 percent of employees or laborers working in the private sector do not know whether they have a written contract.

When workers are classified according to their access to health insurance by means of their contribution or that of their employers, that is, those who have access to the Contributive Regime, CR, we find that half of all workers are directly enrolled in the CR, but again, nearly 17 percent of private employees are not enrolled in the CR, and most educated workers are not either. Note that in Colombia employers are required by law to enroll all their employees in a Health Promoting Company (EPS for its acronym in Spanish), which gives them access to health insurance of the Contributive Regime.⁵ Nonetheless, some employers do not comply with the law and manage to have employees not insured by the CR. All self-employed workers can enroll in the CR by themselves by paying a monthly fixed amount that is a function of the monthly minimum wage, and so can do it employed workers not enrolled in the CR by their employers. Unemployed or inactive individuals can

⁵ The CR covers most of the existent health services but some like esthetic plastic surgeries, etc.

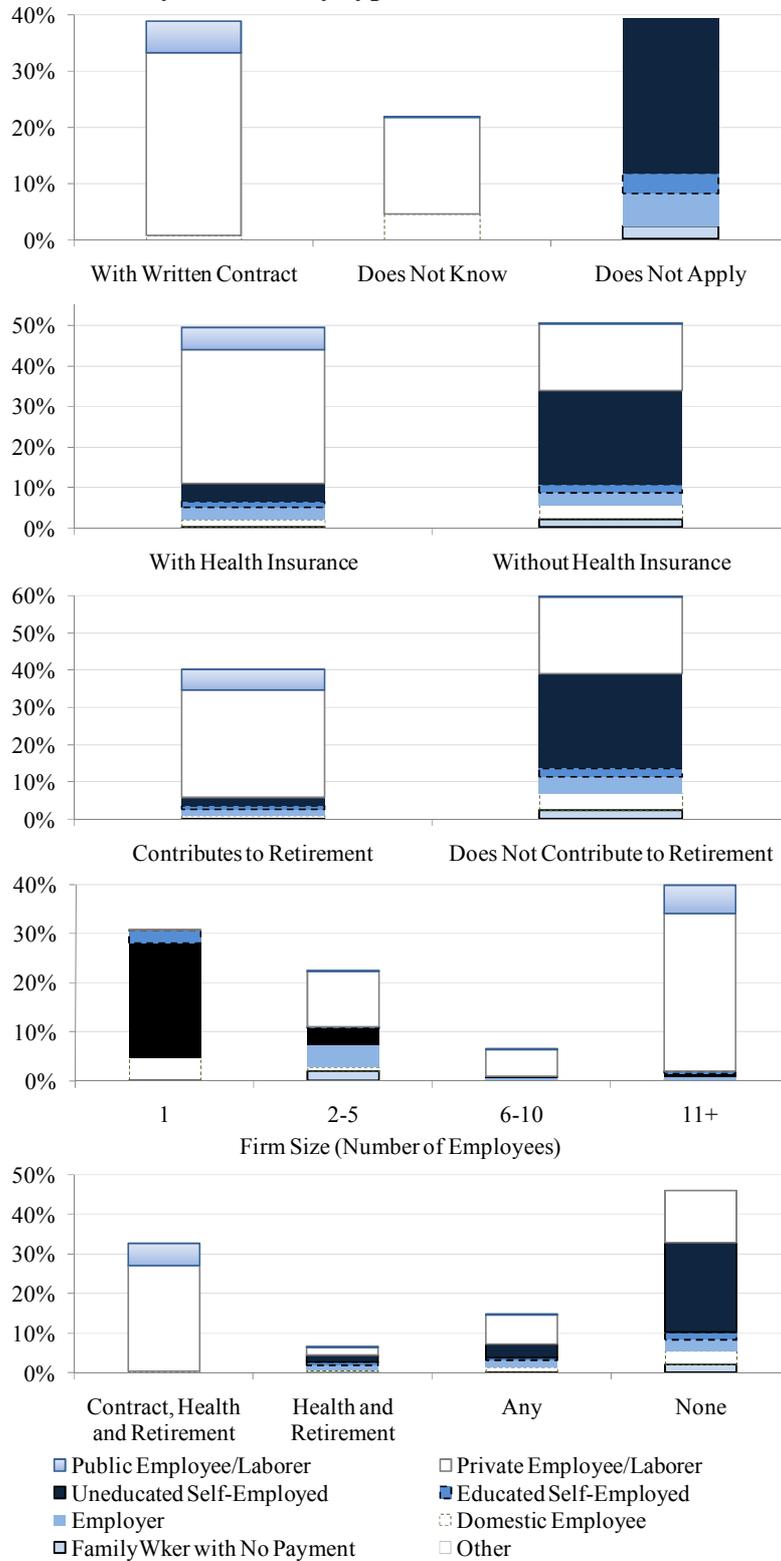
either get health insurance as the self-employed do (Contributive Regime), or apply for access to the Subsidized Regime, a more basic basket of health services (about 55 percent of the basket provided by the Contributive Regime) provided by the government.⁶

There are even less people contributing to their retirement than are enrolled in the CR. In particular, the shares of private employees and educated self-employed who do not contribute to their retirement are also larger than the respective figures in the case of enrollment to the CR. Nearly 60 percent of workers do not contribute to their retirement. Actually, more than 45 percent of workers do not have a contract, are not enrolled in the CR and are not contributing to their retirement, 15 percent have any of these, and only about one third of all workers have all of them.

The distribution of workers by firm size and type of worker reveals that most uneducated self-employed workers work alone and just a few in firms of up to 5 workers. Wage earners working in firms of up to 5 workers and those educated self-employed are the ones that make the difference between the ILO's and "Core" definitions of informality. They together are about 20 percent of workers, which mostly explains the differences of these two definitions in Figure 3.

⁶ Actually, some employed workers, like domestic workers, apply for the SR and get it, and in some cases once they get the SR, they refuse to be enrolled in the CR by their employers just for being afraid that if they lost their job they would become uninsured, and anticipating that once unemployed, they might not be able to get access to the SR (See more on this in Camacho et al. (2009)).

Figure 5. Share of workers with contract, health insurance, retirement, by firm size, and any of those, by type of worker. 7 MAs, 2005



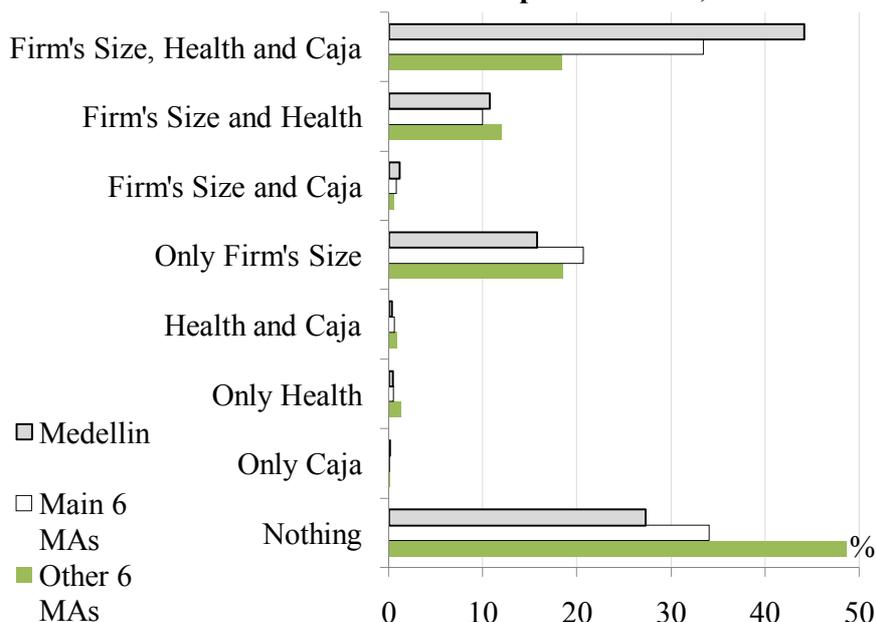
Source: Colombian household surveys, second term.

Another type of contribution in the Colombian labor market that is closely linked to the concept of formality is the Family Compensation Funds (*Cajas de Compensación Familiar, Cajas*, see Appendix 1). Understanding which workers are enrolled in *Cajas* is relevant for our purposes because those entities are the ones that administer the UI program, and to that extent, enrollment to *Cajas* by beneficiaries of the UI is a key characteristic to exploit at the moment of determining potential differential effects of the program on the formal relative to informal workers.

Figure 6 shows that if formality was defined according to enrollment to a *Caja*, the definition of formality would be much more demanding: most individuals enrolled in a *Caja* are also enrolled in health insurance and working in firms with at least 5 workers.

As the figure shows, the pattern of formality in Medellín is similar to the one for the other main 12 metropolitan areas of Colombia across the different concepts depicted, with Medellín being relatively more formal than the average of the main 6 MAs, and those in turn more formal than the next 6 MAs.⁷

Figure 6. Share of workers by firm size and contribution to health and Cajas. Medellín versus 12 main Metropolitan Areas, 2009



Source: Colombian household surveys

2.2 Formality and households' socioeconomic variables

Let us now analyze how key socioeconomic variables are related to informality. Appendix 2 shows the results of estimating logit models of informality using data for the whole country and for urban areas. In each geographic domain, we estimate logit models of

⁷ The main 6 MAs are Bogotá, Cali, Barranquilla, Bucaramanga, Manizales and Pasto. The next main 6 MAs are Villavicencio, Pereira, Cúcuta, Cartagena, Ibagué and Montería.

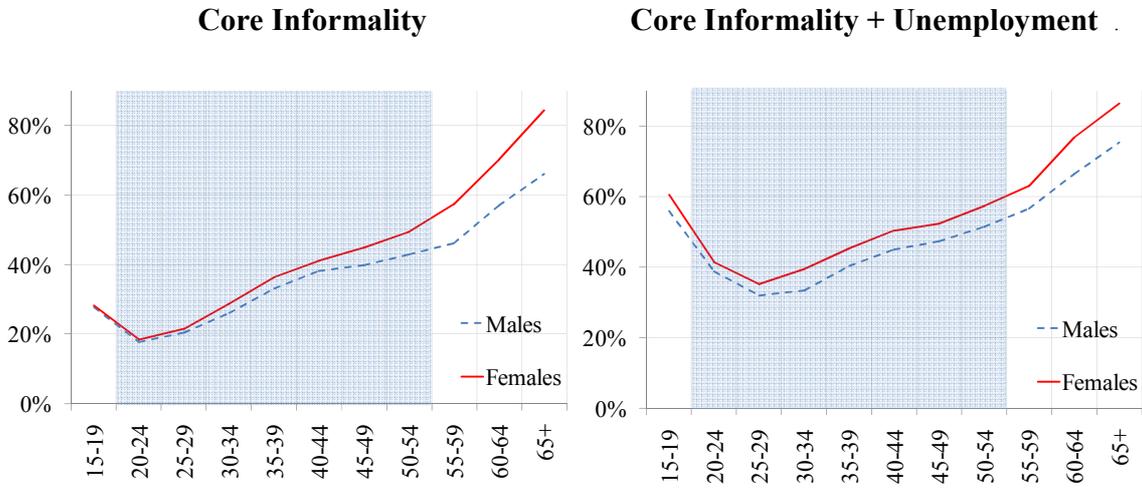
formality under the ILO's definition and according to whether individuals contribute to both health insurance and retirement.

Results of the four estimations are very similar. The absolute values of the marginal effects found under the definition based on contributions to health and retirement are in general smaller. Let us focus on the estimated coefficients and marginal effects found in the urban area, the one in which we will study the unemployment insurance, under the ILO's definition presented in columns (v) and (vi). Males are 16 percent more likely to work in the formal sector, and formality decreases with age at an increasing rate (informality increases with age at an increasing rate, just as Figure 7 shows). Formality increases monotonically with education. Individuals with primary education are 18 percent more likely to work in the formal sector than those without education, those with incomplete secondary, complete secondary, incomplete higher, complete higher, and post higher education, are 28, 47, 58, 64 and 65 percent more likely to work in the formal sector respectively, that the non-educated.

The estimate of the interaction term between gender and years of education implies that keeping everything else equal, males are less likely to work in the formal sector than females with the same years of education, the more educated they are. Individuals attending school are 6.5 percent more likely to work in the formal sector, while those born in the urban areas or household heads are 3.9 and 6.3 percent more likely respectively. Workers in small towns or rural areas are 5.5 and 14 percent less likely to work in the formal sector (see column ii). Finally, all geographic regions have higher levels of informality than Bogotá, being the most informal the *Pacific*, *Atlantic*, *Amazonia* and *Orinoquia* regions. In urban areas, individuals who receive rents from assets are 4.8 percent less likely to work in the formal sector, and those receiving subsidies are 11 percent less likely (this coefficient does not reflect a causal relationship though).

Figure 7 shows that unemployment is higher among the youngest, and that "core" informality is higher among the oldest. Core informality rates of workers 50 years old or more are beyond 50 percent for females, and 40 percent for males. The shaded areas refer to the population 21-54 years old, the one for which we assess the UI impact below.

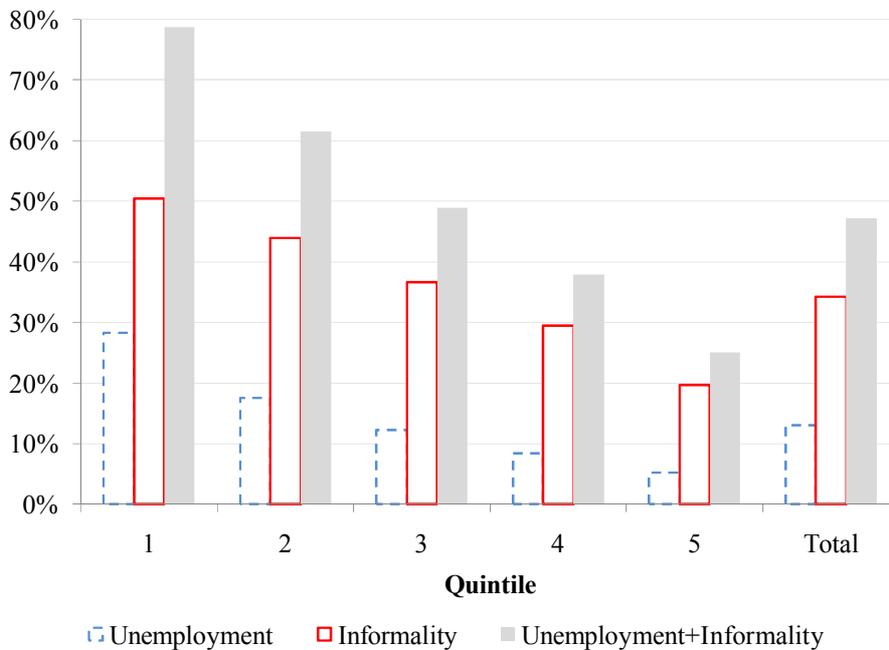
**Figure 7. “Core” informality and its sum with unemployment by age and gender
13 MAs, 2009**



Source: Colombian household surveys

As Figure 8 shows, unemployment and informality show higher rates among the poorest. Unemployment and informality rates are 28.3 and 50.4 percent in the poorest quintile and 5.3 and 19.7 percent in the richest respectively. 78.7 percent of workers in the poorest quintile are either unemployed or informal workers, but only 25 percent are in the same situation in the richest. Overall, 47 percent of workers are affected by either unemployment or “core” informality.

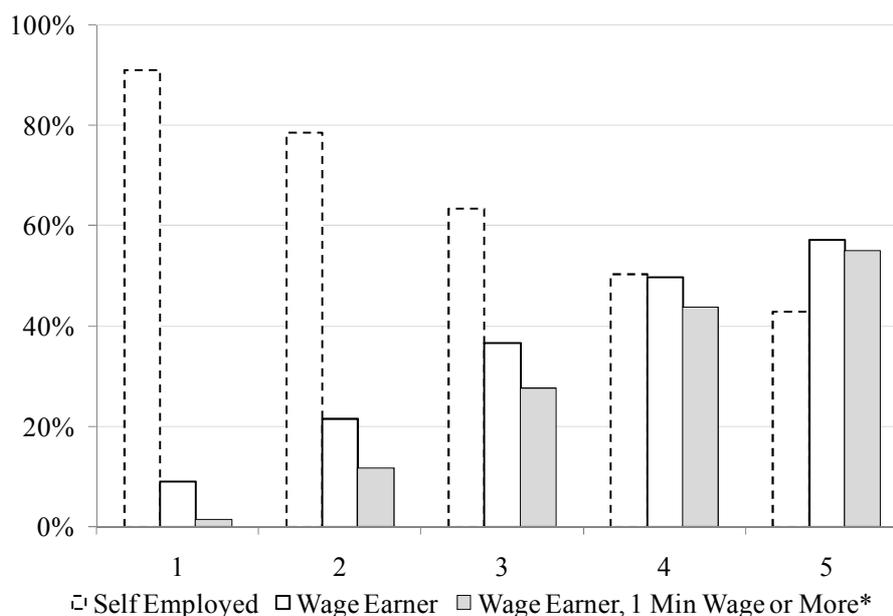
Figure 8. Unemployment and “core” informality rates by income quintile. 2009



Source: GEIH Household Survey. Quintile based on per capita household’s income

There is an important difference between wage earners and self-employees in Colombia. As it is shown in Figure 9, most of the population of the poorest income quintiles are self-employed, while employed workers are mostly among the richest. Almost no wage earner and about half of them, earn at least one minimum wage in the first and second quintiles respectively.

**Figure 9. Share of total employment by income quintile.
Wage earners and self-employed, 1st quarter, 2009.**



* Wage earners earning 1 minimum wage or more as a share of total workers in the income quintile.

Source: López (2010)

3. Unemployment duration

Colombia currently has one of the highest unemployment rates in the region, and also relatively longer unemployment durations. To analyze in detail the duration of unemployment, we used the information of people who were working in 2009 and report the duration of their last unemployment spell whenever they had it. This information allows us to use uncensored information to get our duration estimates.

Appendix 3 presents the cumulative hazard functions using the 2009 Colombian household survey at the national level, for different populations according to gender, age, economic sector, type of worker, education, and geographic area.

Male workers in Colombia have shorter unemployment duration than females. The largest difference between these groups takes place around the sixth month, when 74 percent of males and only 53 percent of females have left unemployment. Younger workers also have shorter unemployment durations than older ones. By month eleventh, 85 percent of workers under 18 have left unemployment and only 56 percent of those aged 65 or older.

Unemployment duration also varies across economic sectors. Workers in the economic sector of electricity, gas or water, have the shortest unemployment durations, while those in the financial services the longest. 72 percent of workers in the former sector have left unemployment by the fifth month versus only 49 percent of those in the financial sector. The variation of unemployment duration by type of worker is also large. Employees in rural areas are the ones with the shortest durations, followed by formal and informal employees, while employees working for the government are the ones with largest unemployment durations. Unemployment durations are less sensitive to education differences, and are larger in the urban than the rural areas. The average duration of unemployment in urban areas (13 main MAs and intermediate cities) is 10.6 months, while in the intermediate cities it is 10.9 months, and in the rural area 8.6 months.⁸ During the first month about 14 and 20 percent of the unemployed population found a job in the urban and rural areas respectively. After three months, 44 percent (54) of the urban (rural) unemployed has found some form of occupation. Two years later there are only 10 percent of individuals looking for a job in the urban sector and 7 percent in the rural sector. We also compare unemployment duration in the main three metropolitan areas: Bogotá, Medellín and Cali. Medellín has longer unemployment durations than Bogotá, which in turn has slightly longer spells than Cali.

III. The Unemployment Insurance Program

The unemployment insurance in Colombia was created by Law 789 of 2002, as a response to the large unemployment rates the country had reached in the late 1990s and that were still very high by then (see Figure 1). It is being implemented permanently since the last quarter of 2003.⁹ Although the UI was initially meant to be implemented during critical economic downturns, in practice it has been constantly implemented since its creation.

As it is shown in Figure 10, the UI program is administered by the Social Protection Ministry (MPS for its acronym in Spanish), its funding is carried out through the Fund to Promote Employment and Protection to the Unemployed (*Fondo para el Fomento del Empleo y la Protección al Desempleado*, FONEDE for its acronym in Spanish). As administrator, the MPS establishes requirements for eligibility and maintenance of the benefits, and the amount and duration of the benefit. The FONEDE is operated by the *Cajas*, and its regulation and supervision is in charge of the *Superintendencia de Subsidio Familiar* (SSF- Family Subsidy Superintendence).

The FONEDE is funded with a fraction of the 4 percent payroll tax and its corresponding yields.¹⁰ 35 percent of FONEDE's resources are devoted to the unemployment benefit, a temporary social assistance addressed to unemployed household heads through the grant of a benefit in kind equal to one and a half legal minimum wages, divided and granted for up

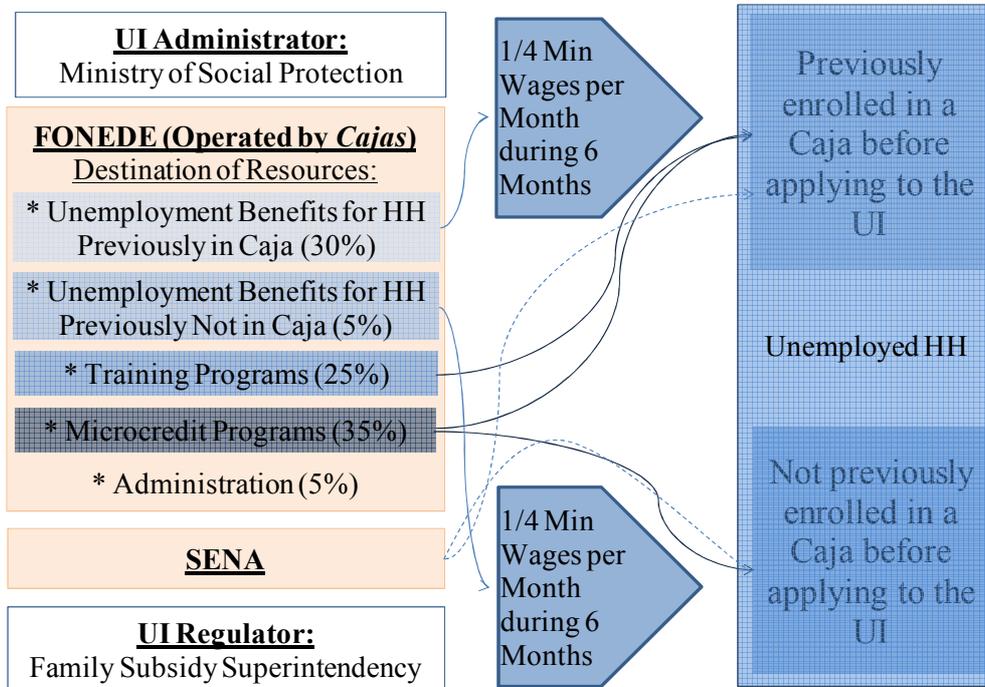
⁸ The intermediate cities are all those cities smaller than the main 13 MAs but still urban.

⁹ See also regulatory decrees 827 of April 2003, 2340 of August 2003, 3450 of December 2003, and 586 of March 2004.

¹⁰ According to Law 920 of 2004, the non-executed resources during the relevant fiscal term are transferred to the FOVIS, the Fund for Housing of Social Interest (FOVIS is the acronym in Spanish for the *Fondo Obligatorio para el Subsidio Familiar de Vivienda de Interés Social*).

to six equal monthly payments. This benefit can be made effective through contributions to the health system, meal tickets, or educational bonds, according to the beneficiary's choice. This benefit is independent of the number of people HH are responsible for.

Figure 10. Institutional framework of the Unemployment Insurance



The target population of this benefit is allocated according to the previous enrollment of jobless household heads to a *Caja*. 30 percent of FONEDA's resources serve unemployed household heads with previous affiliation to a *Caja*, and 5 percent to those without previous affiliation to a *Caja*. 25 percent of FONEDA's resources are allocated to providing training programs to beneficiaries who previously contributed to a *Caja*, nonetheless, the National Learning Service (SENA by its acronym in Spanish) has resources to provide training programs to the unemployed, regardless of whether they previously contributed to a *Caja* or not.¹¹

Eligibility to the UI benefit is subject to the beneficiary's condition of being an unemployed household head with people under his/her responsibility, available to work immediately, who proves active behaviors on job search, and who at the moment of receiving the benefit, was not affiliated to an EPS or *Caja* as contributor or beneficiary.¹² Legislation does not take into account the length of current's unemployment spell a base period for eligibility, such as having been unemployed during a given minimum or maximum period.

¹¹ Articles 10 and 12, Law 789 of 2002.

¹² See paragraph 5 of article 13, Law 789 of year 2002. Besides verifying social security participation, it is considered that the information which does not need to be "formally" supported is received under oath. Individuals are accepted to be household heads if they prove to have been previously affiliated, as contributors and not as beneficiaries, to an EPS, or to a *Caja*.

The benefit does not apply to household heads who have complied with the requirements for pension (aging, surviving or disability), household heads fired due to crime actions or violations, household heads who had already been beneficiaries (regardless of how many years ago); or people under the quality of public servers of popular elections.

On the other side, reasons for losing the right to benefits are the following: when beneficiary becomes employed; has rejected a job offer according to his/her academic education; has been called to compulsory military service; receives other type of work remuneration; loss of freedom; people who have retirement plans; and death of beneficiary.

25 percent of FONEDE's resources are invested in job training and job search programs for beneficiaries who were previously enrolled to a *Caja*.¹³ The objective of the training program is to increase the possibility of labor insertion among beneficiaries through a better qualification and support in their job search. The training program is discretionary offered by each *Caja*, according to their criteria, operational schemes and management.

35 percent of FONEDE's resources are used for microcredit programs, and 5 percent for the fund's administration. The *Cajas* spend their administrative costs in carrying out activities related to distribution of subsidies such as promotion of the UI, reception of applications, verification of compliance with requirements (activity performed through information crossing of applicants with other *Cajas* and the social safety system, carried out by the *Cajas'* national association for all the *Cajas* of the country). Their activities also include providing the subsidy per modality chosen by the beneficiary (food, educational or health support), and verifying every month compliance of requirements to determine if the benefit is kept, finished or lost.

The UI in Figures

The establishment and implementation of protection programs for the unemployed such as the unemployment insurance and job training for labor insertion is a huge advance to serve vulnerable population. At the national level, the unemployment rate among household heads, UI's target population, has varied around 6 percent in 2003, 2004, and 2009, and about 5.5 percent for the rest of the period (Table 2). In Medellín, it has been around 7.6 percent. By the second quarter of 2009, the number of unemployed household heads at the national level reached the figure of 611,000 and in Medellín of 65,000.¹⁴ The last row of Table 2 shows the ratio between the number of subsidies assigned and the number of unemployed household heads: between 2004 and 2009, the program has covered an average of 16.6 percent of the unemployed household heads at the national level, and 23.4 percent in Medellín.

¹³ Since the *Cajas* offer those services for their enrollees, what the UI does is guaranteeing that the former beneficiaries of the *Cajas*, once unemployed, can keep their services.

¹⁴ At that moment there were 2.37 million unemployed at the national level, 265 thousands of which were in Medellín.

Table 2. Household Heads subsidies assigned according to previous enrollment to CCF. 2003-2009. Nationwide and Medellín, May-July

Concept	Colombia							Medellín						
	2004	2005	2006	2007	2008	2009	Average 2004-09	2004	2005	2006	2007	2008	2009	Average 2004-09
Overall participation rate (%)	81.0	79.9	80.5	80.3	79.4	81.2	80.4	74.5	72.3	72.2	72.8	72.0	74.9	73.1
Unemployment rate (%)	6.7	5.3	5.4	5.6	5.8	6.3	5.9	8.0	7.3	8.0	5.9	7.5	8.9	7.6
Economically active pop., EAP*	8,243	8,259	8,671	9,050	9,242	9,708	8,862	577	579	599	650	670	726	634
Unemployed*	551	441	464	507	536	611	518.3	46	42	48	38	50	65	48
Subsidies assigned*														
Previously enrolled in Comfama								5.4	5.0	5.4	6.0	6.3	7.1	5.9
Prev. enrolled in Comfenalco								0.68	1.20	1.10	1.20	1.65	2.32	1.4
Prev. enrolled in <i>Cajas</i> Total	49.7	59.5	58.6	63.7	69.6	46.3	57.9	6.1	6.2	6.5	7.2	7.9	9.4	7.2
Previously not enrolled in <i>Cajas</i>	15.8	51.3	18.1	16.9	17.5	9.9	21.6	2.7	9.5	2.9	4.2	3.9	1.3	4.1
Total subsidies assigned*	65.5	110.8	76.8	80.6	87.1	56.2**	86.2	8.8	15.7	9.3	11.4	11.8	10.7	11.3
Tot. subsidies assigned/EAP (%)	0.8	1.3	0.9	0.9	0.9	0.6	0.9	1.5	2.7	1.6	1.7	1.8	1.5	1.8
Total subsidies assigned/Unemployed (%)	11.9	25.1	16.6	15.9	16.3	9.2	16.6	19.1	37.2	19.4	29.7	23.5	16.5	23.4

Source: DANE – Continuous Households Survey (2003-05), Great Integrated Households Survey (2006-09). Mobile Quarter Series 01 - 08. Note: Results expressed in thousands. Due to rounding in thousands, totals may differ slightly. * EAP, Unemployed and subsidies assigned are in Thousands, and only

*Source: Social Protection Ministry (Information on subsidies at the national level is on an annual basis; it does not correspond to the quarter May-July), Comfama, Comfenalco, and household surveys.

** Number of subsidies assigned between January and July of year 2009.

The unemployment insurance program stimulates labor training since beneficiaries can register in training programs for labor insertion. However, legislation does not stipulate that attendance to such program is compulsory. Records show that the training benefit has not been fully used, and additionally, it has had a dropout rate of 20 percent (Table 3). Nonetheless, the figures are consistent with most beneficiaries who previously contributed to a *Caja* having received training, plus some more previously not enrolled. The later must have been funded by the SENA, since FONEDE's resources are only targeted to the former.

Table 3. Beneficiaries of the training program and percentage being trained

Year	Beneficiaries	% of Beneficiaries Being Trained	Training Drop Outs
2004	40,508		
2005	72,596		
2006	75,542	67.9	26.4
2007	75,181	74.5	22.9
2008	85,460	78.0	18.7
2009*	37,894	78.2	16.1
Average 2006-09	77,993	74.8	20.7

Source: Family subsidy Superintendence (Superintendencia del Subsidio Familiar). Estimates from the General Management for Labor Promotion (Dirección General de Promoción del Trabajo), Social protection Ministry. * Data until June 2009.

Although the *Cajas* are allowed to directly provide training programs to their UI beneficiaries using FONEDE's resources, there have also been alliances between the National Association of Family Equalization Funds (*Asociación Nacional de Cajas de*

Compensación Familiar - ASOCAJAS) and *SENA* so that the *Cajas* can use the employment public service of *SENA* in order to allow access to their users to employment offers registered at *SPE* (employment public service), so that it eases their labor insertion.¹⁵

According to data registered about the fund's assignment of resources during the period between years 2004-2008, provision of such resources as compared to contributions of payroll tax of 4 percent has been of about 6.2 percent (table 4). That is, out of \$100 collected by *Cajas* through the 4 percent payroll tax, \$6.2 have been assigned to FONEDE.

Table 4. FONEDE Resources provision to payroll tax of 4 percent

Year	% Fonedel/ 4%
2004	6.5%
2005	6.5%
2006	6.1%
2007	6.1%
2008	5.9%

Source: Supersubsidy, Statistical Report, population, contributions and monetary subsidy, year 2008.

However, registered data between 2003 and 2008, show that the resources assigned to programs funded by FONEDE have not been fully executed.¹⁶ Table 5 shows the share of FONEDE's resources that have been executed by program as a share of the amount budgeted.¹⁷ The unemployment benefit has shown execution levels near to those indicated by law 789 of year 2002, i.e., executions equal to 35 percent of FONEDE'S resources. The microcredit program, in contrast, has had execution levels under 50 percent of what it should have executed, that is, *Cajas* have executed in microcredit less than 17.5 percent of FONDE's resources.

¹⁵ See the Cooperation Agreement No. 7 of 2009 between ASOCAJAS and the National Direction of *SENA*. The *SENA* is the National Public Entity used to provide training programs (*Servicio Nacional de Aprendizaje*).

¹⁶ As it was already said, FONEDE'S non executed resources during the relevant fiscal term are transferred to *FOVIS*.

¹⁷ Figures go from zero to actually more than one when resources of the current period, plus those of previous periods, are executed.

Table 5. Share of FONEDE's total budget executed by type of program

Year	Microcredit	Benefits	Training	Total
2003	0.03	0.344	0.141	0.176
2004	0.166	0.647	0.405	0.406
2005	0.236	0.963	0.773	0.754
2006	0.204	0.965	0.88	0.727
2007	0.238	0.976	0.897	0.749
2008	0.447	0.975	0.853	0.779
2009	0.371	1.156	0.954	0.839

Source: Supersubsidy, Statistical Report. Population, contributions and monetary Subsidy, year 2008, 2009.

Data from last quarter of year 2003 to July 2009, indicate that 495,078 subsidies were assigned, out of which 72.5 percent corresponded to assignments to household heads with previous enrollment, while the remaining 27.5 percent to household heads without previous enrollment (Table 6).

Table 6. Assignment of subsidies according to status of enrollment to CCFs

Year	Previously enrolled in a CCF	Previously not enrolled in a CCF	Total
2003	11,748	6,499	18,247
2004	49,653	15,809	65,462
2005	59,504	51,270	110,774
2006	58,619	18,142	76,761
2007	63,714	16,886	80,600
2008	69,575	17,480	87,055
2009	46,288	9,891	56,179
Total	359,101	135,977	495,078
Participation	72.5	27.5	100.0

Source: *Superintendencia del Subsidio Familiar* (Family Subsidy Superintendence). Estimates by General Management on Labor Promotion, Social Protection Ministry.

During the above referenced period, unemployed female household head received a larger provision than unemployed males. In fact, except for year 2006, women had higher participation than men, with an average for the period of 58.6 percent, while men reached 41.4 percent. Such percentages correspond to 290 thousand assignments to women and 205 thousand to men (Table 7).

Table 7. Distribution of subsidies by gender

Year	Females		Males		Total
	N	%	N	%	N
2003	11,283	61.8	6,964	38.2	18,247
2004	41,290	63.1	24,172	36.9	65,462
2005	67,129	60.6	43,645	39.4	110,774
2006	35,716	46.5	41,045	53.5	76,761
2007	51,404	63.8	29,196	36.2	80,600
2008	50,245	57.7	36,810	42.3	87,055
2009	32,949	58.7	23,230	41.4	56,179
Total Period	290,016	58.6	205,062	41.4	495,078

Source: Superintendencia del Subsidio Familiar (Family subsidy Superintendence). Estimates, General Management on Labor Promotion, Social Protection Ministry (Ministerio de la Protección Social)

Records on subsidies per modality chosen by beneficiaries show that they requested more support for food (97.8 percent of beneficiaries opted for this modality) The other modalities, health and education, had low demands of 1.7 and 0.5 percent respectively (Table 8).

On the other side, data from waiting times to receive subsidies showed a big variation which ranged between two months (minimum waiting time recorded) and 16.5 months (maximum waiting time). On average, people with no previous enrollment to *Cajas* showed higher waiting times, mainly in small states, where it took beneficiaries 26 months in 2007; 28 months in 2008; and 27 months in the first semester of year 2009. In contrast, applicants with previous enrollment to CCFs showed lower waiting times, mainly in small states (Table 9).¹⁸

Table 8. Distribution of subsidies per modality of use

Year	Subsidies Per Modality			Total
	Health	Food	Education	
2003	453	17,504	290	18,247
2004	1,746	62,813	903	65,462
2005	1,230	108,959	585	110,774
2006	1,088	75,429	244	76,761
2007	1,215	79,157	228	80,600
2008	1,723	85,059	273	87,055
2009	762	55,230	187	56,179
Total	8,217	484,151	2,710	495,078
%	1.7	97.8	0.5	100.0

Source: Superintendencia del Subsidio Familiar (Family subsidy Superintendence). Estimates, General Management on Labor Promotion, Social Protection Ministry (Ministerio de la Protección Social)

¹⁸ Medellín is located in Antioquia, which is classified as a big state.

Table 9. Waiting times in months according to status of enrollment to CCF

Year	Previously enrolled in CCF			Previously not enrolled in CCF			Average
	Big States	Small States	Total	Big States	Small States	Total	
2003	3.0	2.0	2.5	3.0	1.0	2.0	2.25
2004	5.0	3.0	4.0	4.0	2.0	3.0	3.50
2005	8.0	5.0	6.5	6.0	2.0	4.0	5.25
2006	11.0	6.0	8.5	9.0	2.0	5.5	7.00
2007	3.0	6.0	4.5	12.0	26.0	19.0	11.75
2008	2.0	2.0	2.0	5.0	28.0	16.5	9.25
2009	2.0	2.0	2.0	4.0	27.0	15.5	8.75

Source: *Superintendencia del Subsidio Familiar* (Family Subsidy Superintendence). Estimates, General Management on Labor Promotion, Social Protection Ministry.

Most benefit beneficiaries are people 35-44 years old (36.9 percent) and 25-34 years old (28.3 percent); followed by people 45-54 years old (21.2 percent).¹⁹

Results for beneficiaries with younger and older ages are surprising: such beneficiaries have more people with no previous enrollment (Table 10).

Table 10. Distribution of subsidies by age range

Age Range	Previously Enrolled to CCF	Previously Not Enrolled to CCF	Total
15-24	0.042	0.088	0.055
25-34	0.300	0.237	0.283
35-44	0.377	0.346	0.369
45-54	0.212	0.212	0.212
55+	0.069	0.117	0.082

Source: *Superintendencia del Subsidio Familiar* (Family subsidy Superintendence). Estimates, General Management on Labor Promotion, Social Protection Ministry.

Data show a difference between distributions of resources according to whether beneficiaries were previously enrolled in a *Caja*. For beneficiaries previous enrolled, most concentration of resources was seen in people who had finished secondary school, followed by people who just finished primary school or did not have educational studies. For beneficiaries with no previous enrollment more than 70 percent of the subsidies were distributed to people with no education or just primary school (Table 11).

¹⁹ Data from 2005 to June 2009.

Table 11. Distribution of subsidies by education

Education	Previously Enrolled to CCF	Previously Not Enrolled to CCF
None	0.206	0.449
Primary	0.214	0.275
Secondary	0.44	0.228
Technical	0.093	0.024
Graduate	0.036	0.014
Other	0.011	0.011

Source: *Superintendencia del Subsidio Familiar* (Family subsidy Superintendence). Estimates, General Management on Labor Promotion, Social Protection Ministry.

Data show a difference between the percentage distribution of the benefit between people with and without previous enrollment to a *Caja*. Among people with previous enrollment, 77 percent of subsidies were for those who had a wage range between 1 and 2 minimum wages. For the other group of beneficiaries, the highest benefit assignment (90.8 percent) was made to people with wages of less the minimum wage (Table 12).

Information about provision of resources distributed among applicants with or without previous enrollment discriminated by department, indicates that greater provisions to beneficiaries previously enrolled to a *Caja*, near to 85 percent, were delivered by *Cajas* from Caldas, Cesar, Cauca and Casanare. Those with less provision (less than 50 percent) assignment were *Cajas* from Chocó, Sucre, Amazonas and Arauca. Antioquia, the state where Medellín is located assigned 77 percent to beneficiaries with previous enrollment to *Cajas* (Appendix 4).

Table 12. Distribution of subsidies by previous wage range

Wage Range in Minimum Wages	Previously Enrolled to CCF	Previously Not Enrolled to CCF
<1	0.168	0.908
1-2	0.773	0.089
3-4	0.045	0.002
5-6	0.010	0.000
>7	0.003	0.000
Other	0.001	0.001

Source: *Superintendencia del Subsidio Familiar* (Family subsidy Superintendence). Estimates, General Management on Labor Promotion, Social Protection Ministry.

3. Comments on the unemployment insurance program

With the creation of FONEDE Colombia has advanced in the protection to unemployed people. Nonetheless, even though FONEDE's programs have been implemented since 2003, there is no deep evaluation of their impact. A discussion not given yet is whether the programs should be implemented only in case of critical events of the economy, or if protection to the unemployed must be permanent.

Another issue is that the program shows an unbalance against the unemployed with no previous enrollment to *Cajas*, as well as a restriction to the benefit of job training programs, only available to the unemployed previously enrolled in a *Caja*. Access to the unemployment benefits by unemployed people with no previous enrollment seems very restricted once compared to the provisions assigned to those with previous enrollment to *Cajas*. In addition, the waiting times to get the unemployment benefits are longer for the unemployed with no previous enrollment.

In addition, there is not a full articulation between unemployment benefits and the training program, for example, by making compulsory the attendance to training, at least during the term people receives the benefit, which is revealed in the high dropout rate. Although most beneficiaries of the UI become enrolled in training programs, enrollment into job training programs is not required to become beneficiary of the UI.

There is no evaluation of the courses provided: their quality, costs of attention per beneficiary, and desertion among other things. There is no assessment of the effects of implementing FONEDE's programs on the operation of other actions to promote entrepreneurship or on the national system of job training promoted by the SENA. The integration of this program with the labor intermediation schemes currently existing in the country does not go far from implementing labor insertion programs provided by *Cajas*, and there is no evidence about the results of the recent alliance between *Asocajas* and *SENA*, so that *Cajas* which want to work with *SENA* may have access to Public Employment Service. There is also the need for more articulation between training programs, labor insertion programs, and labor intermediation services.

4. Other Instruments to Protect Workers in Colombia

There are other mechanisms to protect workers of the risk of being unemployed. The main one is severance payments, known in Colombia as *Cesantías*. This mechanism works as a saving method, funded annually by the employer, which corresponds to a monthly average income accrued in the last year. Also, the employer has to pay an interest of 12 percent on the total balance of the deposits, which in sum, means that the employee has a net saving rate near 9.3 percent of last year's earnings. The resources are allocated in individual accounts, and the accumulated deposits (the one month wage plus its 12 percent interests) of the individual accounts earn returns above the fixed term deposit interest rate (DTF for its acronym in Spanish); therefore there is a guarantee of a minimum profitability. The main goal of this mechanism is for the worker to use these resources whenever he loses his job or his labor relation concludes. However, the employee can also use this resource to acquire a new house, to pay for home improvements, and to pay for college or higher education of the beneficiary, spouse or children. Once workers become unemployed, they can withdraw the whole balance regardless of the reason why he became unemployed. Unfortunately workers use most of this fund for the other reasons mentioned above rather than to have it available whenever they become unemployed. Requirements for its using make *cesantías* more similar to an individual savings account for current spending than a long run saving to cover the risk of unemployment. Apart from this one and the unemployment insurance, there are also training programs.

IV. Impact Evaluations

1. Fonede's Targeting System

As it was explained previously, enrollment to *Cajas* is closely linked to formality. Therefore, we can consider potential beneficiaries who are unemployed household heads who contributed to any *Caja* for at least one year in the last three years, as coming from the population of formal workers; and those potential beneficiaries who were unemployed household heads without earnings, who previously did not contribute to any *Caja* for at least one year during the last 3 years as, coming from the population of informal workers.²⁰

According to the previous criteria, easily observable characteristics like age, education, marital status, household size, etc., should not be used to target Fonede. Nonetheless, we know that self selection ends up generating differences in those characteristics among beneficiary and non beneficiary populations, on which we will come back later.

Now we focus on an additional requirement for being a beneficiary of Fonede: the applicant may not be a beneficiary of an *EPS* nor of a *Caja*, and at the same time receive unemployment benefits. The applicant could be disqualified from Fonede benefits as a result of his own contribution or of that of a third party to, an *EPS* or a *Caja*.²¹

As shown by Table 13, between 2003 and October 2009, nearly 20 percent of applicants were either denied or lost their Fonede benefits because they have been enrolled in an *EPS*.²² This *EPS* requirement becomes useful once we understand how the health insurance for the poor, called Subsidized Regime, is targeted in Colombia.

Table 13. Reasons to Deny or Lose the Right to Receive the Unemployment Benefit

Reason	2003		2004		2005		2006		2007		2008		Oct 2009		Average	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Enrolled in any <i>Caja</i>	71	48	606	41	1,725	50	1,596	59	1,585	68	732	69	2,256	51	1,289	54
Resigned the benefit/ becomes employed	7	5	51	3	343	10	382	14	334	14	80	8	289	6	221	9
Beneficiary of <i>EPS</i> *	54	36	821	55	909	26	438	16	297	13	166	16	596	13	486	21
Other	16	11	18	1	487	14	289	11	125	5	88	8	1,311	29	371	16
Total	148	100	1,496	100	3,464	100	2,705	100	2,341	100	1,066	100	4,452	100	2,366	100
Benefits for Previously:	1,472		7,845		10,893		8,355		9,442		10,961		9,330		8,595	
Enrolled in <i>Caja</i>	749		6,690		6,804		7,230		7,804		8,617		7,977		6,781	
Not Enrolled in <i>Caja</i>	723		1,155		4,089		1,125		1,638		2,344		1,353		1,814	
Rejection Rate (%)	10.1		19.1		31.8		32.4		24.8		9.7		47.7		26.4	

Source: Ramírez (2009). * Includes both beneficiaries by their own contribution or of that of a third party.

²⁰ Among these informal workers, the program prioritizes on artists, sportsmen and writers. That is, anyone in this group would become beneficiary before other comparable candidate from other profession who applied the same date (Paragraph 2 of article 13 of Decree 2340 of 2003).

²¹ Paragraph 5° of Article 13 of Law 789 of 2002. As explained by Synergia (2009), this requirement is actually enforced by some of the most important *Cajas*.

²² Ramírez (2009) uses only the information of applicants and beneficiaries of Comfama, one of the two *Cajas* operating in Medellín.

Prior to 1993, only workers who were affiliated to the Colombian Institute of Social Insurance, ISS, were beneficiaries of privately provided health insurance, and uninsured individuals were bound to attend the network of public hospitals. Law 100 of 1993 established the existences of two types of health benefits: the Contributive Regime, CR, and the Subsidized Regime, SR. The CR is a very comprehensive set of health services that covers most of the most common illnesses, while the SR initially covered only 50 percent of illnesses, and currently about 55 percent of them. Formal workers and their employers fund workers' insurance premiums for coverage by the CR.²³ Several public funds and cross-subsidies fund insurance premiums that ensure that the poorest informal workers are covered by the SR.²⁴

A key aspect of the reform is the targeting system of the SR. To target the SR, about 70 percent of the poorest households of the country were interviewed, and a welfare index was calculated based on their characteristics. Households were then classified into one out of six levels of that score, denominated a "Sisben" score. Only households classified in the two lowest levels of Sisben were eligible to become beneficiaries of the SR. In addition, any household that was beneficiary of the CR could not become beneficiary of the SR. As it was reported by Camacho and Conover (2008) there are beneficiaries of the SR at both sides of the cutoff score, but the share of beneficiaries changes discontinuously at the cutoff.

In theory, knowing that affiliation to the SR changes discontinuously at the cutoff between Sisben levels two and three does not guarantee that the share of non beneficiaries of the CR or of the Fonede changes discontinuously at that cutoff as well. Nonetheless, because households at Sisben levels one and two are more likely to benefit from the SR than those in levels three or above, the expected relative benefit of being a beneficiary of the CR should be lower for households at the left side of the cutoff than for those at the right side of it.

For example, there is anecdotal evidence that formerly informal workers who became formal employees, have asked their employers not to enroll them in the CR so that they would not lose their affiliation in the SR. This type of situation is more likely the less stable is the formal job of the worker. These workers recognize that if they lose their job, they have to reapply to the SR, and would not be covered for any health insurance until the government reenrolls them in the program.

Gaviria et al. (2007) demonstrate that the SR program adversely affects women's labor force participation in the formal sector. Because women face greater risk of losing their formal jobs, they also are at greater risk of being without health insurance. As a result,

²³ Employers and workers contribute with 8.5 and 4.0 percent of the wages respectively, for a total of 12.5 percent. 11 percent are used to fund the employee's coverage, while the remaining 1.5 percent goes for the SR budget.

²⁴ Cross subsidies arise for the fact that each beneficiary of the CR is assigned a fixed amount of per capita benefits, while each one's contribution is proportional to his wage, what implies cross subsidies among beneficiaries of the CR. In addition there is solidarity from the CR to the SR as it was previously explained. See Gaviria et al. (2007) for a detailed description of the reform derived from Law 100 and its political economy.

some women either opt for the sure thing by remaining in the SR instead of allowing their formal employer to enroll them in the CR. Consequently, they have less incentive to become formally employed.

Whether there is a discontinuity in the share of beneficiaries of Fonede at the cutoff between Sisben levels two and three, is an empirical question that we assess using both data of the beneficiary, and non beneficiary individuals.

2. Data

We have two sources of data available, one provided by the *Cajas* with the information on the beneficiaries of Fonede and the other is the Sisben data.

We have data of beneficiaries who receive the unemployment benefit from two *Cajas*: Comfama and Comfenalco. These are the only *Cajas* that operate in the state of Antioquia, a state with a total population of nearly 6 million people. The state's capital is the city of Medellín. Data provided by Comfama includes 47,600 household heads who were Fonede beneficiaries. These *Caja* participants received the benefit at some point between September 2003 and December 2009. Data provided by Comfenalco includes nearly 23,000 individuals. These *Caja* participants received the Fonede benefits at some point between February 2004 and December 2008.

We also have data for the whole population from the Sisben survey of Medellín at three different years: 2002, 2005 and 2009.²⁵ The Sisben dataset is not a panel of household surveys, but rather a series of cross sections of the census of nearly the poorest 70 percent of the population, which we match to build the panel. We basically have three censuses of the poorest population in three periods: 2002, 2005 and 2009. As it becomes clear from Appendix 5, although the 2002 Sisben survey was implemented around 1994, most individuals were interviewed in 2002. Between 2003 and 2005, the country updated the methodology used to estimate the Sisben score, which determines eligibility for social public expenditure, and then, updated information for all individuals both in 2005 and 2009.

It is important to highlight that the information contained in the Sisben survey is used to calculate the Sisben score, based on which households are classified in one out of six Sisben levels. Individuals belonging to Sisben levels 1 or 2 become eligible to be enrolled in the Subsidized Regime, as it was explained above, but they are not automatically enrolled. The survey does include a question that says whether individuals are enrolled in the Subsidized or the Contributive Regime, and we use that question to know whether they were beneficiaries of the contributive regime at the baseline and follow up.²⁶

²⁵ Actually, the Sisben data for Medellín is available every three months, nonetheless, it is only rarely updated and according to endogenous demand by the households (see more below). The data might become useful to come up with estimates that use data much closer to the moment of individuals' enrollment, although the endogenous updating of information would pose additional challenges to identification.

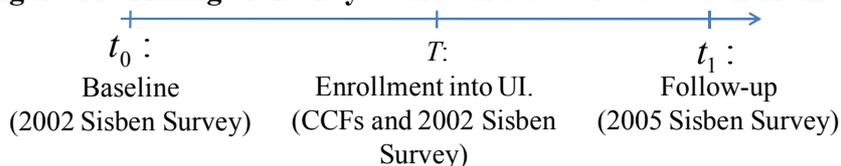
²⁶ The few observations of the 2005 Sisben survey not collected in 2005 are of people who asked the municipality of Medellín to update their information. Note that only households whose standard of living deteriorated would be willing to ask for a new interview to update their status, and lower their Sisben score.

By matching the *Cajas* data with the Sisben data, we have information of beneficiary and non beneficiary individuals at three points in time.

For this study we only used people from Medellín as provided by Comfama and Comfenalco. Our final sample of beneficiaries consists of 6,004 beneficiaries who were matched to both the 2002 and 2005 Medellín’s Sisben surveys, and 14,364 beneficiaries who were matched to both the 2005 and 2009 Medellín’s Sisben surveys.²⁷

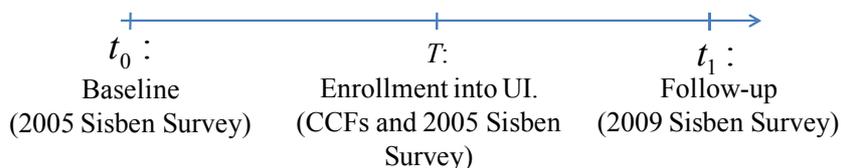
Figure 11 shows the timeline considered in our exercise. We use 2002 Sisben survey for our baseline data, which takes place at t_0 in the figure. Individuals enroll into the unemployment subsidy at T , which we know from data provided by the Family Compensation Funds CCFs. Then we observe individuals again in the 2005 Sisben survey, which takes place at t_1 in the figure (Period 2002-2005).²⁸

Figure 11. Timing of the key events and data used at each moment



Similarly, we use 2005 Sisben survey for baseline data and the 2009 Sisben survey as follow-up, for those individuals enrolled into the unemployment subsidy at T , between those two dates (Figure 12) (Period 2005-2009)

Figure 12. Timing of the key events and data used at each moment



To clarify the content of these figures, first note that the subsidy lasts for six months after enrollment, for which we exclude from the sample those beneficiaries who were matched with the Sisben survey less than six months after their enrollment. Secondly, to limit the possibility of outcomes being affected by other interventions different to the UI we limit the length of time between the baseline and the enrollment in the UI, and we also focus on the

The same follows for people whose data was not collected in 2002 but between 2003 and 2004. All individuals in the last round were interviewed in a short period of time between late 2009 and early 2020.

²⁷ See Appendix 5 for additional details of the way our final sample was constructed.

²⁸ We use Sisben survey for Medellín (second largest city in Colombia) because the data provided by the *Cajas* (Comfama and Comfenalco), only cover municipalities of Antioquia (department whose capital is Medellín). Among the subsidies granted by these two *Cajas*, a large share of those, were for people who at the moment of the subsidy were living in Medellín.

impacts of the program in a limited period of time, namely within the following 2.5 years after graduation of the program. We thus exclude from the sample those beneficiaries whose differences in time, between the date of enrollment and both, the baseline and follow up (plus six months of subsidy), are larger than 30 months. That is we exclude those for whom,

$$T - t_0 > 30 \text{ months}$$

$$t_1 - T > 36 \text{ months}$$

However, we repeat the exercises that will be presented later, restricting to only 18 months in order to assess the robustness of the results.²⁹

Third, there might be differences between the way individuals present themselves as household heads to the *Cajas* and the way they self classify as such in the Sisben survey, or they might simply change their parenthood status between the moment they are interviewed by the Sisben survey and the moment they enroll into the UI. To address this issue, first we estimate the effects for men and women separately. Second, in one exercise we use as comparison group people selected from the whole sample of men (or women) in the baseline –in case beneficiaries were household heads at the moment they enrolled in the UI, but not necessarily at the baseline or follow up-, and in other exercise, only those who were household heads at the baseline.

3. Identification Strategy and Estimation

In this section we propose two different ways to identify the effects of the program: regression discontinuity design, RDD, and matching difference-in-differences and cross-section estimators. In what follows we will refer to the impact of the treatment on the treated as our parameter of interest. Treatment will be denoted by the binary variable D , with $D=1$ for treated individuals and $D=0$ for untreated individuals, who compose the comparison group. We expect to estimate the effect of D on and outcome Y , with Y_1 for the treated and Y_0 for the untreated, conditioning on a set of variables X so that the definition of the treatment on the treated becomes $TT=E(Y_1-Y_0|D=1,X)$.

Outcomes to Study

Sisben survey includes key outcomes of interest for the purposes of the intervention we are interested to study. Outcomes to study (available for both the baselines 2002, 2005; and follow ups 2005, 2009):

- Labor Market Participation (LMP): The Sisben survey allows us to know whether individuals are working, looking for a job, or inactive. In the later case, it tells us whether individuals are studying, working in any home production activity, handicapped, or doing nothing. This variable is equal to one if the individual is either working or unemployed, and zero otherwise.
- Unemployment: This variable is equal to one if the individual is unemployed, and zero otherwise.

²⁹ Those exercises are available upon request but are not included in this article.

- Formality (EPS): we know if the beneficiary was enrolled in any EPS. This variable is equal to one if the individual is enrolled in an EPS, and zero otherwise.
- School attendance: This variable is equal to one if the individual is attending any academic institution, and zero otherwise.
- Individual earnings
- Household earnings: Total earnings of all household members.
- School Index: we construct an index defined as the ratio between the number of kids of the household between 5 and 12 years old at the baseline, who are attending school and the total of children between 5 and 12 years old.
- Weight, Height and Body Mass Index (BMI) and Apgar at Birth: we match Comfama data with Vital Statistics Records of births to assess these outcomes. The BMI is the ratio between the weight of the children in kilograms to his squared height in meters. The Apgar is determined by evaluating the newborn on five simple criteria on a scale from zero to two, then summing up the five values obtained. The resulting Apgar ranges from zero to 10. The five criteria are Appearance, Pulse, Grimace, Activity and Respiration. Apgar1 and Apgar5 refer to the same concept assessed after 1 and 5 minutes the child was born.

3.1 Regression Discontinuity Design

The idea behind RDD is that assignment to treatment is based on a clearly defined cutoff score. Individuals close to the cutoff point are basically similar, so that if there is a discontinuity in the outcome variable after the treatment, it is interpreted as a consequence of the change in eligibility. As it was described in section IV.1 above, only households classified in the two lowest levels of Sisben were eligible to become beneficiaries of the SR for health benefits. This targeting strategy implies that eligibility to the SR changes discontinuously at the cutoff between Sisben levels two and three. We use this discontinuity to estimate the effect of the unemployment insurance on a subset of outcomes around the cutoff point.

Strategy

First, let us analyze how this approach can allow us to identify the parameter of interest. According to this approach, selection into treatment depends either deterministically or probabilistically on a continuous variable z , so that either $D=0$ when $z \rightarrow z_0^+$ and $D=1$ when $z \rightarrow z_0^-$, or $\lim_{z \rightarrow z_0^-} E(D=1 | z_1 = z) > \lim_{z \rightarrow z_0^+} E(D=1 | z_1 = z)$. In the first case we say that the design is *sharp* because selection into treatment is determined deterministically as a function of z , and changes discontinuously at the cutoff z_0 ; and in the second case the design is *fuzzy* because selection into treatment changes probabilistically, and changes as well discontinuously at the cutoff.

In this context, the outcome Y can be expressed as a function of the treatment D and the controls X : $Y_i = \alpha \cdot X_i + \beta \cdot D_i$.

The identifying assumptions underlying this method are three (Hahn et al. (2001): (i) $\lim_{z \rightarrow z_0^-} E(D=1 | z_1 = z)$ and $\lim_{z \rightarrow z_0^+} E(D=1 | z_1 = z)$ exist and they are different; (ii) $E(X | z_1 =$

z) is continuous at $z = z_0$.; and (iii) $E(\beta | z_i = z)$ regarded as a function of z , is continuous at z_0 .

We now proceed to provide empirical evidence, using the data described above, that supports these assumptions. According to our rationale, the system used to target the subsidized regime coupled with the requirements to applicants to the unemployment insurance, Fonede, would imply a probability of enrollment into Fonede that should change discontinuously at the cutoff between the Sisben levels two and three, which determines the boundary between the eligible and non eligible population to the SR. Since subsidies must be given first to the poorest, based on applicant's Sisben level, then the probability of enrollment into the SR could as well change discontinuously around the cutoff that divides Sisben levels one and two, but that should not be the case with enrollment into Fonede, since being affiliated to an EPS would prevent any applicant, regardless of its belonging to Sisben level one or two, to get the unemployment insurance. This test would allow us to assure that assumption (i) above is satisfied.

Figures 13, 14, 15 and 16 show local polynomial regressions of the estimates of the probability of enrollment into Fonede, conditional on the Sisben score, for females, females with restrictions, males, and males with restrictions. For these figures we use data of individuals who became beneficiaries between 2002 and 2005, and matched it with Sisben 2002 data.

We obtain estimates only for household heads living in Medellín in 2002. That is, we include all beneficiary individuals included in the Comfama and Comfenalco databases that matched with the Sisben 2002 data, and a random sample of those individuals not matched with the former that were included in the Sisben 2002 data, who were household heads by then. The graph has a vertical line that specifies the cutoff between Sisben levels two and three. To get the non parametric estimates of the probability of enrollment in the first figure we use only data of people on the left of the cutoff between Sisben levels two, and then we use only people on the right of the same cutoff. The figures show clearly that there is no discontinuity at the cutoff between Sisben levels one and two, but there is one between Sisben levels two and three in some specifications, particularly for formal females.

A similar exercise is shown in Figures 17 to 20, although in those cases we illustrate 2005 UI enrollment data as a function of 2002 Sisben score. For these figures we use data of individuals who became beneficiaries between 2005 and 2010, and matched it with Sisben 2002 and 2005 data. We get the enrollment variable from the Sisben 2007 data, and the Sisben score from the Sisben 2002 score. This exercise seeks to assess whether the discontinuity observed based on data of beneficiaries between 2004 and 2007 is still found for individuals who became beneficiaries between 2007 and 2010. As it is shown in the figures, for that population there is no clear discontinuity in the UI enrollment rate around the cutoff between Sisben levels two and three.

Figure 13. Testing Discontinuity at the Cutoff of the Forcing Variable for Females. 2002 database and Sisben Score. ($t_1 - T < 2$)

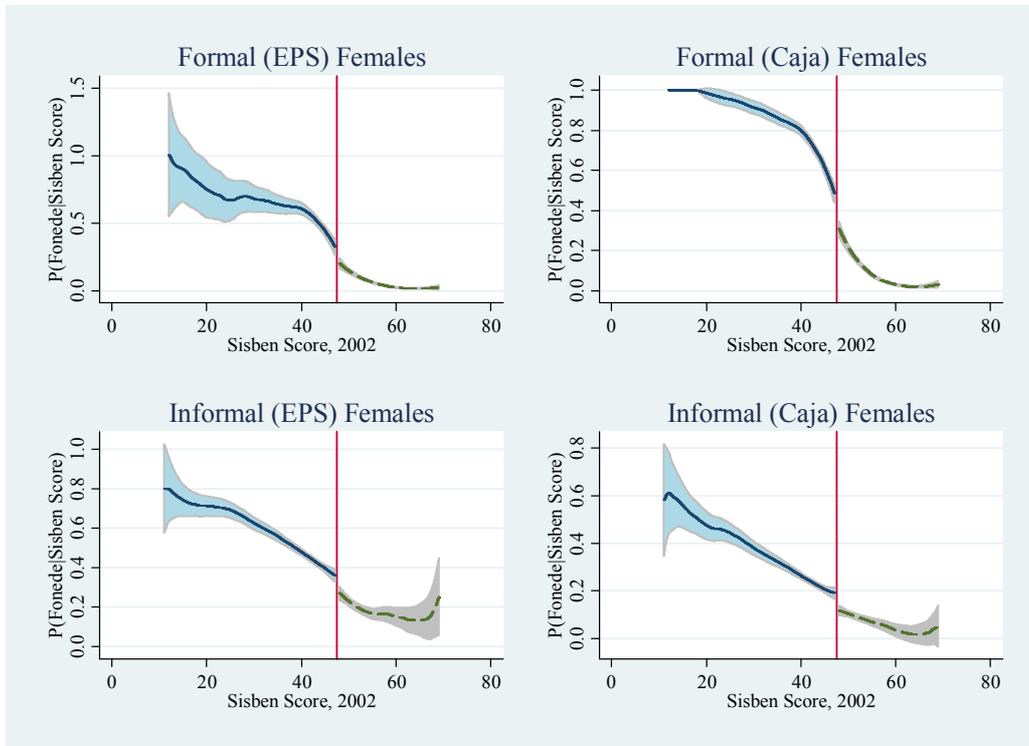


Figure 14. Testing Discontinuity at the Cutoff of the Forcing Variable for Females. 2002 database and Sisben Score. ($t_1 - T < 2$; $T - t_0 < 2$).

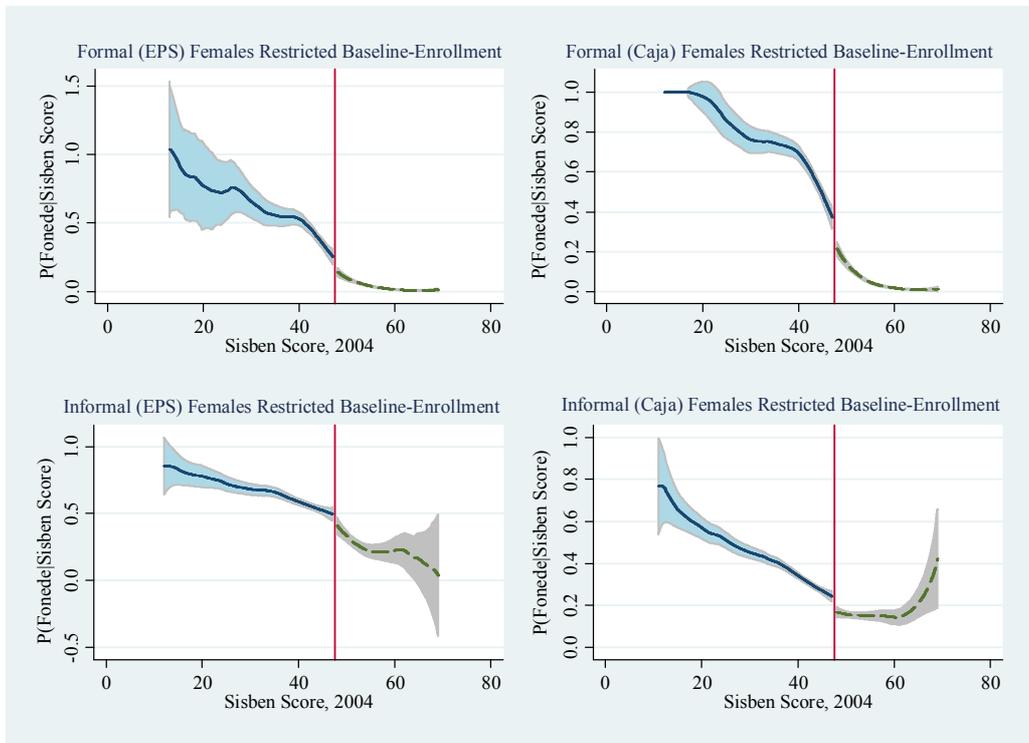


Figure 15. Testing Discontinuity at the Cutoff of the Forcing Variable for Males. 2002 database and Sisben Score. ($t_1 - T < 2$).

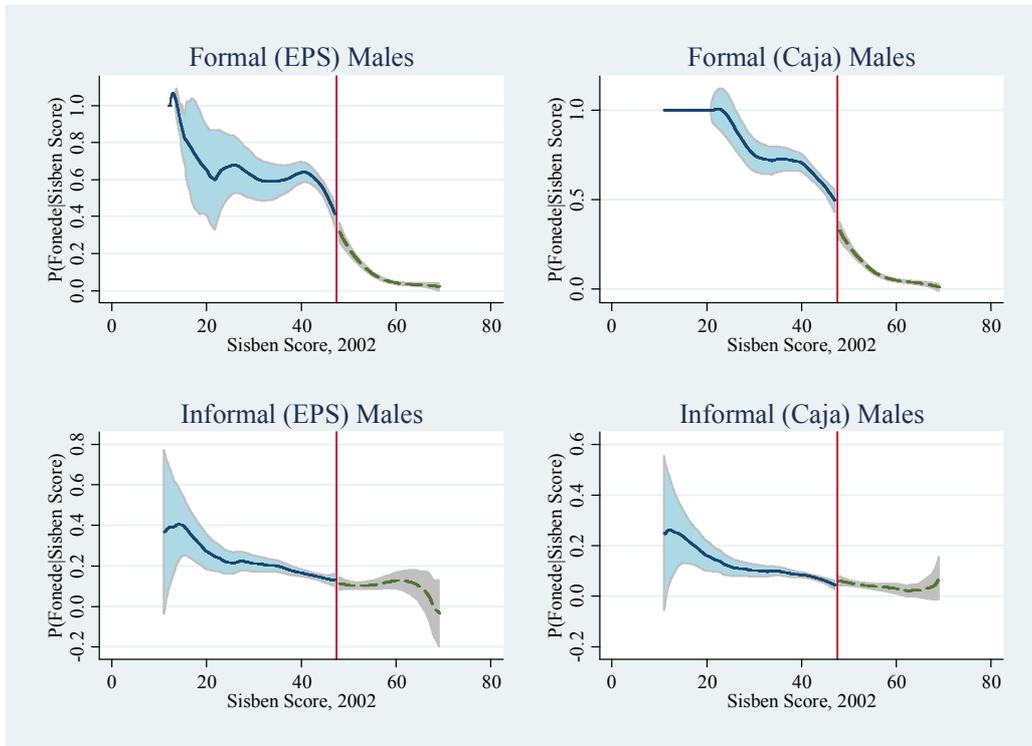


Figure 16. Testing Discontinuity at the Cutoff of the Forcing Variable for Males. 2002 database and Sisben Score. ($t_1 - T < 2$; $T - t_0 < 2$).

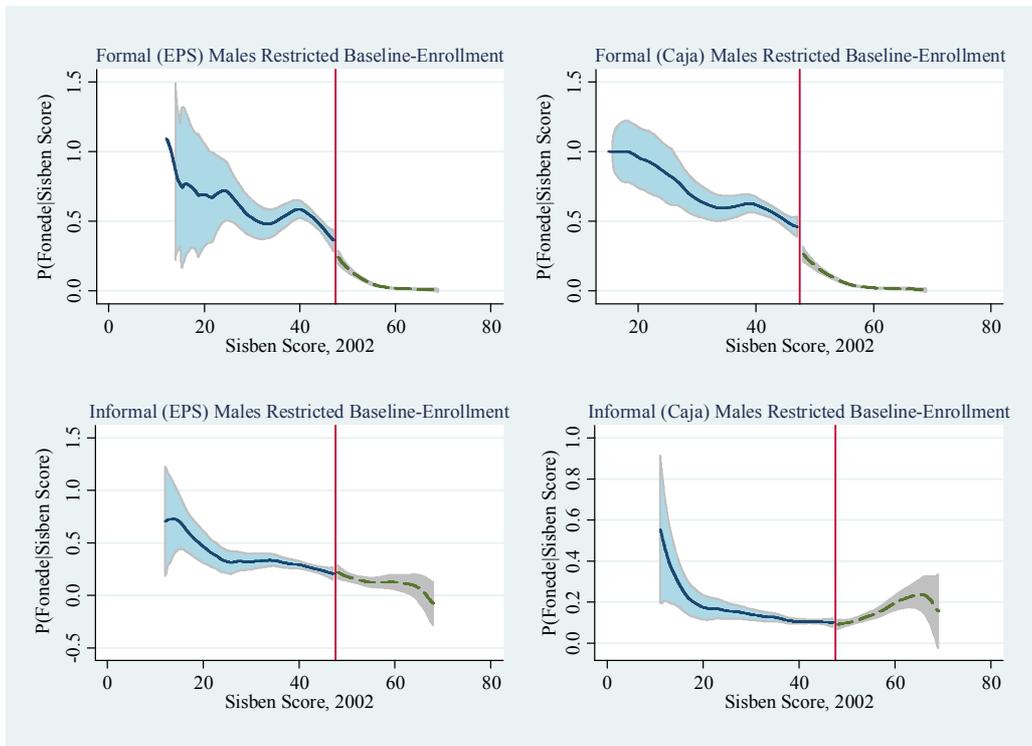


Figure 17. Testing Discontinuity at the Cutoff of the Forcing Variable for Females. 2005 database and 2002 Sisben Score. ($t_1 - T < 2$).

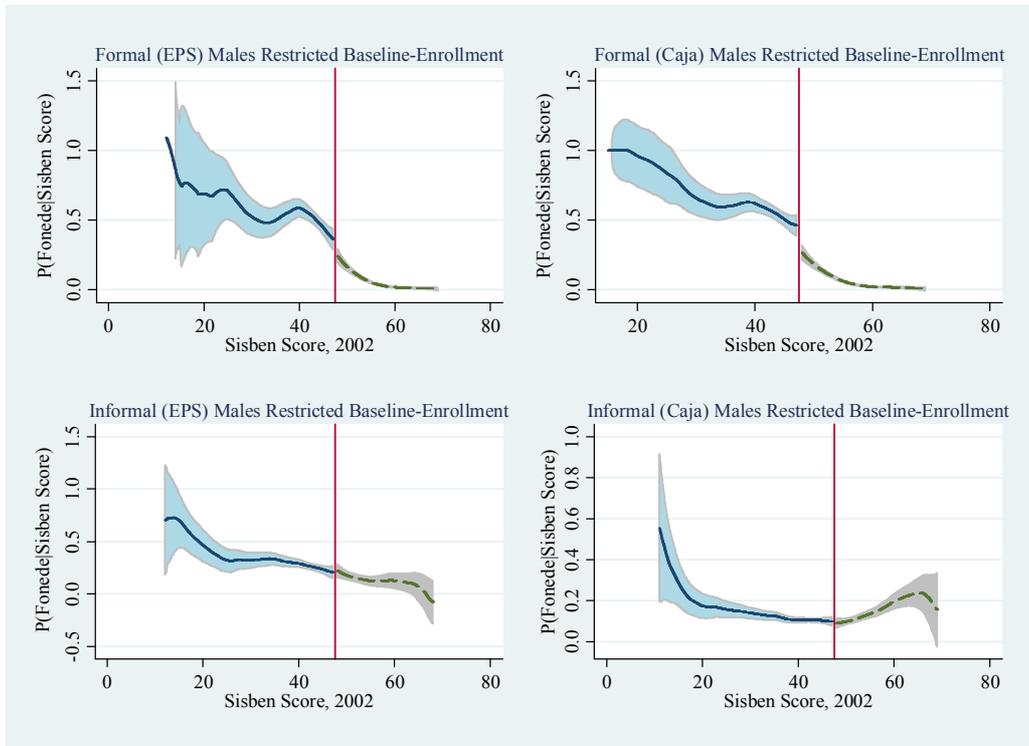


Figure 18. Testing Discontinuity at the Cutoff of the Forcing Variable for Females. 2005 database, 2002 Sisben Score. ($t_1 - T < 2$; $T - t_0 < 2$).

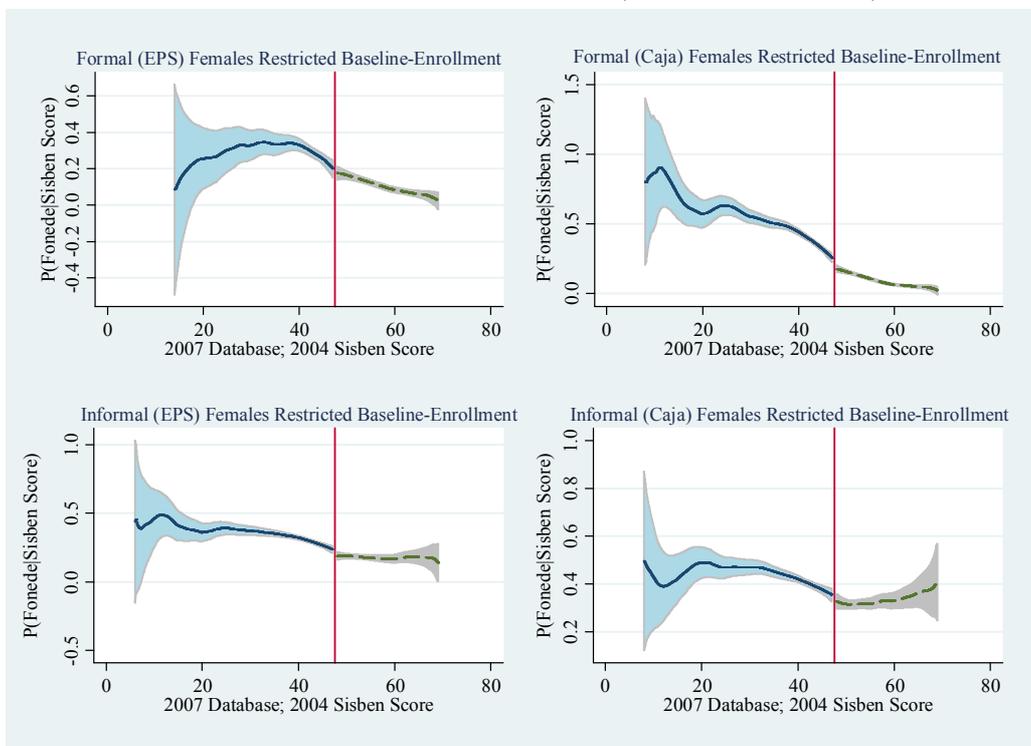


Figure 19. Testing Discontinuity at the Cutoff of the Forcing Variable for Females. 2005 database and Sisben Score. ($t_1 - T < 2$).

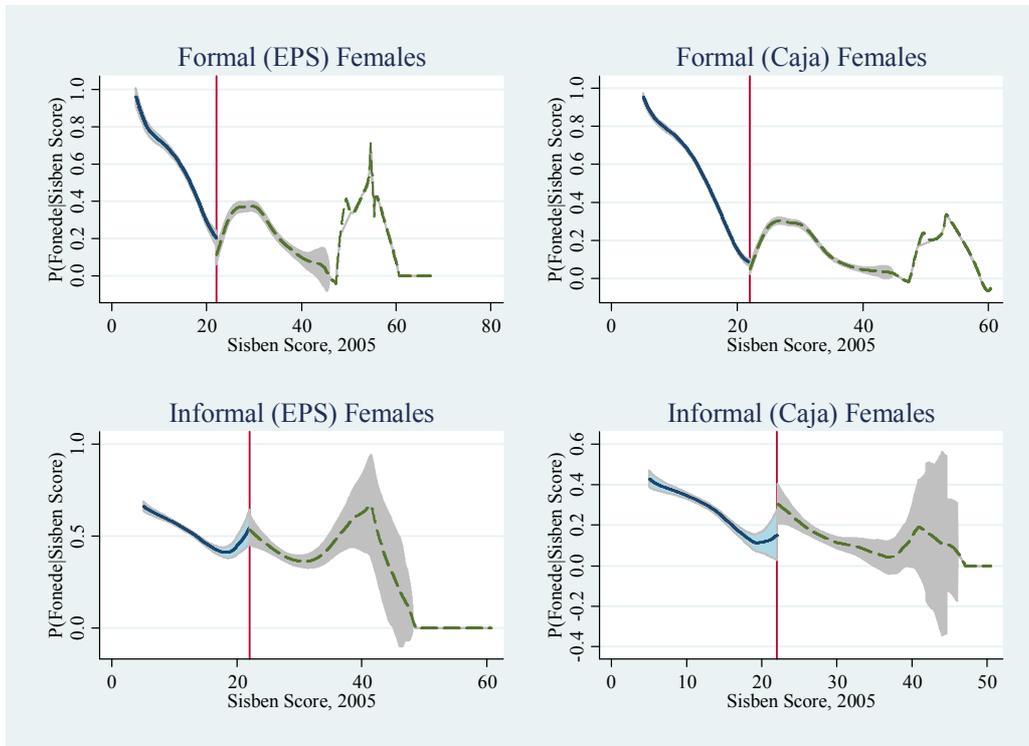
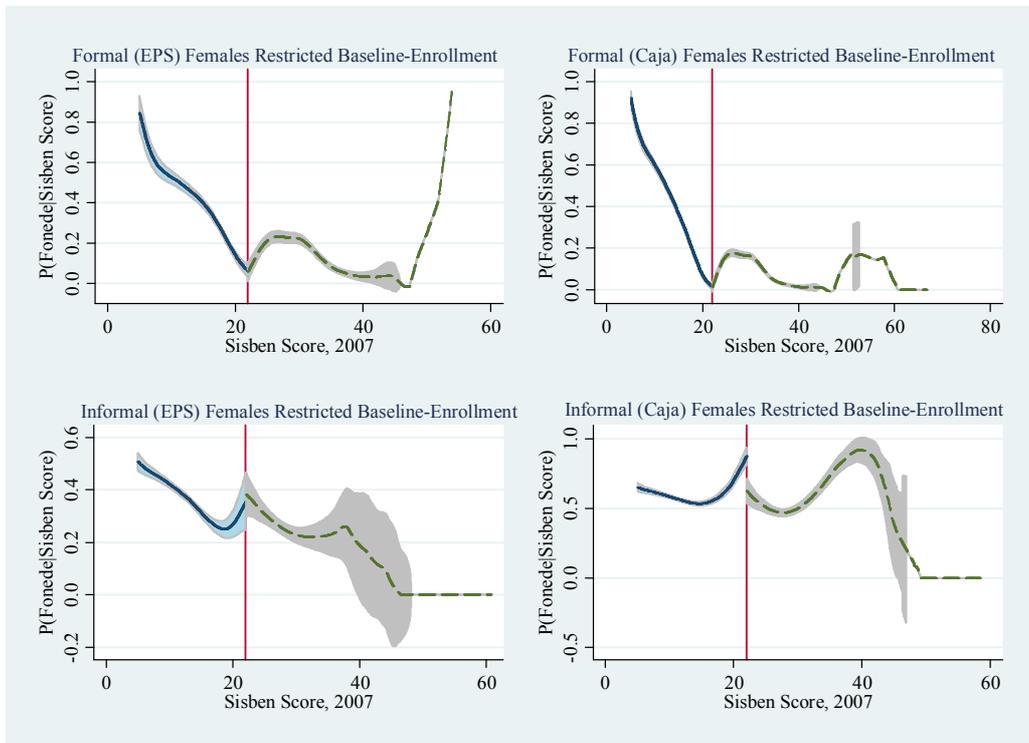


Figure 20. Testing Discontinuity at the Cutoff of the Forcing Variable for Females. 2005 database and Sisben Score. ($t_1 - T < 2$; $T - t_0 < 2$).

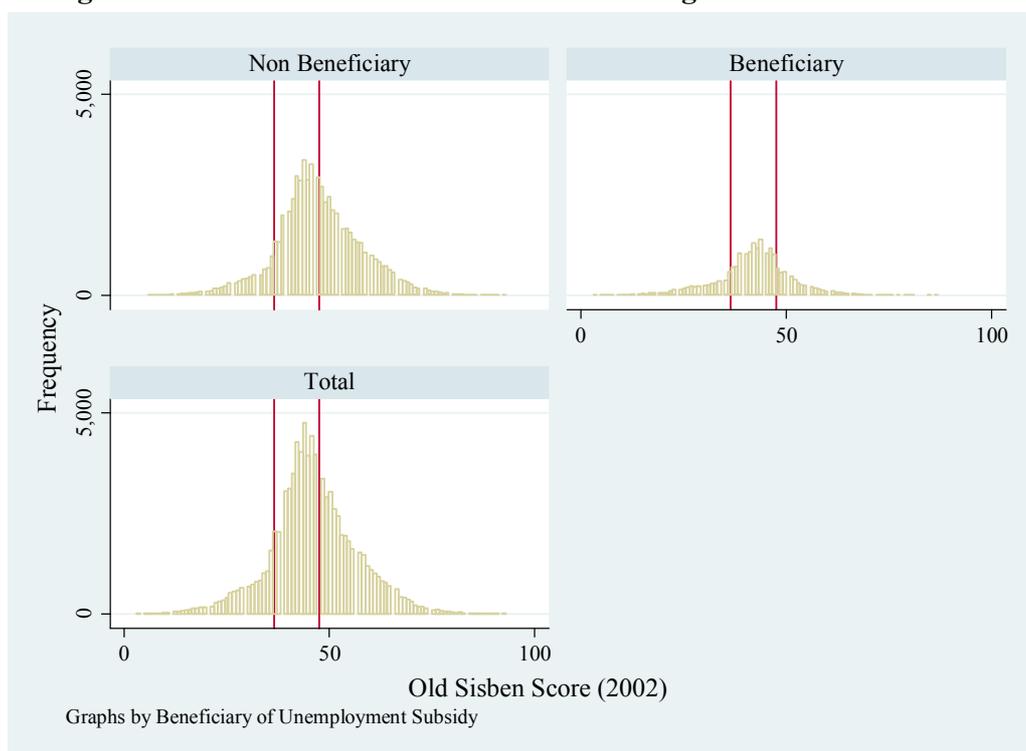


These results show that assumptions of RDD hold better for formal women, since is the only group for which can be appreciate a clearly discontinuity.

Finally, RDD requires that individuals cannot manipulate their scores in any way, either by means of strategic response, cheating in response, corrupting officials, or any other means. Bottia et al. (2008) provide evidence that the denominated Old Sisben, the mechanism that was used from 1993 until 2003, had serious signals of these sorts of limitations. Nonetheless, they report that the New Sisben (the one we use in our estimations), that was implemented since 2004, performed significantly better. Camacho and Conover (2008) also provide evidence of limitations of the Old Sisben, but mention that in some of the main municipalities the system performed well.

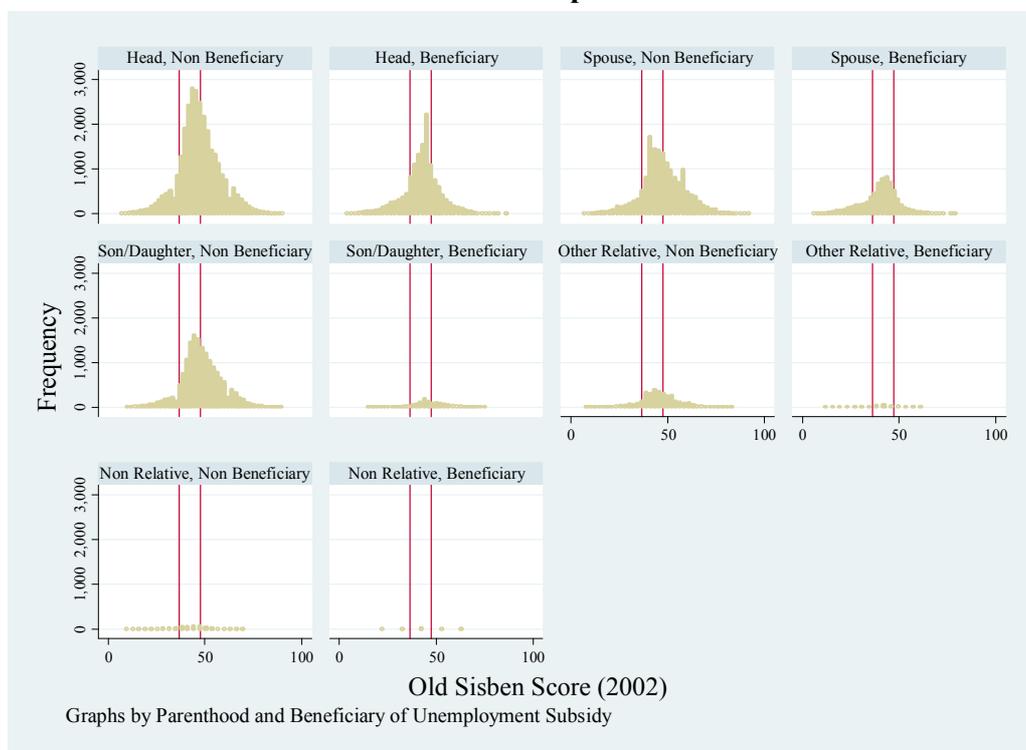
A correct implementation of the survey would imply a smooth distribution of individuals around the cutoff z_0 . Figure 21 shows that the distribution of non beneficiary households changes smoothly around the cutoff between Sisben levels two and three. The distribution of beneficiary individuals changes much less smoothly, which goes in line with the anticipated discontinuity in the targeting of the unemployment subsidies. Figure 22 shows that the same regularity holds when we only consider household heads, or any other household member.

Figure 21. Distribution of Individuals According to their Sisben Scores.



Source: Comfama and Sisben 2002.

Figure 22. Distribution of Individuals According to their Sisben Scores and Individuals' Relationship to Household Head.



Source: Comfama and Sisben 2002.

Results

In this section we present results of the effect of the unemployment insurance on a subset of outcomes, focusing on the subset of individuals between 20 to 55 years old. We follow van der Klaauw (2002) approach for a fuzzy regression discontinuity design, and estimate the following equation

$$Y_i = X_i\beta + \alpha \cdot E(UI_i | S_i) + k(S_i) + w_i \quad (1)$$

Where Y_i is the outcome of interest, X_i is a vector of control variables, UI_i is a dummy variable indicating whether individual i was beneficiary of the unemployment insurance, S_i is the Sisben score, and $k(S_i)$ is a polynomial on S_i .³⁰ The expected value in (1) is obtained from the following first-stage estimation:

$$UI_i = X_i\beta + f(S_i) + \gamma \cdot 1[S_i \geq \bar{S}] + \varepsilon_i \quad (2)$$

³⁰ Specifically, $k(S) = \sum_1^3 \beta_j S^j$.

Where $f(S) = \sum_0^3 \psi_{0k} S^k + \sum_1^3 \psi_{1k} (S - \bar{S})^k \cdot 1[S \geq \bar{S}]$, where $1[S \geq \bar{S}]$ is an indicator function equal to one if the term in brackets is true and zero otherwise. Significance of the coefficient guarantees discontinuity at the cut-off of enrollment into the unemployment insurance between Sisben levels two and three.

Table 14 presents summary results of the effect of the UI on various outcomes. Since the population of the studied subset of beneficiaries at t_1 who are enrolled in an EPS and belong to Sisben levels one or two is negligible, we cannot identify the effect of the UI on EPS enrollment using RDD, what explains the magnitude of the estimated coefficients on that outcome variable.

Results for the formal population show a strong and robust reduction of earnings of beneficiaries, although the magnitude of the estimated coefficients seems too large, mostly if we take into account that the benefit varies between \$80 and \$120 thousand per month. The US seems to negatively affect labor participation according to the definition of formality that depends on previous enrollment to a CCF.

Results for the informal population only show a slightly significant negative effect on school attendance.

Table 14. Summary Results of the Effect of the UI. RDD Estimates.

Formal								
Variable	EPS=1 $\forall D$				(Caja=1 & D=1) \vee (EPS=1 & D=0)			
	$T-t_0 < 24$		$(T-t_0 < 24)$		$T-t_0 < 24$		$(T-t_0 < 24)$	
	Coefficient	Std. Err.	Coefficient	Std. Err.	Coefficient	Std. Err.	Coefficient	Std. Err.
Females, 20-55 yrs Old								
1[S< \hat{S}], g	0.0209	0.0111	0.0207	0.0102	0.0363	0.0134	0.0243	0.0118
LFP	-0.5716	0.2346	-0.7930	0.3144	-0.3900	0.1434	-0.6056	0.2291
Unemployment	-0.0085	0.0736	-0.0035	0.0968	-0.0084	0.0456	0.0342	0.0703
School Attendance	0.0204	0.0676	0.0128	0.0916	-0.0018	0.0423	-0.0012	0.0669
Household Income	-243,633	160,847	-308,329	217,822	-157,462	96,269	-201,119	154,873
Earnings	-217,717	79,923	-284,191	108,243	-170,360	48,176	-240,956	77,637
Males, 20-55 yrs Old								
1[S< \hat{S}], g	0.0293	0.0173	0.0192	0.0154	0.0496	0.0180	0.0275	0.0163
LFP	0.1490	0.2594	0.1665	0.3124	0.0992	0.2112	0.1502	0.2637
Unemployment	0.0774	0.2183	0.1630	0.2586	-0.0555	0.1771	0.0655	0.2178
School Attendance	0.0167	0.1030	0.0112	0.1247	0.0372	0.0822	0.0053	0.1051
Household Income	-680,108	235,730	-831,175	285,257	-509,402	189,938	-705,149	241,240
Earnings	-403,419	130,517	-494,014	157,823	-282,918	105,607	-378,224	133,053
Informal								
Variable	EPS=0 $\forall D$				(Caja=0 & D=1) \vee (EPS=0 & D=0)			
	$T-t_0 < 24$		$\& (t_1-T < 24)$		$T-t_0 < 24$		$\& (t_1-T < 24)$	
	Coefficient	Std. Err.	Coefficient	Std. Err.	Coefficient	Std. Err.	Coefficient	Std. Err.
Females, 20-55 yrs Old								
1[S< \hat{S}], g	0.0029	0.0018	0.0013	0.0013	0.0043	0.0013	0.0053	0.0017
LFP	0.1355	1.2310	0.5618	1.7154	-0.1717	1.2638	-0.1939	1.0882
Unemployment	0.0867	0.5296	0.1431	0.7452	0.1868	0.5458	0.1580	0.4706
School Attendance	-0.7067	0.3669	-0.8291	0.5214	-0.6704	0.3741	-0.6131	0.3219
Household Income	464,007	744,181	42,004	1,043,647	536,697	769,707	742,655	664,307
Earnings	-547,727	337,580	-771,701	474,105	-592,760	350,836	-453,017	303,081
Males, 20-55 yrs Old								
1[S< \hat{S}], g	-0.0005	0.0011	-0.0007	0.0009	-0.0011	0.0010	-0.0008	0.0014
LFP	4.2758	7.6063	-9.3265	9.1847	7.5057	3.6085	-2.5646	4.8253
Unemployment	3.0302	6.4784	-1.5793	7.8213	4.4011	3.0829	0.2033	4.0812
School Attendance	3.4305	2.7903	-0.4164	3.1425	0.1923	1.2821	1.3593	1.6244
Household Income	16,317,728	5,829,947	819,871	6,868,296	7,131,826	2,697,061	6,411,401	3,596,343
Earnings	5,365,894	3,135,659	-1,502,860	3,773,183	4,343,808	1,471,096	998,463	1,953,958

Source: Authors calculations using 2005 Sisben Survey, and Comfama and Comfenalco information for beneficiaries. The shaded areas cannot provide reliable results due to the lack of discontinuity at the cutoff.

3.2 Matching Estimators

Since the RDD strategy only allows us to identify the parameter of interest at the cutoff z_0 , it can be useful to complement those estimates with an additional one that could give us a mean impact on a wide support of the whole population, which is what we would try doing by using the matching method.

This method assumes selection takes place based on observable variables. Tables in Appendixes 6 to 7 include the variables of the Sisben survey we use in our matching estimations. Some of these observable variables are school attendance, earnings of household, earnings, labor market participation, unemployment, household head gender, children under 6 and 18 years old, households size, among others. They also include the descriptive statistics of the whole sample of individuals who became beneficiaries of the UI between 2002 and 2005; and of the non beneficiaries in the same period.

The table has a panel for beneficiaries and another for non beneficiaries. Each of those panels is divided in one for males and another for females. Finally, each panel by gender is divided in individuals who at the baseline period were formal and informal workers.

Data provided by the *Cajas* allow us to know whether beneficiaries of the UI were previously enrolled in a *Caja*, and whether they were previously enrolled in an EPS, but Sisben data for individuals in the comparison group does not allow us to know whether individuals in the baseline were enrolled in a *Caja*, but just whether they were enrolled in an EPS. That is why in the group of formal individuals we have two subsets for the treated (beneficiaries of UI), one which takes as formal anyone who was enrolled in an EPS in the baseline (EPSF: $EPS=1, \forall D$), regardless of whether he or she was enrolled in a *Caja* ($Caja=1$), and another that takes as formal in the treatment group only those who were enrolled in a CCF (Family Compensation Funds, *Caja* at the baseline. The comparison groups in both cases are those enrolled in an EPS, at the baseline. (CajaF: those for which $Caja=1$ if $D=1$; and those for which $EPS=1$ if $D=0$).

The formerly informal workers are defined respectively for treated individuals either as those who were not enrolled in an EPS in the baseline (EPSI: $EPS=0, \forall D$), regardless of whether he or she was enrolled in a CCF ($Caja=1$), and those who were not enrolled in a CCF at the baseline. Again, the comparison groups for both cases are those not enrolled in an EPS, at the baseline. (CajaI: those for which $Caja=0$ if $D=1$; and those for which $EPS=0$ if $D=0$).

The table includes the mean and standard deviation of the outcomes of the individuals according to their information included in the 2005 Sisben survey, and of their baseline characteristics included in the 2002 Sisben survey.

According to the baseline information, it becomes clear that non beneficiaries are better off than beneficiaries. They had higher rates of school attendance, higher household and individual earnings, lower unemployment rates, they are more likely to have secondary education, their households are less likely to be headed by a woman, have less children

under 6 and 18, have fewer members, are less likely to own the house they live in, and are less likely to live in socioeconomic stratum 1 (the poorest)³¹.

A similar story follows from Appendix 3, which presents the results of the whole sample for the period between 2005 and 2009; and from appendixes 8 and 9 that present the statistics for individuals who were household heads at the baseline in the same periods considered in Appendixes 6 and 7.

Even though the sample of beneficiaries seems very different to that of non beneficiaries, that should not pose significant limits to applying the matching estimators since there is a large set of people in the comparison group from which to get the matches for each beneficiary in the treatment group.

We obtain matching differences-in-differences and cross-section estimators for all of the outcomes of interest, except those we only have at the follow up like the unemployment duration, for which we only get cross section estimates, as well as with the variable 'enrolled in a EPS', since it is used to define whether the individual belongs to the formal or informal group. We present our results for males and females, formal and informal, and for the periods between 2002 and 2005, and between 2005 and 2009. For all of these cases we estimate the effect on the seven outcomes mentioned above.

Labor Market Outcomes

Tables 15 and 16 present Matching cross section, CS, and differences-in-differences, DID, estimates of the effect of the unemployment insurance on labor market participation, unemployment and enrollment in an EPS, for females and males respectively, between 21 and 54 years old. In each case, the tables contain results for formal and informal workers, for the period between 2002 and 2005.³² Tables 17 and 18 present similar results for the period between 2005 and 2009. Finally, tables 19 and 20 present the results obtained when we split the beneficiaries according to the type of training courses they took in the UI program, namely those related to the industrial, management and services, technology and software, and other courses.

Here we will focus our description on the DID results obtained for the period between 2005 and 2009 which is the one for which we obtained a larger number of beneficiaries of the UI.

We find that the effect of the UI on formal females is a slight fall on labor participation, no effect on unemployment, and a fall of both individual and household earnings. For informal females we find no effect on labor participation and a minor increase on unemployment. As it was the case with formal females, both individual and household earnings fall, and the fall in earnings is larger for formal than informal females.

³¹ Urban areas in Colombia are split into six socioeconomic strata in which, the first one has the lowest income levels (the poorest). The strata are used by authorities to target social spending like that in the supply of public services (water, electricity), housing, health insurance for the poor, etc.

³² See Appendix 6 to 9 for summary of the variables employed in the estimations presented in this section, for the period between 2002 and 2005, and between 2005 and 2009.

Labor participation of formal females falls regardless of the type of training course they took in the UI program. The estimated fall due to the program is in this case of a larger magnitude to the one estimated when females were not split by the type of training courses they took. Unemployment falls for formal females who took courses in Industrial and Manufacturing and other topics, while remains unchanged for those who took courses in management and services, and in technology and software³³. Both individual and household earnings fall, although in a smaller magnitude for those formal females who took courses in technology and software.

For informal females there is no effect of the UI program on labor participation or unemployment, although individual earnings always fall but for females who took courses on technology and software, while household earnings always fall but for females who took courses on management and services, and to a lesser extent for those who took technology and software.

For formal males we find that labor participation falls about twice as much as it falls for females. Unemployment increases for the subsample of household head males, while it remains unchanged for the whole sample of males. Both individual and household earnings fall. Informal males also reduce their labor participation, but half as much as formal males. Unemployment is not affected. Finally, and as it was the case with the females, the decrease in earnings is larger for formal than informal males.

Labor participation of formal males falls regardless of the type of training courses they took, although the reduction is smaller for those who took courses in technology and software. Unemployment of formal males is not affected by the type of training courses they took. Individual earnings fall regardless of the type of training they took, but household earnings fall for all types of training but management and services. The results included in the table for informal males are not robust due to the small size of their sample.

Consumption Outcomes

We assess whether the UI allows beneficiaries to smooth consumption by studying its effect on their school attendance, and on the overall school attendance rate of all household members 6 to 18 years old, defined as the ratio of those members attending school to the total number of household members in that age range. In addition, we assess the UI effect on the weight, height, the Body Mass Index, BMI, and the Apgar of the beneficiary females' children at birth.³⁴

³³ We divide the training course in four categories: Industrial and Manufacturing, Management and Services, Technology and Software and Others.

³⁴ The BMI is the ratio of the children's weight to the square of their height, and it is expressed in kilograms per square meter. The Apgar is determined by evaluating the newborn on five simple criteria on a scale from zero to two, then summing up the five values obtained. The resulting Apgar ranges from zero to 10. The five criteria are Appearance, Pulse, Grimace, Activity and Respiration. Apgar1 and Apgar5 refer to the same concept assessed after 1 and 5 minutes the child was born. We defined each Apgar as 1 if the score was 7 or more, and zero otherwise. See descriptive statistics in appendix 10, where it becomes evident that beneficiaries' socioeconomic variables suggest they are worse off than non beneficiaries.

Formal females' school attendance and school indexes are not affected by the UI but only in a few cases where it is slightly positive. School attendance does not affect informal females or if something, slightly negatively, while the school index is affected slightly negatively by the UI. We found no effect of the UI on weight, height, BMI or any Apgar of beneficiaries' children at birth.

The UI has a small positive effect on school attendance of the overall sample of formal males, while for those who are household heads there is no effect. A similar result follows for the school index. For informal workers we find no effect of the UI on either school attendance or the school index.

Table 15: Matching Estimators for the 2002 and 2005 Sisben Surveys. Whole Sample and Household Heads. Females.

Population		Outcome	All Females in 2002						HH Females in 2002			
			Number of Observations	Number Treated	Cross Section		Diff-in-Diff		Number of Observations	Number Treated	Diff-in-Diff	
					ATT	z	ATT	z			ATT	z
Formal	EPS=1 ∇ D	LMP	34,679	840	-0.063	-3.08	0.004	0.21	10,845	551	-0.018	-0.72
		Unemployment	34,679	840	0.030	3.35	-0.037	-2.80	10,845	551	-0.032	-1.76
		EPS (Health Insurance)	34,679	840	-0.532	-31.30						
		Earnings of Household	34,679	840	-208,205	-15.52	-105,400	-7.71	10,845	551	-117,407	-6.99
		Earnings	34,679	840	-79,716	-11.61	-27,941	-4.05	10,845	551	-46,046	-5.39
		School Attendance	34,679	840	-0.001	-0.14	0.017	1.80	10,845	551	0.010	0.88
		School Index	33,559	866			-0.023	-1.18				
	D=1: Caja=1, D=0: EPS=1	LMP	34,807	1,957	-0.074	-4.91	0.001	0.07	10,387	93	-0.044	-2.21
		Unemployment	34,807	1,957	0.023	3.89	0.001	0.07	10,387	93	-0.036	-2.75
		EPS (Health Insurance)	34,807	1,957	-0.537	-44.83						
		Earnings of Household	33,862	1,815	-200,129	-21.58	-85,675	-9.27	10,387	93	-102,923	-8.14
		Earnings	33,862	1,815	-77,521	-16.91	-21,935	-4.99	10,387	93	-37,346	-6.43
		School Attendance	33,862	1,815	-0.004	-0.98	0.010	1.66	10,387	93	0.002	0.23
		School Index	35,405	2004			0.040	2.09				
Informal	EPS=0 ∇ D	LMP	156,092	3,286	0.014	1.2	0.007	0.66	63,244	1,995	-0.011	-0.88
		Unemployment	156,092	3,286	0.011	2.1	0.002	0.32	63,244	1,995	0.001	0.14
		EPS (Health Insurance)	156,092	3,286	-0.090	-11.95						
		Earnings of Household	156,092	3,286	-52,723	-10.54	-51,178	-10.18	63,244	1,995	-52,829	-7.79
		Earnings	156,092	3,286	-9,526	-4.08	-13,180	-5.48	63,244	1,995	-17,942	-5.57
		School Attendance	156,092	3,286	0.000	0.1	0.004	1.24	63,244	1,995	-0.0002	-0.05
		School Index					-0.009	-0.72				
	D=1: Caja=0, D=0: EPS=0	LMP	154,237	1,957	0.022	2.28	-0.009	-0.65	61,342	93	-0.0174	-1.07
		Unemployment	154,237	1,957	0.002	0.57	0.011	1.35	61,342	93	0.0023	0.22
		EPS (Health Insurance)	154,237	1,957	-0.096	-18.92						
		Earnings of Household	156,790	3,984	-56,871	-8.64	-61,295	-9.26	61,342	93	-51,085	-5.82
		Earnings	156,790	3,984	-12,448	-3.98	-22,535	-6.98	61,342	93	-23,203	-5.56
		School Attendance	156,790	3,984	-0.006	-1.59	-0.001	-0.29	61,342	93	-0.0130	-2.21
		School Index	156,790	3,984			-0.018	-1.69				

Source: Authors calculations using 2002 and 2005 Sisben Surveys, and Comfama and Comfenalco information for beneficiaries.

Table 16: Matching Estimators for the 2002 and 2005 Sisben Surveys. Whole Sample and Household Heads. Males.

Population		Outcome	All Males in 2002						HH Males in 2002			
			Number of Observations	Number Treated	Cross Section		Diff-in-Diff		Number of Observations	Number Treated	Diff-in-Diff	
					ATT	z	ATT	z			ATT	z
Formal	EPS=1 ∇ D	LMP	23,696	737	-0.096	-5.73	-0.080	-4.53	18,355	608	-0.087	-4.70
		Unemployment	23,696	737	0.102	6.62	-0.009	-0.42	18,355	608	0.040	1.90
		EPS (Health Insurance)	23,696	737	-0.506	-27.19						
		Earnings of Household	23,696	737	-196,595	-15.68	-61,949	-4.65	18,355	608	-84,388	-6.07
		Earnings	23,696	737	-127,043	-17.02	-66,733	-8.37	18,355	608	-93,222	-10.88
		School Attendance	23,696	737	0.002	0.41	0.009	1.22	18,355	608	-0.002	-0.32
			School Index	24,108	759			-0.022	-1.072			
	D=1: Caja=1, D=0: EPS=1	LMP	23,870	914	-0.094	-6.25	-0.081	-5.16	17,833	86	-0.086	-5.07
		Unemployment	23,870	914	0.109	7.94	0.007	0.36	17,833	86	0.050	2.57
		EPS (Health Insurance)	23,870	914	-0.521	-31.01						
		Earnings of Household	23,873	914	-207,495	-18.5	-80,661	-6.77	17,833	86	-97,245	-7.57
		Earnings	23,873	914	-133,058	-19.54	-74,157	-10.17	17,833	86	-96,239	-12.05
		School Attendance	23,873	914	0.004	0.89	0.008	1.24	17,833	86	-0.0004	-0.07
			School Index	24,290	941			-0.010	-0.53			
Informal	EPS=0 ∇ D	LMP	122,375	628	-0.070	-4.09	-0.064	-3.46	71,318	498	-0.085	-4.72
		Unemployment	122,375	628	0.052	3.44	0.040	1.99	71,318	498	0.024	1.19
		EPS (Health Insurance)	122,375	628	-0.097	-7.54						
		Earnings of Household	122,375	628	-99,195	-8.84	-96,742	-8.40	71,318	498	-88,627	-7.13
		Earnings	122,375	628	-64,550	-10.07	-67,835	-10.33	71,318	498	-65,073	-9.06
		School Attendance	122,375	628	-0.001	-0.29	0.001	0.19	71,318	498	-0.007	-1.34
			School Index	121,710	643			0.057	2.88			
	D=1: Caja=0, D=0: EPS=0	LMP	120,473	451	-0.067	-3.25	-0.056	-2.48	71,840	1,020	-0.076	-3.51
		Unemployment	120,473	451	0.034	1.92	0.022	0.95	71,840	1,020	0.007	0.28
		EPS (Health Insurance)	120,473	451	-0.101	-7.24						
		Earnings of Household	122,198	451	-92,555	-6.97	-82,920	-6.11	71,840	1,020	-81,873	-5.56
		Earnings	122,198	451	-59,403	-7.88	-56,364	-7.48	71,840	1,020	-59,822	-7.23
		School Attendance	122,198	451	0.002	0.27	0.002	0.26	71,840	1,020	-0.005	-0.94
			School Index	123,311	461			0.054	2.34			

Source: Authors calculations using 2002 and 2005 Sisben Surveys, and Comfama and Comfenalco information for beneficiaries.

Table 17: Matching Estimators for the 2005 and 2009 Sisben Surveys. Whole Sample and Household Heads. Females.

Population		Outcome	All Females in 2005						HH Females in 2005			
			Number of Observations	Number Treated	Cross Section		Diff-in-Diff		Number of Observations	Number Treated	Diff-in-Diff	
					ATT	z	ATT	z			ATT	z
Formal	EPS=1 ∇ D	LMP	80,425	2,470	-0.005	-0.5	-0.085	-6.56	19,305	869	-0.078	-4.01
		Unemployment	80,425	2,470	0.049	10.0	-0.009	-1.44	19,305	869	-0.011	-1.07
		Number of Weeks Unemployed					-0.107	-0.58				
		EPS (Health Insurance)	80,425	2,470	-0.473	-45.7						
		Earnings of Household	80,425	2,470	-209,186	-16.62	-84,500	-6.30	19,305	869	-99,056	-4.62
		Earnings	80,425	2,470	-75,714	-12.4	-57,966	-8.92	19,305	869	-82,387	-7.54
		School Attendance	80,425	2,470	0.006	1.53	0.011	2.11	19,305	869	0.003	0.32
	Household School Attendance Index					-0.002	-0.16					
	D=1: Caja=1, D=0: EPS=1	LMP	83,621	5,666	-0.016	-1.9	-0.003	-0.34	20,635	2,199	-0.037	-2.59
		Unemployment	83,621	5,666	0.035	10.7	-0.013	-2.97	20,635	2,199	-0.0002	-0.03
		Number of Weeks Unemployed					-0.430	-4.22				
		EPS (Health Insurance)	83,621	5,666	-0.507	-70.0						
		Earnings of Household	83,621	5,666	-227,448	-25.17	-39,097	-4.06	20,635	2,199	-60,564	-3.97
		Earnings	83,621	5,666	-76,941	-18.93	-21,993	-5.16	20,635	2,199	-55,921	-7.85
School Attendance		83,621	5,666	0.007	2.78	0.009	2.54	20,635	2199	0.009	1.9	
Household School Attendance Index					-0.004	-0.47						
Informal	EPS=0 ∇ D	LMP	117,654	4,388	0.029	3.4	-0.010	-1.02	32,643	1,806	-0.002	-0.16
		Unemployment	117,654	4,388	0.006	2.0	0.012	2.48	32,643	1,806	0.013	1.87
		Number of Weeks Unemployed					0.265	1.66				
		EPS (Health Insurance)	117,654	4,388	-0.124	-19.1						
		Earnings of Household	117,654	4,388	-72,429	-9.23	-52,857	-6.51	32,643	1,806	-49,361	-4.12
		Earnings	117,654	4,388	-11,796	-3.61	-26,687	-7.64	32,643	1,806	-25,583	-4.77
		School Attendance	117,654	4,388	0.009	3.86	0.016	4.92	32,643	1806	0.004	0.92
Household School Attendance Index					-0.032	-3.81						
All Sample 2006-9*	Weight at Birth	12,464	166	-92.4	-2.24							
	Height at Birth	12,502	166	0.029	0.08							
	BMI at Birth (Kg/m ²)	12,464	166	-0.365	-2.61							
	Apgar1	10,666	123	0.0047	0.20							
All Sample 2006-7**	Apgar5	10,605	121	0.0073	0.65							
	Weight at Birth	10,774	125	-13.8	-0.32							
	Height at Birth	10,793	125	-0.058	-0.22							
	BMI at Birth (Kg/m ²)	10,774	125	-0.042	-0.32							

Source: Authors calculations using 2005 and 2009 Sisben Surveys, and Comfama and Comfenalco information for beneficiaries. * Variables in the propensity score include information at the baseline of whether the individual attended school, his education, the gender of HH head, his main economic activity, his earnings, number of children under 6, number of children under 18, HH size, house ownership, socioeconomic stratum, length of pregnancy, type of birth, age of mother, number of children born alive, number of pregnancies, age of father. ** In addition to the previous variables, it includes the education of the mother and that of the father.

Table 18: Matching Estimators for the 2005 and 2009 Sisben Surveys. Whole Sample and Household Heads. Males.

Population		Outcome	All Males in 2007						HH Males in 2007			
			Number of Observations	Number Treated	Cross Section		Diff-in-Diff		Number of Observations	Number Treated	Diff-in-Diff	
					ATT	z	ATT	z			ATT	z
Formal	EPS=1 ∇ D	LMP	56,514	1,575	-0.102	-9.87	-0.078	-6.83	38,452	1,078	-0.099	-8.39
		Unemployment	56,514	1,575	0.088	10.08	0.008	0.76	38,452	1,078	0.055	4.57
		Number of Weeks Unemployed					0.312	1.12				
		EPS (Health Insurance)	56,514	1,575	-0.414	-31.88						
		Earnings of Household	56,514	1,575	-218,600	-14.79	-77,508	-4.98	38,452	1,078	-115,202	-6.76
		Earnings	56,514	1,575	-140,100	-16.07	-84,487	-9.08	38,452	1,078	-138,733	-12.48
	D=1: Caja=1, D=0: EPS=1	School Attendance	56,514	1,575	0.007	1.83	0.019	3.25	38,452	1078	-0.002	-0.4
		Household School Attendance Index					-0.024	-1.41				
		LMP	57,066	2,127	-0.086	-9.43	-0.057	-5.77	38,842	1,468	-0.077	-7.42
		Unemployment	57,066	2,127	0.080	10.6	0.001	0.14	38,842	1,468	0.043	4.00
		Number of Weeks Unemployed					-0.112	-0.42				
		EPS (Health Insurance)	57,066	2,127	-0.432	-38.06						
		Earnings of Household	57,066	2,127	-213,199	-16.39	-63,511	-4.66	38,842	1,468	-96,690	-6.38
		Earnings	57,066	2,127	-135,904	-18.16	-74,985	-9.44	38,842	1,468	-122,755	-12.87
School Attendance	57,066	2,127	0.008	2.23	0.018	3.51	38,842	1468	0.000	0.00		
Household School Attendance Index					-0.036	-2.48						
Informal	EPS=0 ∇ D	LMP	90,348	726	-0.011	-0.72	-0.045	-2.55	39,704	503	-0.029	-1.72
		Unemployment	90,348	726	-0.003	-0.21	0.024	1.34	39,704	503	0.018	0.98
		Number of Weeks Unemployed					0.828	1.91				
		EPS (Health Insurance)	90,348	726	-0.072	-4.25						
		Earnings of Household	90,348	726	-32,922	-1.69	-32,248	-1.62	39,704	503	-29,841	-1.28
		Earnings	90,348	726	-16,009	-1.55	-46,030	-4.32	39,704	503	-40,287	-3.10
		School Attendance	90,348	726	0.010	1.85	0.022	2.84	39,704	503	-0.003	-0.45
		Household School Attendance Index					-0.081	-4.41				

Source: Authors calculations using 2005 and 2009 Sisben Surveys, and Comfama and Comfenalco information for beneficiaries.

Table 19: Matching Estimators for the 2005 and 2009 Sisben Surveys By Training Program. Whole Sample. Females.

Population		Outcome	Type of training											
			Not defined			Industrial			Management and Services			Technology and Softwares		
			Number of Observations	ATT	z	Number of Observations	ATT	z	Number of Observations	ATT	z	Number of Observations	ATT	z
Formal	EPS=1 ∨ D	LMP	79,051	-0.128	-6.98	78,499	-0.125	-5.90	77,976	-0.152	-6.13	77,562	-0.116	-3.67
		Unemployment	79,051	-0.023	-2.52	78,499	-0.047	-4.53	77,976	-0.009	-0.72	77,562	-0.022	-1.32
		School Attendance	18,982	-0.030	-2.05	18,807	-0.004	-0.32	18,598	-0.060	-2.83	18,468	0.034	2.44
		Earnings of Household	18,982	-154,316	-4.97	18,807	-158,236	-4.87	18,598	-123,890	-2.90	18,468	-51,636	-0.89
		Earnings	18,982	-103,696	-6.74	18,807	-116,665	-6.81	18,598	-123,082	-5.98	18,468	-94,714	-3.65
	D=1: Caja=1, D=0: EPS=1	LMP	81,034	-0.049	-3.67	80,360	-0.023	-1.54	78,466	-0.089	-4.50	77,786	-0.038	-1.45
		Unemployment	81,034	-0.021	-3.29	80,360	-0.021	-3.13	78,466	-0.017	-1.68	77,786	-0.008	-0.59
		School Attendance	19,793	-0.003	-0.33	19,601	0.004	0.49	18,792	-0.033	-2.36	18,601	0.016	1.27
		Earnings of Household	19,793	-92,293	-4.20	19,601	-104,826	-4.61	18,792	-95,141	-2.92	18,601	-63,950	-1.47
		Earnings	19,793	-64,651	-6.56	19,601	-68,265	-6.47	18,792	-93,439	-6.63	18,601	-68,283	-3.69
Informal	EPS=0 ∨ D	LMP	113,817	-0.043	-2.50	113,695	0.001	0.07	112,324	-0.055	-1.72	112,148	-0.031	-0.76
		Unemployment	113,817	0.003	0.29	113,695	0.025	2.85	112,324	-0.011	-0.62	112,148		
		School Attendance	31,471	0.008	1.58	31,454	0.006	1.02	30,854	-0.003	-0.28	30,793	0.008	0.41
		Earnings of Household	31,471	-52,975	-2.57	31,454	-65,700	-3.15	30,854	-58,040	-1.52	30,793	-90,205	-1.90
		Earnings	31,471	-29,596	-3.25	31,454	-22,812	-2.45	30,854	-45,528	-2.90	30,793	-17,861	-0.76

Source: Authors calculations using 2005 and 2009 Sisben Surveys, and Comfama information for beneficiaries.

Table 20: Matching Estimators for the 2005 and 2009 Sisben Surveys By Training Program. Whole Sample. Males.

Population		Outcome	Type of training											
			Not defined			Industrial			Management and Services			Technology and Softwares		
			Number of Observations	ATT	z	Number of Observations	ATT	z	Number of Observations	ATT	z	Number of Observations	ATT	z
Formal	EPS=1 ∨ D	LMP	55,170	-0.127	-6.12	54,851	-0.110	-4.37	54,698	-0.109	-3.29	54,642	-0.053	-1.55
		Unemployment	55,170	0.045	2.50	54,851	0.001	0.02	54,698	0.008	0.24	54,642	0.034	1.31
		School Attendance	37,634	-0.028	-2.53	37,423	-0.014	-1.23	37,302	-0.039	-1.73	37,270	0.006	0.35
		Earnings of Household	37,634	-122,242	-4.43	37,423	-154,725	-4.15	37,302	-36,927	-0.76	37,270	-91,498	-1.80
		Earnings	37,634	-171,521	-9.55	37,423	-186,888	-7.48	37,302	-135,328	-4.56	37,270	-139,878	-4.13
	D=1: Caja=1, D=0: EPS=1	LMP	55,291	-0.115	-6.12	54,929	-0.095	-4.28	54,728	-0.101	-3.21	54,684	-0.067	-2.15
		Unemployment	55,291	0.024	1.48	54,929	-0.013	-0.61	54,728	0.013	0.43	54,684	0.000	0.01
		School Attendance	37,716	-0.023	-2.29	37,472	-0.011	-1.03	37,320	-0.036	-1.73	37,300	0.000	-0.02
		Earnings of Household	37,716	-124,135	-4.91	37,472	-145,452	-4.38	37,320	-54,428	-1.21	37,300	-101,060	-2.16
		Earnings	37,716	-166,012	-10.24	37,472	-169,984	-7.76	37,320	-135,509	-4.92	37,300	-129,367	-4.24
Informal	EPS=1 ∨ D	LMP	88,907	-0.116	-2.71	88,864	-0.092	-1.89	88,816	-0.247	-2.53	88,828	-0.269	-3.42
		Unemployment	88,907	-0.038	-0.97	88,864	-0.047	-0.92	88,816	0.024	0.26	88,828	-0.063	-0.83
		School Attendance	39,133	-0.006	-0.38	39,100	-0.013	-0.70	39,069	0.002	0.22	39,081	-0.019	-0.78
		Earnings of Household	39,133	-72,673	-1.52	39,100	-106,318	-1.53	39,069	-96,433	-1.16	39,081	-214,227	-2.17
		Earnings	39,133	-53,748	-1.98	39,100	-35,976	-1.04	39,069	-119,806	-2.37	39,081	-69,173	-1.17

Source: Authors calculations using 2005 and 2009 Sisben Surveys, and Comfama information for beneficiaries.

V. Conclusions

We assess the effects of the Colombian Unemployment Insurance program on future labor participation, unemployment, formality, school attendance and earnings of its beneficiaries, and on household earnings and school attendance of the household members, and on weight and height of their children at birth. We get both regression discontinuity and matching differences-in-differences estimates and find similar results in all outcomes but labor participation for males and females. We do not find any significant effect of the program on future unemployment rates, school attendance of the beneficiaries or of the household members, neither of their children's weight or height at birth. We found a negative effect on formality measured as the enrollment on health insurance (EPS, Contributive Regime), which is more negative in the case of formal workers, both for males and females, although less strong for females. We also found a reduction of both individual and household earnings of males and females, although less strong for females. Finally, labor participation of females would not be affected while that of males would fall around 8 percent.

Altogether, the results show that the policy is not achieving the goals that motivated its implementation. Labor market outcomes signal a decrease of labor participation with no improvement, and if something, a decrease in the quality of the beneficiaries' jobs. The results change according to the type of job training programs the beneficiaries are enrolled into while in the program, and in particular, beneficiaries enrolled in technology and software obtain better outcomes. We did not find evidence that allowed us to conclude that beneficiaries could not smooth consumption, based on the effects of the program on school attendance and on the outcomes of the beneficiaries' children at birth.

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Appendix 1: The Familiar Subsidy and the Family Compensation Funds (CCF)

In 1957, the Colombian government established the family subsidy, paid by firms with at least 20 workers, and targeted to full-time workers with dependent children less than 18 years old, or unable to work. The subsidy is funded by firms with contributions of 4 percent of the wages they pay. The law also ordered employers who were required to pay this subsidy, to form Family Compensation Funds (*Cajas de Compensación Familiar, Cajas*).

In 1982 the subsidy was targeted to workers of medium or low wages (up to four minimum wages) working at least part-time or 96 hours per month. Its magnitude was determined to be proportional to the number of dependents, and all employers were demanded to pay it regardless of their firm's size. Finally, 55 percent of the funds collected by the *Cajas* were demanded to be invested on the family subsidy, up to 10 percent for installment, administration and operation expenses, up to 3 percent to legal reserves, and the balance to social programs to pay the subsidies in the form of services, or in kind. At that time, the social programs provided by the *Cajas* for these payments were required to be included among the fields of: (i) health, (ii) nutrition and the marketing of food and family's basket products. The *Cajas* are monitored by the Family Subsidy Superintendence, (iii) Education, (iv) housing, (v) credit for family firms, (vi) social recreation, and (vii) the marketing of other products.

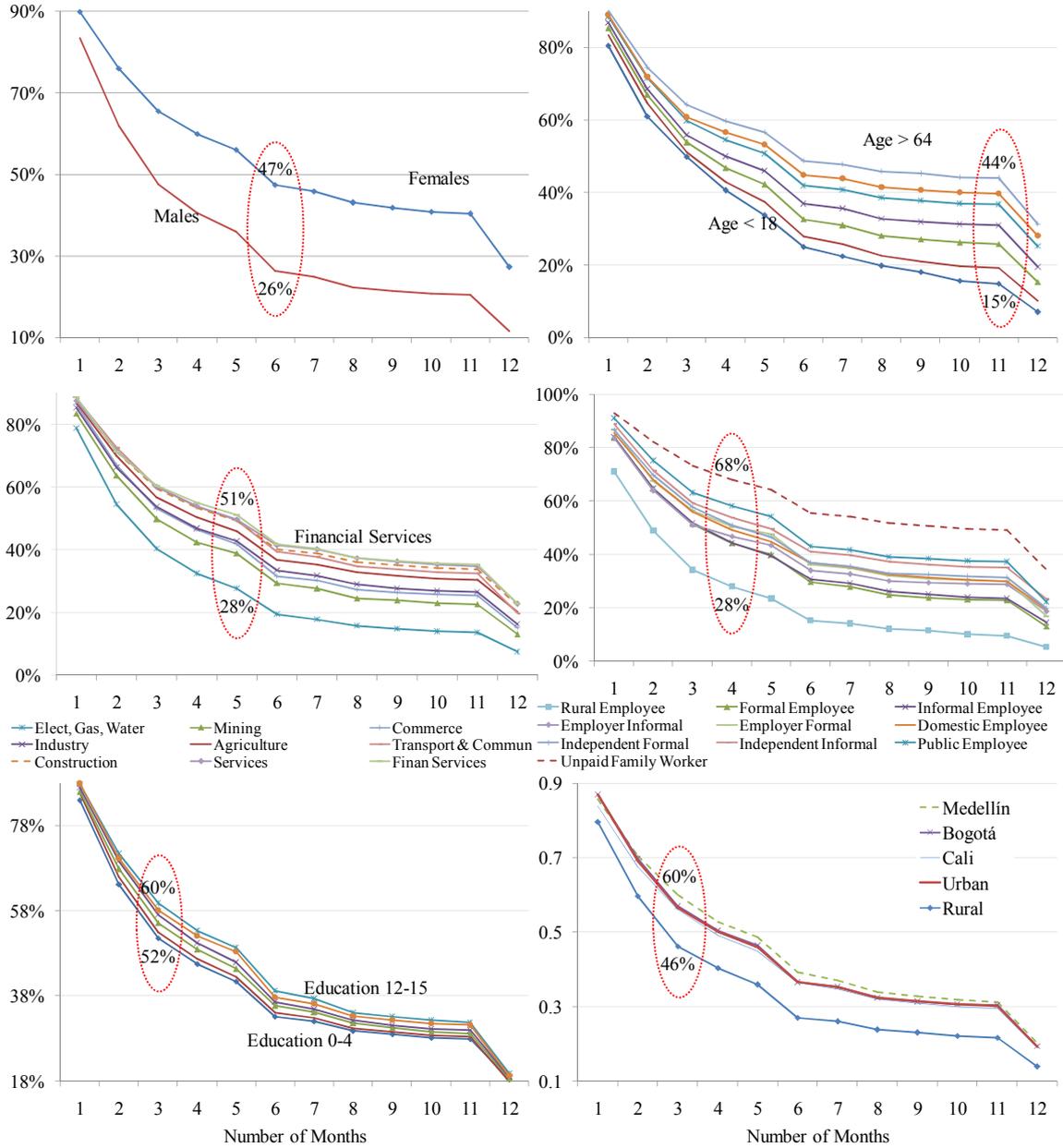
In 1993, the Law 100 ordered the *Cajas* to fund the subsidiary regime in health with 5 to 10 percent of their resources collected to fund the family subsidy, and allow them to administer those resources. Later the Law 789 allowed them in 2002 to invest in the subsidiary regime, the system of professional risks, the system of pensions, and to participate in the market of microcredit. It also allow them to participate in a wide variety of activities like recreation, sports, tourism, culture, social housing, credit, childcare, schooling, job training, attention to the aged, nutrition, etc.

Appendix 2. National and urban logit estimates of formality by definition
Dependent variable is 1 if employed in formal sector

Variable	National				Urban			
	ILO		Health-Pension		ILO		Health-Pension	
	Coeff.	Marg. Effect						
	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)
Male	0.6775 <i>7.24</i>	0.1109 <i>7.63</i>	0.6057 <i>5.86</i>	0.0652 <i>6.14</i>	0.6983 <i>6.16</i>	0.1618 <i>6.33</i>	0.4487 <i>3.66</i>	0.0796 <i>3.71</i>
Age	0.0974 <i>11.23</i>	0.0166 <i>11.4</i>	0.1977 <i>18.34</i>	0.0222 <i>19.5</i>	0.0836 <i>8.16</i>	0.0197 <i>8.19</i>	0.1894 <i>15.15</i>	0.0340 <i>15.7</i>
Age Squared	-0.0013 <i>-12.42</i>	-0.0002 <i>-12.67</i>	-0.0024 <i>-18.25</i>	-0.0003 <i>-19.51</i>	-0.0012 <i>-9.33</i>	-0.0003 <i>-9.37</i>	-0.0024 <i>-15.23</i>	-0.0004 <i>-15.83</i>
Primary*	0.6870 <i>5.37</i>	0.1219 <i>5.23</i>	0.9671 <i>5.72</i>	0.1183 <i>5.35</i>	0.7397 <i>3.98</i>	0.1784 <i>3.96</i>	0.7369 <i>3.16</i>	0.1435 <i>2.97</i>
Incomp. Secondary	1.25 <i>8.91</i>	0.2536 <i>8.07</i>	1.55 <i>8.65</i>	0.2431 <i>6.96</i>	1.16 <i>5.96</i>	0.2813 <i>6.15</i>	1.14 <i>4.77</i>	0.2367 <i>4.38</i>
Complete Secondary	2.13 <i>14.51</i>	0.4550 <i>14.44</i>	2.53 <i>13.68</i>	0.4515 <i>11.65</i>	2.07 <i>10.26</i>	0.4749 <i>12.27</i>	2.12 <i>8.71</i>	0.4484 <i>8.76</i>
Incomplete Higher	2.94 <i>18.87</i>	0.6260 <i>25.57</i>	3.14 <i>16.31</i>	0.6193 <i>17.21</i>	2.84 <i>13.57</i>	0.5842 <i>22.38</i>	2.69 <i>10.75</i>	0.5820 <i>13.08</i>
Complete Higher	4.10 <i>23.08</i>	0.7441 <i>60.7</i>	3.57 <i>17.5</i>	0.7054 <i>23.9</i>	4.00 <i>17.5</i>	0.6447 <i>51.82</i>	3.12 <i>11.98</i>	0.6500 <i>18.98</i>
Post University	4.95 <i>22.44</i>	0.7749 <i>100.84</i>	3.57 <i>16.58</i>	0.7079 <i>23.37</i>	4.90 <i>18.23</i>	0.6537 <i>81.5</i>	3.13 <i>11.59</i>	0.6484 <i>19.42</i>
Male*Yrs of Educ.	-0.0367 <i>-4.08</i>	-0.0063 <i>-4.1</i>	-0.0340 <i>-3.72</i>	-0.0038 <i>-3.74</i>	-0.0395 <i>-3.71</i>	-0.0093 <i>-3.72</i>	-0.0231 <i>-2.18</i>	-0.0041 <i>-2.18</i>
School Attendance	0.2735 <i>3.92</i>	0.0497 <i>3.7</i>	0.2039 <i>2.69</i>	0.0244 <i>2.53</i>	0.2711 <i>3.47</i>	0.0653 <i>3.4</i>	0.2319 <i>2.81</i>	0.0436 <i>2.69</i>
Born in Urban Area	0.2079 <i>4.56</i>	0.0354 <i>4.58</i>	0.1590 <i>3.17</i>	0.0178 <i>3.18</i>	0.1673 <i>3.04</i>	0.0389 <i>3.08</i>	0.1493 <i>2.49</i>	0.0262 <i>2.55</i>
Household Head	0.3024 <i>6.77</i>	0.0516 <i>6.77</i>	0.3169 <i>6.71</i>	0.0356 <i>6.68</i>	0.2689 <i>5.26</i>	0.0632 <i>5.27</i>	0.2663 <i>5.02</i>	0.0478 <i>5.02</i>
Small Town	-0.3436 <i>-5.61</i>	-0.0546 <i>-6.05</i>	-0.2274 <i>-3.32</i>	-0.0241 <i>-3.53</i>				
Rural	-0.9271 <i>-14.89</i>	-0.1406 <i>-17.29</i>	-0.7024 <i>-10.01</i>	-0.0709 <i>-11.34</i>				
Geographic Region								
Atlantic**	-0.9788 <i>-12.24</i>	-0.1343 <i>-15.47</i>	-1.4749 <i>-17.29</i>	-0.1127 <i>-24.11</i>	-0.9361 <i>-10.92</i>	-0.1945 <i>-12.88</i>	-1.4120 <i>-15.47</i>	-0.1848 <i>-22.11</i>
Eastern	-0.6379 <i>-8.15</i>	-0.0952 <i>-9.38</i>	-0.7726 <i>-9.8</i>	-0.0711 <i>-11.83</i>	-0.7959 <i>-9.35</i>	-0.1692 <i>-10.66</i>	-0.9516 <i>-10.99</i>	-0.1384 <i>-13.89</i>
Central	-0.8287 <i>-10.52</i>	-0.1190 <i>-12.63</i>	-0.9728 <i>-12.14</i>	-0.0855 <i>-15.21</i>	-0.7833 <i>-9.12</i>	-0.1667 <i>-10.39</i>	-0.8765 <i>-10.09</i>	-0.1294 <i>-12.54</i>
Pacific	-1.1084 <i>-14.01</i>	-0.1519 <i>-17.72</i>	-1.5054 <i>-18.06</i>	-0.1197 <i>-24.19</i>	-1.0187 <i>-12.03</i>	-0.2098 <i>-14.38</i>	-1.4316 <i>-16</i>	-0.1887 <i>-22.64</i>
San Andrés	-0.4094 <i>-3.82</i>	-0.0624 <i>-4.33</i>	-0.3598 <i>-3.38</i>	-0.0356 <i>-3.86</i>	-0.3923 <i>-3.68</i>	-0.0876 <i>-3.91</i>	-0.3447 <i>-3.25</i>	-0.0567 <i>-3.57</i>
Amazon., Orinoq.	-0.8932 <i>-8.65</i>	-0.1186 <i>-11.59</i>	-1.3565 <i>-12.08</i>	-0.0966 <i>-19.65</i>	-0.9047 <i>-8.84</i>	-0.1856 <i>-10.65</i>	-1.3573 <i>-12.15</i>	-0.1717 <i>-18.55</i>
Antioquia***	-0.3146 <i>-4.06</i>	-0.0501 <i>-4.35</i>	-0.3331 <i>-4.31</i>	-0.0341 <i>-4.71</i>	-0.3327 <i>-3.98</i>	-0.0755 <i>-4.15</i>	-0.2993 <i>-3.6</i>	-0.0504 <i>-3.85</i>
Valle	-0.2295 <i>-3.08</i>	-0.0373 <i>-3.24</i>	-0.3478 <i>-4.72</i>	-0.0356 <i>-5.17</i>	-0.2785 <i>-3.51</i>	-0.0637 <i>-3.62</i>	-0.4162 <i>-5.3</i>	-0.0686 <i>-5.79</i>
Receives Rents	-0.1910 <i>-1.85</i>	-0.0310 <i>-1.96</i>	-0.0354 <i>-0.35</i>	-0.0039 <i>-0.35</i>	-0.2072 <i>-1.88</i>	-0.0475 <i>-1.94</i>	-0.0723 <i>-0.66</i>	-0.0127 <i>-0.67</i>
Receives Subsidies****	-0.5434 <i>-6.23</i>	-0.0807 <i>-7.31</i>	-0.4574 <i>-4.79</i>	-0.0444 <i>-5.62</i>	-0.5125 <i>-5.31</i>	-0.1127 <i>-5.79</i>	-0.4590 <i>-4.38</i>	-0.0736 <i>-4.96</i>
Constant	-3.81 <i>-16.79</i>		-6.45 <i>-22.94</i>		-3.42 <i>-12.06</i>		-5.80 <i>-16.89</i>	
N	20,705				12,013			
Pseudo R2	0.2656		0.2358		0.2038		0.1790	

Source: DANE-ECV-2008. Author's calculation. * Education level comparison is zero years. ** Regional comparison is Bogota. *t*-statistics in italics. *** In this region is located Medellín. **** Government subsidies like conditional cash transfers (Familias en Accion), social housing, etc.

Appendix 3. Kaplan-Meier survival estimates. All Colombian workers, 2009.



Source: GEIH 2009, DANE

Appendix 4. Share of subsidies by status of enrollment to *Cajas* for each state

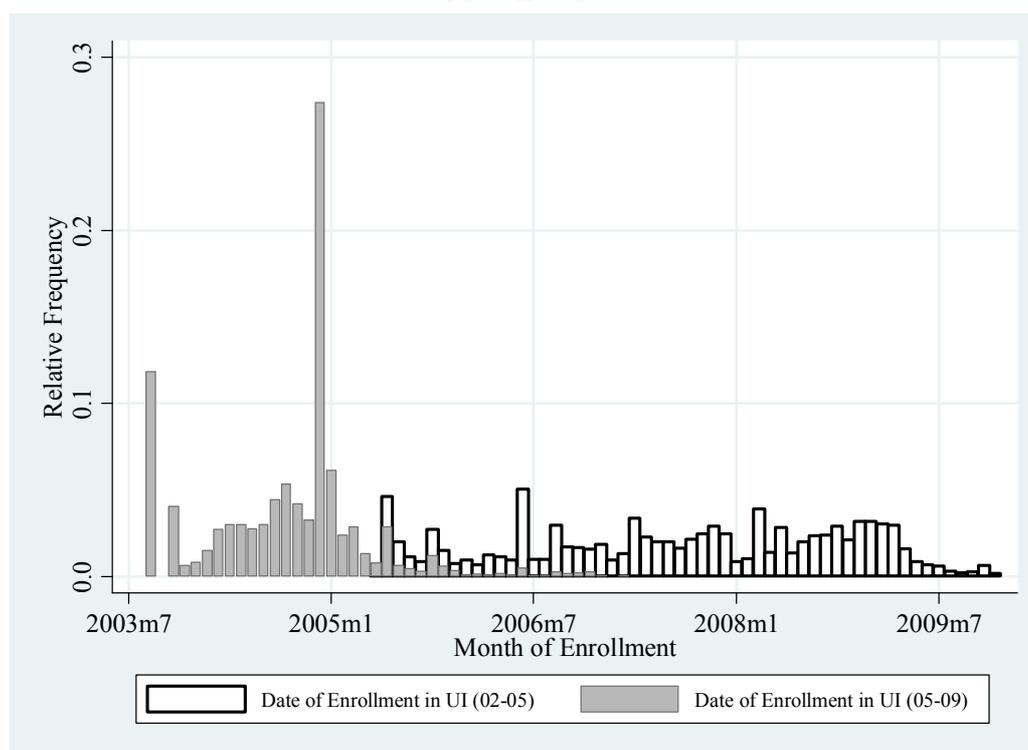
State	Previously Enrolled	Previously Not Enrolled
Caldas	0.83	0.17
Cesar	0.83	0.17
Cauca	0.81	0.19
Casanare	0.80	0.20
Cajas Nacionales	0.79	0.21
Nariño	0.79	0.21
San Andrés	0.78	0.22
Tolima	0.77	0.23
Cundinamarca and Bogotá	0.77	0.23
Putumayo	0.77	0.23
Antioquia	0.77	0.23
Quindío	0.76	0.24
Atlántico	0.75	0.25
Magdalena	0.72	0.28
Córdoba	0.71	0.29
Santander	0.70	0.30
Valle	0.68	0.32
Boyaca	0.64	0.36
Huila	0.64	0.36
Risaralda	0.62	0.38
Norte de Santander	0.62	0.38
Guajira	0.59	0.41
Bolívar	0.59	0.42
Caquetá	0.55	0.45
Meta	0.54	0.46
Arauca	0.45	0.55
Amazonas	0.31	0.69
Sucre	0.27	0.73
Chocó	0.19	0.81

Source: *Superintendencia del Subsidio Familiar* (Family subsidy Superintendence). Estimates, General Management on Labor Promotion, Social Protection Ministry.

Appendix 5: Sample Construction

Our samples are built by merging two kinds of datasets, one of beneficiaries provided by the two *Cajas* that operate in Antioquia, namely Comfama and Comfenalco, and the other with households' and individuals' characteristics, the Sisben surveys. The information of beneficiaries of the unemployment insurance was provided for the period 2003 to 2009, and it is distributed by month according to Figure A5.1. The figure shows the way our beneficiaries are distributed in time according to the date in which they became beneficiaries of the UI. In addition, the gray bars show the subsample of beneficiaries matched to the Sisben surveys of 2002 (their source of baseline characteristics) and 2005 (their source of outcomes), while the white bars show the subsample of beneficiaries matched to the Sisben surveys of 2005 (their source of baseline characteristics) and 2009 (their source of outcomes).

Figure A5.1. Distribution of Beneficiaries According to the Sisben Data They Are Matched To

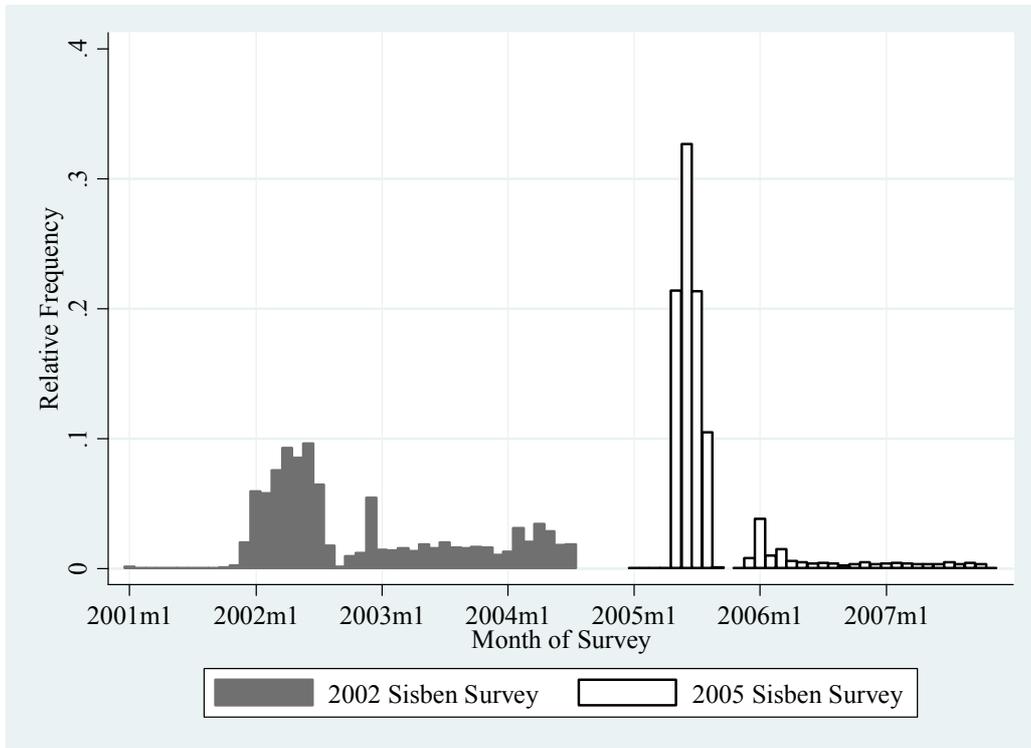


Beneficiaries in the gray bars of Figure A5.1 are included among those accounted for in the 2002 and 2005 Sisben surveys of Figure A5.2, along with the non beneficiaries included in the Sisben surveys of those years. Similarly, beneficiaries in the white bars of Figure A5.1 are included among those accounted for in the 2005 and 2009 Sisben surveys of Figure A5.2, along with the non beneficiaries included in the Sisben surveys of those years.

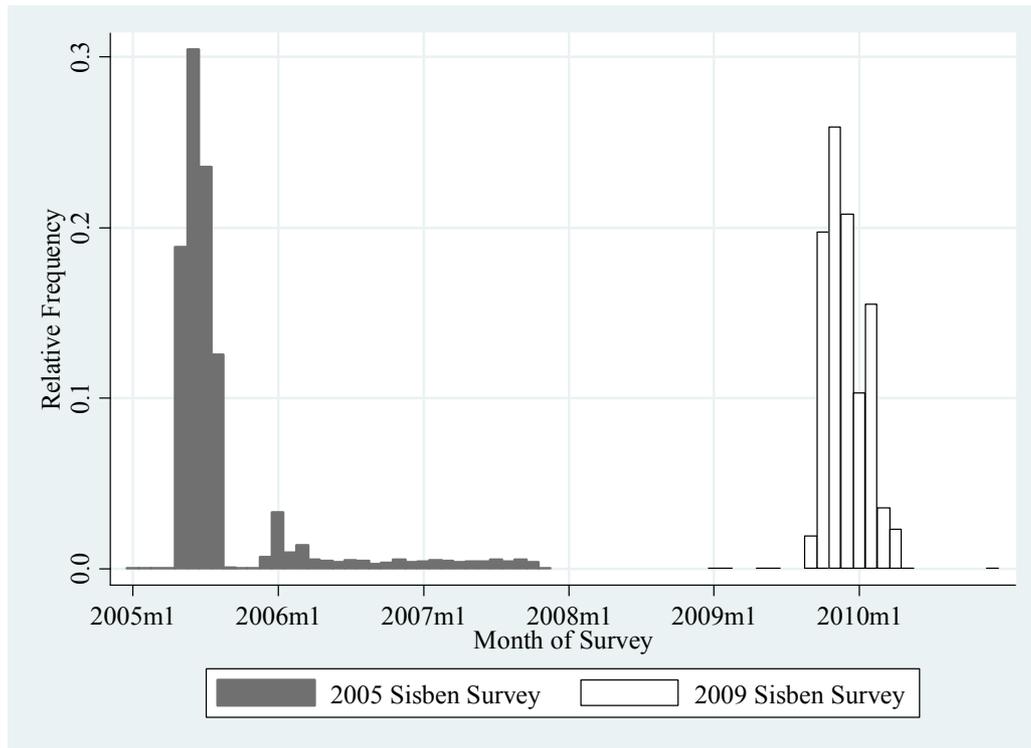
Note that the 2002 Sisben survey actually includes some households that were interviewed in 2001, 2003 and 2004, but we labeled them as 2002 since most were interviewed that

year. The 2005 Sisben survey includes a few individuals in 2006 and 2007; and the 2009 Sisben survey includes about a third of its interviewed individuals in 2010.

**Figure A5.2. Distribution of Individuals in the Sisben Surveys
2002 and 2005**



2005 and 2009



Note that we have 47,604 beneficiaries provided by Comfama and 23,106 beneficiaries provided by Comfenalco for a total of 70,710 beneficiaries for the analyzed period. 6,004 of those beneficiaries were matched to both 2002 and 2005 Sisben surveys, and in addition, we matched between the 2002 and 2005 Sisben surveys 438,565 individuals to create our comparison group in that period. We also matched 14,364 beneficiaries to both 2005 and 2009 Sisben surveys, and additionally, we matched between the 2005 and 2009 Sisben surveys 578,919 individuals to form our comparison group in that period. These figures are not comparable to the ones in annexes 2 to 5 since in those tables, an individual might be included in more than one column.

Note also that even though the benefit is meant to be targeted only to household heads, as we mentioned previously and it is illustrated in the figures included above, our data covers a period of time from 2003 to 2009, thus many individuals who were household heads at the moment they applied for the UI, might not have been at the moment our baseline surveys were collected.

Our analysis is limited to Medellín since the quality of the Sisben surveys and Vital Statistics Records are better than in the rest of Antioquia, minimizing the potential problems arising from having a censored dataset.

Appendix 6: Descriptive Statistics Based on Sisben Survey of 2002 and 2005. All Sample.

Variable	st.	Beneficiaries of Unemployment Insurance								Non Beneficiaries of Unemployment Insurance								Treated vs. Comparison							
		Males				Females				Males				Females				Males		Females					
		Formal		Informal		Formal		Informal		Formal		Informal		Formal		Informal		Form.	Inf.	Form.	Inf.				
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
School Attendance	Mean	0.013	0.012	0.009	0.011	0.021	0.023	0.016	0.023	0.024	0.024	0.019	0.019	0.022	0.022	0.021	0.021	*	*	*	*	*	*	*	*
(Output 2005)	s.d.	0.114	0.108	0.096	0.104	0.143	0.151	0.125	0.151	0.152	0.152	0.138	0.138	0.147	0.147	0.144	0.144	*	*	*	*	*	*	*	*
Earnings of Household	Mean	295,636	285,884	249,043	250,556	288,488	274,130	263,370	274,130	535,493	535,493	376,116	376,116	530,261	530,261	357,835	357,835	*	*	*	*	*	*	*	*
(Outcome 2005)	s.d.	238,251	232,560	214,000	218,483	240,799	242,361	232,116	242,361	341,404	341,404	304,180	304,180	353,761	353,761	293,321	293,321	*	*	*	*	*	*	*	*
Earnings	Mean	160,930	156,967	133,053	130,138	94,982	79,480	74,061	79,480	332,072	332,072	176,121	176,121	139,796	139,796	78,076	78,076	*	*	*	*	*	*	*	*
(Output 2005)	s.d.	151,866	149,241	129,817	126,941	120,905	114,466	110,583	114,466	193,300	193,300	166,080	166,080	191,372	191,372	131,221	131,221	*	*	*	*	*	*	*	*
LMP	Mean	0.788	0.794	0.792	0.781	0.503	0.449	0.437	0.449	0.897	0.897	0.799	0.799	0.385	0.385	0.374	0.374	*	*	*	*	*	*	*	*
(Output 2005)	s.d.	0.409	0.405	0.406	0.414	0.500	0.497	0.496	0.497	0.304	0.304	0.401	0.401	0.487	0.487	0.484	0.484	*	*	*	*	*	*	*	*
EPS (Health Insurance)	Mean	0.134	0.121	0.039	0.028	0.079	0.048	0.021	0.048	0.719	0.719	0.147	0.147	0.719	0.719	0.153	0.153	*	*	*	*	*	*	*	*
(Output 2005)	s.d.	0.341	0.326	0.193	0.166	0.269	0.214	0.143	0.214	0.449	0.449	0.354	0.354	0.450	0.450	0.360	0.360	*	*	*	*	*	*	*	*
Unemployment	Mean	0.179	0.182	0.151	0.134	0.059	0.050	0.033	0.050	0.061	0.061	0.124	0.124	0.018	0.018	0.043	0.043	*	*	*	*	*	*	*	*
(Output 2005)	s.d.	0.384	0.386	0.358	0.342	0.236	0.219	0.180	0.219	0.239	0.239	0.330	0.330	0.134	0.134	0.202	0.202	*	*	*	*	*	*	*	*
School Attendance	Mean	0.009	0.010	0.008	0.007	0.016	0.011	0.009	0.011	0.036	0.036	0.026	0.026	0.031	0.031	0.025	0.025	*	*	*	*	*	*	*	*
(Baseline 2002)	s.d.	0.096	0.097	0.088	0.080	0.126	0.107	0.093	0.107	0.187	0.187	0.160	0.160	0.172	0.172	0.155	0.155	*	*	*	*	*	*	*	*
Earnings of Household	Mean	192,812	192,986	146,110	127,319	140,240	126,809	110,271	126,809	386,362	386,362	176,568	176,568	360,568	360,568	148,983	148,983	*	*	*	*	*	*	*	*
(Baseline 2002)	s.d.	191,091	184,655	113,158	84,350	121,884	116,896	105,763	116,896	184,859	184,859	170,450	170,450	185,186	185,186	156,670	156,670	*	*	*	*	*	*	*	*
Earnings	Mean	153,414	154,167	110,143	91,523	92,967	71,156	51,764	71,156	286,449	286,449	96,011	96,011	118,261	118,261	42,013	42,013	*	*	*	*	*	*	*	*
(Baseline 2002)	s.d.	172,013	164,510	102,823	83,582	111,596	97,261	76,833	97,261	132,640	132,640	136,654	136,654	151,360	151,360	75,286	75,286	*	*	*	*	*	*	*	*
LMP	Mean	0.926	0.931	0.896	0.874	0.599	0.521	0.465	0.521	0.927	0.927	0.850	0.850	0.395	0.395	0.405	0.405	*	*	*	*	*	*	*	*
(B 2002)	s.d.	0.262	0.254	0.306	0.332	0.490	0.500	0.499	0.500	0.260	0.260	0.357	0.357	0.489	0.489	0.491	0.491	*	*	*	*	*	*	*	*
Unemployment	Mean	0.246	0.232	0.227	0.249	0.119	0.100	0.085	0.100	0.047	0.047	0.272	0.272	0.015	0.015	0.120	0.120	*	*	*	*	*	*	*	*
(Baseline 2002)	s.d.	0.431	0.422	0.419	0.433	0.324	0.300	0.279	0.300	0.211	0.211	0.445	0.445	0.121	0.121	0.325	0.325	*	*	*	*	*	*	*	*
Household Head Gender	Mean	0.864	0.857	0.834	0.837	0.322	0.367	0.388	0.367	0.864	0.864	0.761	0.761	0.659	0.659	0.520	0.520	*	*	*	*	*	*	*	*
(Baseline 2002)	s.d.	0.343	0.351	0.373	0.369	0.468	0.482	0.487	0.482	0.343	0.343	0.426	0.426	0.474	0.474	0.500	0.500	*	*	*	*	*	*	*	*
HH Labor Participation	Mean	0.827	0.831	0.818	0.807	0.784	0.764	0.743	0.764	0.831	0.831	0.760	0.760	0.799	0.799	0.749	0.749	*	*	*	*	*	*	*	*
(Baseline 2002)	s.d.	0.378	0.375	0.386	0.395	0.412	0.425	0.437	0.425	0.375	0.375	0.427	0.427	0.401	0.401	0.434	0.434	*	*	*	*	*	*	*	*
Household Head Income	Mean	149,217	147,192	107,054	94,542	111,413	101,345	89,994	101,345	267,788	267,788	122,193	122,193	260,139	260,139	112,188	112,188	*	*	*	*	*	*	*	*
(Baseline 2002)	s.d.	171,753	162,201	94,956	83,138	108,006	100,865	89,383	100,865	149,365	149,365	143,147	143,147	152,436	152,436	134,087	134,087	*	*	*	*	*	*	*	*
Children under 6 years	Mean	0.410	0.473	0.571	0.505	0.462	0.625	0.677	0.625	0.371	0.371	0.374	0.374	0.330	0.330	0.447	0.447	*	*	*	*	*	*	*	*
(Baseline)	s.d.	0.645	0.712	0.805	0.756	0.659	0.775	0.810	0.775	0.597	0.597	0.659	0.659	0.565	0.565	0.683	0.683	*	*	*	*	*	*	*	*
Children under 18 years	Mean	1.758	1.802	1.871	1.824	1.678	2.091	2.256	2.091	1.390	1.390	1.247	1.247	1.341	1.341	1.422	1.422	*	*	*	*	*	*	*	*
(Baseline)	s.d.	1.301	1.313	1.426	1.454	1.105	1.378	1.408	1.378	1.117	1.117	1.292	1.292	1.081	1.081	1.225	1.225	*	*	*	*	*	*	*	*
Household's size	Mean	1.854	1.878	1.949	1.937	2.632	2.653	2.572	2.653	1.743	1.743	2.623	2.623	2.288	2.288	2.898	2.898	*	*	*	*	*	*	*	*
(Baseline 2002)	s.d.	1.794	1.817	1.828	1.797	2.092	2.223	2.195	2.223	1.456	1.456	2.158	2.158	1.451	1.451	2.122	2.122	*	*	*	*	*	*	*	*
House Ownership	Mean	0.337	0.336	0.246	0.213	0.202	0.231	0.235	0.231	0.465	0.465	0.307	0.307	0.438	0.438	0.251	0.251	*	*	*	*	*	*	*	*
(Baseline 2002)	s.d.	0.473	0.473	0.431	0.410	0.402	0.422	0.424	0.422	0.499	0.499	0.461	0.461	0.496	0.496	0.434	0.434	*	*	*	*	*	*	*	*
House Rented	Mean	0.358	0.360	0.412	0.430	0.328	0.296	0.299	0.296	0.356	0.356	0.371	0.371	0.341	0.341	0.358	0.358	*	*	*	*	*	*	*	*
(Baseline 2002)	s.d.	0.480	0.480	0.493	0.496	0.470	0.457	0.458	0.457	0.479	0.479	0.483	0.483	0.474	0.474	0.479	0.479	*	*	*	*	*	*	*	*
House not Owned/Rented	Mean	0.304	0.304	0.342	0.358	0.470	0.473	0.467	0.473	0.179	0.179	0.322	0.322	0.221	0.221	0.391	0.391	*	*	*	*	*	*	*	*
(Baseline 2002)	s.d.	0.460	0.460	0.475	0.480	0.499	0.499	0.499	0.499	0.383	0.383	0.467	0.467	0.415	0.415	0.488	0.488	*	*	*	*	*	*	*	*
Socioeconomic Stratum 1	Mean	0.223	0.236	0.311	0.319	0.237	0.355	0.406	0.355	0.169	0.169	0.277	0.277	0.160	0.160	0.272	0.272	*	*	*	*	*	*	*	*
(Baseline 2002)	s.d.	0.416	0.425	0.463	0.467	0.425	0.479	0.491	0.479	0.375	0.375	0.448	0.448	0.366	0.366	0.445	0.445	*	*	*	*	*	*	*	*
Socioeconomic Stratum is 2	Mean	0.672	0.659	0.582	0.573	0.654	0.563	0.523	0.563	0.722	0.722	0.621	0.621	0.719	0.719	0.627	0.627	*	*	*	*	*	*	*	*
(Baseline 2002)	s.d.	0.470	0.474	0.494	0.495	0.476	0.496	0.500	0.496	0.448	0.448	0.485	0.485	0.449	0.449	0.484	0.484	*	*	*	*	*	*	*	*
Socioeconomic Stratum 3	Mean	0.105	0.104	0.104	0.106	0.107	0.078	0.067	0.078	0.109	0.109	0.101	0.101	0.121	0.121	0.100	0.100	*	*	*	*	*	*	*	*
(Baseline 2002)	s.d.	0.307	0.306	0.306	0.309	0.310	0.268	0.249	0.268	0.311	0.311	0.301	0.301	0.326	0.326	0.301	0.301	*	*	*	*	*	*	*	*
Individuals with at least	Mean	0.455	0.427	0.255	0.232	0.498	0.375	0.262	0.375	0.596	0.596	0.372	0.372	0.573	0.573	0.398	0.398	*	*	*	*	*	*	*	*
Secondary (Baseline 2002)	s.d.	0.498	0.495	0.436	0.423	0.500	0.484	0.440	0.484	0.491	0.491	0.483	0.483	0.495	0.495	0.489	0.489	*	*	*	*	*</			

Appendix 7: Descriptive Statistics Based on Sisben Survey of 2005 and 2009. All Sample.

Variable	st.	Beneficiaries of Unemployment Insurance									Non Beneficiaries of Unemployment Insurance						Treated vs. Comparison					
		Males			Females			Males			Females			Males			Females					
		Formal	Informal	EPSI	Formal	Informal	EPSI	Formal	Informal	EPSI	Formal	Informal	EPSI	Formal	Informal	EPSI	Form.	Inf.	Form.	Inf.		
		(1)	(2)	(3)	(4)	(5)	(6)	(1)	(2)	(3)	(4)	(5)	(6)	(1)	(2)	(3)	(4)	(5)	(6)			
School Attendance (Output 2009)	Mean	0.017	0.016	0.011	0.025	0.019	0.014	0.033	0.033	0.026	0.031	0.031	0.028	*	*	*	*	*	*			
	s.d.	0.130	0.124	0.104	0.155	0.138	0.119	0.178	0.178	0.159	0.173	0.173	0.164									
Earnings of Household (Outcome 2009)	Mean	434,162	441,429	436,752	463,502	425,077	391,351	702,921	702,921	518,924	686,904	686,904	491,135	*	*	*	*	*	*			
	s.d.	437,771	456,616	482,222	461,487	450,172	440,893	646,162	646,162	537,797	647,360	647,360	515,529									
Earnings (Output 2009)	Mean	218,493	219,670	204,621	145,609	120,515	98,541	382,277	382,277	206,870	186,389	186,389	108,650	*	*	*	*	*	*			
	s.d.	249,877	247,084	233,206	215,999	193,212	178,891	381,546	381,546	266,972	314,512	314,512	213,556									
LMP (Output 2009)	Mean	0.791	0.800	0.814	0.539	0.492	0.449	0.876	0.876	0.776	0.417	0.417	0.399	*	*	*	*	*	*			
	s.d.	0.407	0.400	0.389	0.499	0.500	0.497	0.330	0.330	0.417	0.493	0.493	0.490									
EPS (Health Insurance) (Output 2009)	Mean	0.316	0.296	0.207	0.235	0.174	0.116	0.766	0.766	0.255	0.772	0.772	0.270	*	*	*	*	*	*			
	s.d.	0.465	0.457	0.405	0.424	0.379	0.321	0.424	0.424	0.436	0.419	0.419	0.444									
Unemployment (Output 2009)	Mean	0.147	0.137	0.112	0.070	0.054	0.038	0.053	0.053	0.100	0.019	0.019	0.034	*	*	*	*	*	*			
	s.d.	0.355	0.344	0.315	0.255	0.225	0.192	0.224	0.224	0.300	0.135	0.135	0.181									
School Attendance (Baseline 2005)	Mean	0.011	0.011	0.010	0.020	0.017	0.013	0.036	0.036	0.029	0.031	0.031	0.026	*	*	*	*	*	*			
	s.d.	0.103	0.106	0.098	0.139	0.131	0.115	0.185	0.185	0.167	0.174	0.174	0.158									
Earnings of Household (Baseline 2005)	Mean	441,202	420,113	344,379	472,242	381,406	299,853	670,528	670,528	380,740	654,155	654,155	352,021	*	*	*	*	*	*			
	s.d.	305,397	301,224	275,495	341,911	318,025	267,634	446,411	446,411	311,971	658,011	658,011	292,207									
Earnings (Baseline 2005)	Mean	285,890	269,229	205,572	214,226	146,241	86,669	398,683	398,683	145,749	187,730	187,730	65,104	*	*	*	*	*	*			
	s.d.	195,044	190,614	166,443	185,079	171,702	131,728	233,109	233,109	159,618	239,723	239,723	116,609									
LMP (B 2005)	Mean	0.921	0.907	0.858	0.714	0.577	0.458	0.918	0.918	0.753	0.436	0.436	0.359	*	*	*	*	*	*			
	s.d.	0.269	0.290	0.349	0.452	0.494	0.498	0.274	0.274	0.431	0.496	0.496	0.480									
Unemployment (Baseline 2005)	Mean	0.123	0.125	0.129	0.069	0.061	0.049	0.022	0.022	0.165	0.007	0.007	0.062	*	*	*	*	*	*			
	s.d.	0.329	0.330	0.336	0.254	0.238	0.216	0.146	0.146	0.371	0.084	0.084	0.240									
Household Head Gender (Baseline 2005)	Mean	0.794	0.789	0.778	0.395	0.390	0.393	0.808	0.808	0.663	0.640	0.640	0.506	*	*	*	*	*	*			
	s.d.	0.405	0.408	0.416	0.489	0.488	0.489	0.394	0.394	0.473	0.480	0.480	0.500									
HHI Labor Participation (Baseline 2005)	Mean	0.764	0.756	0.731	0.638	0.629	0.632	0.766	0.766	0.638	0.705	0.705	0.639	*	*	*	*	*	*			
	s.d.	0.425	0.429	0.444	0.481	0.483	0.482	0.423	0.423	0.481	0.456	0.456	0.480									
Household Head Income (Baseline 2005)	Mean	276,860	260,951	203,447	212,743	181,295	153,405	366,606	366,606	186,687	350,566	350,566	181,200	*	*	*	*	*	*			
	s.d.	206,856	202,533	176,655	196,913	181,425	159,630	279,583	279,583	179,876	556,659	556,659	172,819									
Children under 6 years (Baseline)	Mean	0.338	0.327	0.293	0.191	0.222	0.255	0.225	0.225	0.197	0.186	0.186	0.211	*	*	*	*	*	*			
	s.d.	0.587	0.587	0.597	0.448	0.492	0.537	0.475	0.475	0.488	0.439	0.439	0.500									
Children under 18 years (Baseline)	Mean	1.470	1.497	1.510	1.039	1.229	1.422	1.093	1.093	0.912	1.008	1.008	1.019	*	*	*	*	*	*			
	s.d.	1.193	1.231	1.335	1.080	1.190	1.296	1.064	1.064	1.149	1.043	1.043	1.169									
Household's size (Baseline 2005)	Mean	4.973	4.998	5.135	5.169	5.470	5.762	4.421	4.421	5.256	4.441	4.441	5.344	*	*	*	*	*	*			
	s.d.	2.191	2.214	2.374	2.573	2.719	2.849	1.811	1.811	2.676	1.890	1.890	2.687									
House Ownership (Baseline 2005)	Mean	0.451	0.456	0.461	0.441	0.457	0.467	0.395	0.395	0.469	0.390	0.390	0.500	*	*	*	*	*	*			
	s.d.	0.498	0.498	0.499	0.497	0.498	0.499	0.489	0.489	0.499	0.488	0.488	0.500									
House Rented (Baseline 2005)	Mean	0.058	0.058	0.048	0.051	0.047	0.043	0.073	0.073	0.039	0.072	0.072	0.037	*	*	*	*	*	*			
	s.d.	0.235	0.234	0.214	0.220	0.213	0.203	0.261	0.261	0.193	0.258	0.258	0.190									
House not Owned/Rented (Baseline 2005)	Mean	0.369	0.359	0.344	0.387	0.352	0.332	0.457	0.457	0.361	0.463	0.463	0.333	*	*	*	*	*	*			
	s.d.	0.483	0.480	0.475	0.487	0.478	0.471	0.498	0.498	0.480	0.499	0.499	0.471									
Socioeconomic Stratum 1 (Baseline 2005)	Mean	0.061	0.049	0.018	0.058	0.033	0.012	0.081	0.081	0.012	0.074	0.074	0.012	*	*	*	*	*	*			
	s.d.	0.239	0.216	0.133	0.234	0.178	0.108	0.272	0.272	0.111	0.262	0.262	0.109									
Socioeconomic Stratum is 2 (Baseline 2005)	Mean	0.691	0.704	0.763	0.688	0.759	0.832	0.560	0.560	0.758	0.548	0.548	0.763	*	*	*	*	*	*			
	s.d.	0.462	0.456	0.425	0.463	0.428	0.374	0.496	0.496	0.428	0.498	0.498	0.425									
Socioeconomic Stratum 3 (Baseline 2005)	Mean	0.248	0.246	0.219	0.253	0.208	0.156	0.359	0.359	0.229	0.378	0.378	0.225	*	*	*	*	*	*			
	s.d.	0.432	0.431	0.414	0.435	0.406	0.363	0.480	0.480	0.420	0.485	0.485	0.417									
Individuals with at least Secondary (Baseline 2005)	Mean	0.671	0.639	0.479	0.690	0.541	0.399	0.726	0.726	0.479	0.714	0.714	0.499	*	*	*	*	*	*			
	s.d.	0.470	0.480	0.500	0.463	0.498	0.490	0.446	0.446	0.500	0.452	0.452	0.500									
Individuals with at least Primary (Baseline 2005)	Mean	0.992	0.990	0.977	0.998	0.982	0.969	0.987	0.987	0.962	0.988	0.988	0.968	*	*	*	*	*	*			
	s.d.	0.091	0.099	0.151	0.049	0.132	0.173	0.115	0.115	0.191	0.110	0.110	0.175									
Number of Observations		1,575	2,127	726	2,470	5,666	4,388	54,939	54,939	89,621	77,955	77,955	11,326									

Source: Authors calculations using 2005 and 2009 Sisben surveys, and Comfama and ComFenalcó information for beneficiaries. EPSF: EPS=1 ∨ D, CajaF: Caja=1 for D=1, EPS=1 for D=0, EPSI: EPS=0 ∨ D, CajaI: Caja=0 for D=1, EPS=0 for D=0.

Appendix 8: Descriptive Statistics Based on Sisben Survey of 2002 and 2005. Household Heads.

Variable	st.	Beneficiaries of Unemployment Insurance								Non Beneficiaries of Unemployment Insurance								Treated vs. Comparison							
		Males				Females				Males				Females				Males		Females					
		Formal		Informal		Formal		Informal		Formal		Informal		Formal		Informal		Form.	Inf.	Form.	Inf.				
		EPSF	CajaF	EPSI	CajaI	EPSF	CajaF	EPSI	CajaI	EPSF	CajaF	EPSI	CajaI	EPSF	CajaF	EPSI	CajaI	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
School Attendance	Mean	0.008	0.008	0.008	0.008	0.014	0.022	0.017	0.022	0.012	0.012	0.006	0.006	0.014	0.014	0.015	0.015								
(Output 2005)	s.d.	0.089	0.088	0.088	0.090	0.118	0.148	0.128	0.148	0.107	0.107	0.077	0.077	0.118	0.118	0.121	0.121								
Earnings of Household	Mean	286,144	277,799	242,149	242,633	289,828	277,536	260,817	277,536	505,849	505,849	345,928	345,928	537,799	537,799	347,519	347,519	*	*	*	*	*	*	*	*
(Outcome 2005)	s.d.	223,763	221,070	207,643	208,755	250,810	253,189	236,905	253,189	303,852	303,852	267,266	267,266	378,676	378,676	296,065	296,065	*	*	*	*	*	*	*	*
Earnings	Mean	168,275	165,837	143,004	138,365	111,321	97,023	89,424	97,023	348,730	348,730	206,934	206,934	229,042	229,042	105,365	105,365	*	*	*	*	*	*	*	*
(Output 2005)	s.d.	151,130	149,117	130,385	126,441	124,724	119,791	116,033	119,791	184,161	184,161	159,818	159,818	193,285	193,285	137,646	137,646	*	*	*	*	*	*	*	*
LMP	Mean	0.796	0.801	0.808	0.802	0.590	0.538	0.526	0.538	0.923	0.923	0.878	0.878	0.599	0.599	0.507	0.507	*	*	*	*	*	*	*	*
(Output 2005)	s.d.	0.403	0.399	0.394	0.399	0.492	0.499	0.499	0.499	0.267	0.267	0.328	0.328	0.490	0.490	0.500	0.500								
EPS (Health Insurance)	Mean	0.134	0.121	0.039	0.030	0.070	0.046	0.019	0.046	0.741	0.741	0.157	0.157	0.669	0.669	0.132	0.132	*	*	*	*	*	*	*	*
(Output 2005)	s.d.	0.341	0.326	0.194	0.170	0.255	0.211	0.137	0.211	0.438	0.438	0.364	0.364	0.470	0.470	0.338	0.338								
Unemployment	Mean	0.162	0.162	0.135	0.125	0.070	0.062	0.044	0.062	0.052	0.052	0.096	0.096	0.024	0.024	0.047	0.047	*	*	*	*	*	*	*	*
(Output 2005)	s.d.	0.369	0.369	0.342	0.331	0.255	0.241	0.206	0.241	0.222	0.222	0.295	0.295	0.154	0.154	0.212	0.212								
School Attendance	Mean	0.008	0.009	0.006	0.003	0.023	0.015	0.010	0.015	0.014	0.014	0.006	0.006	0.021	0.021	0.015	0.015								
(Baseline 2002)	s.d.	0.089	0.095	0.076	0.052	0.149	0.122	0.101	0.122	0.118	0.118	0.076	0.076	0.142	0.142	0.120	0.120								
Earnings of Household	Mean	193,092	191,409	144,509	129,325	124,706	104,914	84,340	104,914	361,906	361,906	159,676	159,676	294,892	294,892	98,503	98,503	*	*	*	*	*	*	*	*
(Baseline 2002)	s.d.	190,078	181,894	104,940	82,923	116,518	106,752	87,988	106,752	150,575	150,575	165,702	165,702	148,905	148,905	102,624	102,624								
Earnings	Mean	165,946	165,080	120,237	104,453	114,969	93,064	70,877	93,064	302,018	302,018	134,667	134,667	219,797	219,797	75,237	75,237	*	*	*	*	*	*	*	*
(Baseline 2002)	s.d.	177,159	167,226	94,584	80,897	112,170	99,663	76,252	99,663	123,292	123,292	154,161	154,161	142,371	142,371	86,047	86,047								
LMP	Mean	0.939	0.947	0.930	0.911	0.739	0.684	0.635	0.684	0.959	0.959	0.940	0.940	0.679	0.679	0.626	0.626	*	*	*	*	*	*	*	*
(B 2002)	s.d.	0.239	0.225	0.256	0.286	0.440	0.465	0.481	0.465	0.198	0.198	0.237	0.237	0.467	0.467	0.484	0.484								
Unemployment	Mean	0.210	0.196	0.188	0.209	0.142	0.131	0.114	0.131	0.040	0.040	0.153	0.153	0.017	0.017	0.122	0.122	*	*	*	*	*	*	*	*
(Baseline 2002)	s.d.	0.408	0.397	0.391	0.407	0.349	0.338	0.318	0.338	0.195	0.195	0.360	0.360	0.130	0.130	0.327	0.327								
Household Head Gender	Mean	0.995	0.994	0.980	0.978	0.004	0.004	0.005	0.004	0.994	0.994	0.993	0.993	0.009	0.009	0.008	0.008	*	*	*	*	*	*	*	*
(Baseline 2002)	s.d.	0.069	0.080	0.139	0.146	0.059	0.063	0.073	0.063	0.078	0.078	0.083	0.083	0.095	0.095	0.090	0.090								
HH Labor Participation	Mean	0.939	0.947	0.930	0.911	0.739	0.684	0.635	0.684	0.959	0.959	0.940	0.940	0.679	0.679	0.626	0.626	*	*	*	*	*	*	*	*
(Baseline 2002)	s.d.	0.239	0.225	0.256	0.286	0.440	0.465	0.481	0.465	0.198	0.198	0.237	0.237	0.467	0.467	0.484	0.484								
Household Head Income	Mean	165,946	165,080	120,237	104,453	114,969	93,064	70,877	93,064	302,018	302,018	134,667	134,667	219,797	219,797	75,237	75,237	*	*	*	*	*	*	*	*
(Baseline 2002)	s.d.	177,159	167,226	94,584	80,897	112,170	99,663	76,252	99,663	123,292	123,292	154,161	154,161	142,371	142,371	86,047	86,047								
Children under 6 years	Mean	0.449	0.513	0.636	0.575	0.426	0.567	0.619	0.567	0.440	0.440	0.536	0.536	0.268	0.268	0.471	0.471	*	*	*	*	*	*	*	*
(Baseline)	s.d.	0.668	0.727	0.822	0.784	0.632	0.741	0.774	0.741	0.627	0.627	0.735	0.735	0.505	0.505	0.670	0.670								
Children under 18 years	Mean	1.939	1.957	2.072	2.087	1.664	1.970	2.088	1.970	1.582	1.582	1.591	1.591	1.134	1.134	1.355	1.355	*	*	*	*	*	*	*	*
(Baseline)	s.d.	1.275	1.259	1.352	1.412	1.044	1.266	1.284	1.266	1.070	1.070	1.303	1.303	0.988	0.988	1.103	1.103								
Household's size	Mean	1.519	1.557	1.589	1.537	2.557	2.626	2.589	2.626	1.360	1.360	1.912	1.912	2.214	2.214	2.891	2.891	*	*	*	*	*	*	*	*
(Baseline 2002)	s.d.	1.569	1.626	1.609	1.503	2.261	2.420	2.491	2.420	1.237	1.237	2.025	2.025	2.088	2.088	2.525	2.525								
House Ownership	Mean	0.325	0.323	0.241	0.211	0.173	0.191	0.194	0.191	0.434	0.434	0.234	0.234	0.294	0.294	0.150	0.150	*	*	*	*	*	*	*	*
(Baseline 2002)	s.d.	0.469	0.468	0.428	0.409	0.379	0.393	0.395	0.393	0.496	0.496	0.424	0.424	0.455	0.455	0.357	0.357								
House Rented	Mean	0.371	0.371	0.429	0.450	0.294	0.260	0.256	0.260	0.382	0.382	0.416	0.416	0.313	0.313	0.297	0.297								
(Baseline 2002)	s.d.	0.483	0.484	0.495	0.498	0.456	0.439	0.437	0.439	0.486	0.486	0.493	0.493	0.464	0.464	0.457	0.457								
House not Owned/Rented	Mean	0.304	0.305	0.331	0.339	0.532	0.549	0.550	0.549	0.184	0.184	0.350	0.350	0.393	0.393	0.553	0.553	*	*	*	*	*	*	*	*
(Baseline 2002)	s.d.	0.460	0.461	0.471	0.474	0.499	0.498	0.498	0.498	0.387	0.387	0.477	0.477	0.489	0.489	0.497	0.497								
Socioeconomic Stratum 1	Mean	0.229	0.242	0.297	0.298	0.221	0.331	0.385	0.331	0.177	0.177	0.308	0.308	0.165	0.165	0.265	0.265	*	*	*	*	*	*	*	*
(Baseline 2002)	s.d.	0.421	0.428	0.458	0.458	0.415	0.471	0.487	0.471	0.382	0.382	0.461	0.461	0.371	0.371	0.441	0.441								
Socioeconomic Stratum is 2	Mean	0.667	0.649	0.595	0.604	0.669	0.585	0.537	0.585	0.721	0.721	0.606	0.606	0.705	0.705	0.626	0.626	*	*	*	*	*	*	*	*
(Baseline 2002)	s.d.	0.472	0.477	0.491	0.490	0.471	0.493	0.499	0.493	0.449	0.449	0.489	0.489	0.456	0.456	0.484	0.484								
Socioeconomic Stratum 3	Mean	0.104	0.108	0.106	0.098	0.109	0.081	0.074	0.081	0.102	0.102	0.085	0.085	0.130	0.130	0.109	0.109								
(Baseline 2002)	s.d.	0.305	0.310	0.308	0.297	0.311	0.273	0.262	0.273	0.302	0.302	0.279	0.279	0.336	0.336	0.311	0.311								
Individuals with at least	Mean	0.443	0.414	0.247	0.230	0.510	0.385	0.262	0.385	0.565	0.565	0.315	0.315	0.544	0.544	0.375	0.375	*	*	*	*	*	*	*	*
Secondary (Baseline 2002)	s.d.	0.497	0.493	0.431	0.422	0.500	0.487	0.440	0.487	0.496	0.496	0.464	0.464	0.498	0.498	0.484									

Appendix 9: Descriptive Statistics Based on Sisben Survey of 2005 and 2009. Household Heads.

Variable	st.	Beneficiaries of Unemployment Insurance						Non Beneficiaries of Unemployment Insurance						Treated vs. Comparison					
		Males			Females			Males			Females			Males			Females		
		Formal	CajaF	EPSI	Formal	CajaF	EPSI	Formal	CajaF	EPSI	Formal	CajaF	EPSI	Form.	Inf.	Form.	Inf.	Form.	Inf.
		(1)	(2)	(3)	(4)	(5)	(6)	(1)	(2)	(3)	(4)	(5)	(6)	(1)	(2)	(3)	(4)	(5)	(6)
School Attendance	Mean	0.018	0.015	0.006	0.021	0.013	0.011	0.016	0.016	0.009	0.018	0.018	0.016						
(Output 2009)	s.d.	0.132	0.122	0.077	0.143	0.114	0.105	0.126	0.126	0.096	0.132	0.132	0.125						
Earnings of Household	Mean	399,509	409,523	413,306	412,763	374,583	338,330	658,042	658,042	459,837	632,611	632,611	433,408	*	*	*	*	*	*
(Outcome 2009)	s.d.	388,270	409,722	442,685	438,950	417,148	392,330	597,814	597,814	469,551	613,647	613,647	478,962						
Earnings	Mean	226,021	230,147	221,628	168,427	138,803	115,234	409,835	409,835	249,002	256,101	256,101	134,326	*	*	*	*	*	*
(Output 2009)	s.d.	248,814	247,069	236,376	233,700	204,089	173,707	389,223	389,223	277,559	344,476	344,476	229,605						
LMP	Mean	0.810	0.823	0.851	0.589	0.546	0.518	0.900	0.900	0.859	0.505	0.505	0.481	*	*	*	*	*	*
(Output 2009)	s.d.	0.393	0.382	0.357	0.492	0.498	0.500	0.300	0.300	0.348	0.500	0.500	0.500						
EPS (Health Insurance)	Mean	0.344	0.317	0.213	0.227	0.166	0.116	0.790	0.790	0.275	0.754	0.754	0.248	*	*	*	*	*	*
(Output 2009)	s.d.	0.475	0.465	0.410	0.419	0.373	0.320	0.407	0.407	0.447	0.431	0.431	0.432						
Unemployment	Mean	0.147	0.135	0.105	0.051	0.043	0.034	0.046	0.046	0.081	0.019	0.019	0.027	*	*	*	*	*	*
(Output 2009)	s.d.	0.355	0.342	0.307	0.219	0.203	0.181	0.210	0.210	0.273	0.138	0.138	0.162						
School Attendance	Mean	0.008	0.009	0.008	0.015	0.008	0.005	0.015	0.015	0.007	0.015	0.015	0.010						*
(Baseline 2005)	s.d.	0.091	0.094	0.089	0.121	0.090	0.070	0.120	0.120	0.083	0.122	0.122	0.098						
Earnings of Household	Mean	388,900	369,792	301,678	359,009	283,187	227,616	586,559	586,559	296,735	537,567	537,567	260,730	*	*	*	*	*	*
(Baseline 2005)	s.d.	234,372	231,811	217,985	249,007	245,220	220,353	363,434	363,434	218,585	368,700	368,700	226,131						
Earnings	Mean	323,935	303,362	233,102	265,480	185,708	128,706	425,388	425,388	214,839	287,019	287,019	127,121	*	*	*	*	*	*
(Baseline 2005)	s.d.	184,954	183,643	164,060	169,002	166,596	137,559	239,124	239,124	156,026	246,500	246,500	135,365						
LMP	Mean	0.961	0.946	0.905	0.854	0.730	0.650	0.946	0.946	0.909	0.606	0.606	0.588	*	*	*	*	*	*
(B 2005)	s.d.	0.194	0.226	0.294	0.353	0.444	0.477	0.227	0.227	0.288	0.489	0.489	0.492						
Unemployment	Mean	0.086	0.091	0.105	0.058	0.048	0.039	0.020	0.020	0.103	0.007	0.007	0.044	*	*	*	*	*	*
(Baseline 2005)	s.d.	0.281	0.288	0.307	0.233	0.214	0.194	0.141	0.141	0.304	0.085	0.085	0.204						
Household Head Gender	Mean	0.993	0.993	0.996	0.009	0.008	0.009	0.998	0.998	0.996	0.014	0.014	0.011						*
(Baseline 2005)	s.d.	0.086	0.082	0.063	0.096	0.088	0.097	0.047	0.047	0.062	0.119	0.119	0.106						
HHI Labor Participation	Mean	0.961	0.946	0.905	0.854	0.730	0.650	0.946	0.946	0.909	0.606	0.606	0.588	*	*	*	*	*	*
(Baseline 2005)	s.d.	0.194	0.226	0.294	0.353	0.444	0.477	0.227	0.227	0.288	0.489	0.489	0.492						
Household Head Income	Mean	323,935	303,362	233,102	265,480	185,708	128,706	425,388	425,388	214,839	287,019	287,019	127,121	*	*	*	*	*	*
(Baseline 2005)	s.d.	184,954	183,643	164,060	169,002	166,596	137,559	239,124	239,124	156,026	246,500	246,500	135,365						
Children under 6 years	Mean	0.429	0.413	0.368	0.247	0.261	0.283	0.294	0.294	0.337	0.134	0.134	0.220	*	*	*	*	*	*
(Baseline)	s.d.	0.630	0.634	0.651	0.487	0.514	0.550	0.524	0.524	0.602	0.378	0.378	0.506						
Children under 18 years	Mean	1.813	1.834	1.855	1.501	1.651	1.805	1.375	1.375	1.372	0.914	0.914	1.159	*	*	*	*	*	*
(Baseline)	s.d.	1.076	1.129	1.286	0.988	1.079	1.178	1.039	1.039	1.210	0.984	0.984	1.175						
Household's size	Mean	4.543	4.600	4.759	3.971	4.419	4.762	4.122	4.122	4.331	3.703	3.703	4.206	*	*	*	*	*	*
(Baseline 2005)	s.d.	1.667	1.767	2.083	1.943	2.265	2.453	1.495	1.495	2.046	1.789	1.789	2.261						
House Ownership	Mean	0.490	0.493	0.501	0.507	0.508	0.514	0.430	0.430	0.575	0.452	0.452	0.568	*	*	*	*	*	*
(Baseline 2005)	s.d.	0.500	0.500	0.500	0.500	0.500	0.500	0.495	0.495	0.494	0.498	0.498	0.495						
House Rented	Mean	0.069	0.067	0.052	0.055	0.051	0.047	0.080	0.080	0.037	0.062	0.062	0.032						*
(Baseline 2005)	s.d.	0.253	0.250	0.222	0.229	0.221	0.211	0.272	0.272	0.189	0.241	0.241	0.176						
House not Owned/Rented	Mean	0.325	0.318	0.300	0.305	0.269	0.255	0.414	0.414	0.250	0.397	0.397	0.241	*	*	*	*	*	*
(Baseline 2005)	s.d.	0.468	0.466	0.459	0.461	0.444	0.436	0.493	0.493	0.433	0.489	0.489	0.428						
Socioeconomic Stratum 1	Mean	0.072	0.059	0.026	0.067	0.034	0.010	0.093	0.093	0.016	0.069	0.069	0.011	*	*	*	*	*	*
(Baseline 2005)	s.d.	0.259	0.235	0.159	0.250	0.182	0.099	0.290	0.290	0.124	0.253	0.253	0.105						
Socioeconomic Stratum is 2	Mean	0.702	0.718	0.767	0.692	0.769	0.837	0.570	0.570	0.788	0.542	0.542	0.755	*	*	*	*	*	*
(Baseline 2005)	s.d.	0.457	0.450	0.423	0.462	0.421	0.370	0.495	0.495	0.408	0.498	0.498	0.430						
Socioeconomic Stratum 3	Mean	0.224	0.223	0.207	0.242	0.196	0.153	0.337	0.337	0.196	0.389	0.389	0.234	*	*	*	*	*	*
(Baseline 2005)	s.d.	0.417	0.416	0.405	0.428	0.397	0.360	0.473	0.473	0.397	0.488	0.488	0.423						
Individuals with at least	Mean	0.650	0.624	0.483	0.644	0.468	0.333	0.697	0.697	0.418	0.645	0.645	0.421	*	*	*	*	*	*
Secondary (Baseline 2005)	s.d.	0.477	0.485	0.500	0.479	0.499	0.471	0.460	0.460	0.493	0.478	0.478	0.494						
Individuals with at least	Mean	0.993	0.992	0.980	0.999	0.977	0.963	0.991	0.991	0.972	0.987	0.987	0.969						
Primary (Baseline 2005)	s.d.	0.086	0.090	0.140	0.034	0.151	0.189	0.095	0.095	0.166	0.114	0.114	0.172						
Number of Observations		1,078	1,468	503	869	2,199	1,806	37,374	37,374	39,201	18,436	18,436	30,387						

Source: Authors calculations using 2005 and 2009 Sisben surveys, and Comfama and ComFenalcó information for beneficiaries. EPSF: EPS=1 ∨ D, CajaF: Caja=1 for D=1, EPS=1 for D=0, EPSI: EPS=0 ∨ D, Caja: Caja=0 for D=1, EPS=0 for D=0.

Appendix 10: Descriptive Statistics Based on Sisben Survey of 2010 and Vital Stats. Women Giving Birth.

Variable	Non Beneficiaries			Beneficiaries			Treated vs. Comparison
	N	Mean	Std. Dev.	N	Mean	Std. Dev.	
Child's Weight at Birth	12,389	3,009	561	167	2,870	629	*
Child's Height at Birth	12,389	48.8	4.0	167	48.5	5.2	
Child's Body Mass Index at Birth, BMI	12,389	12.6	2.0	167	12.1	1.9	*
Gender of HH	12,389	0.568	0.495	167	0.563	0.498	
School Attendance	12,389	0.105	0.307	167	0.030	0.171	*
HH Active in Labor Market	12,389	0.676	0.468	167	0.641	0.481	
Earnings of HH	12,306	191,654	171,022	166	150,358	145,707	*
Children Under 6	12,389	0.457	0.766	167	0.443	0.749	
Children Under 18	12,389	1.319	1.409	167	1.347	1.617	
HH Size	12,389	6.370	3.109	167	6.467	2.690	
House Ownership	12,389	0.463	0.499	167	0.431	0.497	
Socioeconomic Stratum 1	12,389	0.312	0.463	167	0.365	0.483	
Socioeconomic Stratum 2	12,389	0.586	0.492	167	0.539	0.500	
House Rented	12,389	0.042	0.200	167	0.042	0.201	
Number of Households in Housing	12,389	6.287	3.068	167	6.401	2.671	
Secondary Education	12,389	0.647	0.478	167	0.509	0.501	*
Primary Education	12,389	0.982	0.134	167	0.952	0.214	
Year of Survey	12,389	2005	0.573	167	2005	0.452	*
Gestation Length up to 36 Months	12,389	0.129	0.335	167	0.192	0.394	*
Expontaneous Childbirth	12,388	0.671	0.470	167	0.671	0.470	
Mother Between 20 and 40 Years	12,389	0.846	0.361	167	0.939	0.239	*
3 or More Children Born Alive	12,384	0.268	0.443	167	0.437	0.496	*
3 or More Pregnancies Including Current	12,384	0.340	0.474	167	0.503	0.500	*
Father Between 20 and 40 Years	12,388	0.819	0.385	166	0.819	0.385	
Mother Married or in Free Union	10,724	0.678	0.467	125	0.688	0.463	
Mother with Complete Secondary or More	10,731	0.448	0.497	125	0.368	0.482	
Father with Complete Secondary or More	10,734	0.385	0.487	125	0.256	0.436	*

Source: Authors calculations using the 2010 Sisben Survey and Vital Statistics Records (Birth Certificates).