



ASOCIACION ARGENTINA
DE ECONOMIA POLITICA

ANALES | ASOCIACION ARGENTINA DE ECONOMIA POLITICA

LIII Reunión Anual

Noviembre de 2018

ISSN 1852-0022

ISBN 978-987-28590-6-0

The cost and distributive impact of the informality incentives from non-contributory spending: the cases of AUH in Argentina and AFAM-PE in Uruguay

Garganta, Santiago
Alaimo, Verónica
Carbajal, Fedora
Pessino, Carola

THE COST AND DISTRIBUTIVE IMPACT OF THE INFORMALITY INCENTIVES FROM NON-CONTRIBUTORY SPENDING: THE CASES OF AUH IN ARGENTINA AND AFAM-PE IN URUGUAY

Verónica Alaimo

Fedora Carbajal

Santiago Garganta

Carola Pessino

PRELIMINARY VERSION (August, 2018)

Abstract

Since the last decade most countries in Latin America have experienced substantial changes in their social policies implementing a set of non-contributory social assistance benefit programs. There is a permanent debate from the policy makers and academics about the direct and indirect labor market effects of these programs. The most concerning discussion in the region is the unintended incentive towards informality that these policies could generate. This paper estimates the fiscal cost and distributive impact of this labor distortion conducted by the two main non-contributory programs in Argentina and Uruguay: *Asignación Universal por Hijo* (AUH) and *Asignaciones Familiares – Plan de Equidad* (AFAM-PE), respectively. We find that the substitution effect from formal to informal employment attributed to each program represents a relevant portion of the total budget of these policies. The results also reflect that a simple fiscal incidence analysis of these programs that ignore the consequences of these labor incentives on the market income distribution will exaggerate the true effect of these policies on the disposable or final income poverty and inequality.

JEL Classification: H53, O17, H23, I38.

Keywords: Informality, Social Protection, Poverty, Inequality

Verónica Alaimo (valaimo@iadb.org), is Senior Labor Specialist at IADB, Chile; Fedora Carbajal (fcarbajal@cinve.org.uy) is Senior researcher at cinve and UdelaR, Uruguay; Santiago Garganta (sgarganta@cedlas.org) is Senior Researcher at CEDLAS, UNLP, Argentina; and Carola Pessino (cpessino@iadb.org) is Principal Fiscal Specialist at IADB. The authors are grateful to participants in the Workshop on Equity of Public Expenditure, IADB, Washington DC, for comments on preliminary results of this paper. The views expressed in this paper are those of the author(s) and do not necessarily represent those of the IADB or of any of the institutions they are affiliated.

1. Introduction

One of the main concerns of the literature focused on the impact evaluation of social programs is related to their unexpected potential labor effects. From a theoretical microeconomic perspective, the income effect generated by cash transfers policies may cause an increase in leisure and a consequently decrease in labor supply of beneficiaries. There is a longstanding discussion about the design of welfare programs in developed countries, and the relatively consensual finding of a significant disincentive effect in the labor market (Kimmel, 1998; Lemieux and Milligan, 2004, Terracol, 2009 and Bargain and Doorley, 2011) have led to introduce modifications in some of them. These adverse effects have also been studied empirically in developing countries: the evidence regarding the disincentives to work from conditional cash transfers (CCT) programs, mainly implemented in Latin America, is far from conclusive and dependent of certain features of the policy design (Alzúa et al., 2013, Teixeira, 2010). But beyond this particular consequence on labor participation, and considering both the purpose of CCTs and the typical labor market framework in Latin America, the potential effect on the registered and the unregistered employment rate should also be considered. Actually, the most concerning discussion in this context is the unintended incentive towards informality that these policies could generate, considering the strong link between this labor condition and the requirements that are generally established by these programs to select eligible households (Levy, 2008). The existence and quantitative relevance of this particular indirect labor effect of CCT programs constitute a central issue in the social protection debate in Latin America.

In fact, part of this addressing bias towards the informality impact evaluation of these policies arises since in many Latin American countries the laws that regulate relations between firms and workers distinguish sharply between salaried and non-salaried workers, and they are at the root of the existence of a labor market where coexists the registered (formality) with the unregistered workers (or informality). Firms and workers in salaried “formal” relations are obligated to pay for a sometimes-bundled set of health, pension and related programs. Non-salaried workers and “informal” salaried workers benefit from an unbundled set of parallel programs paid by the government, what we call “non-contributory programs”. New data documenting the level and evolution of the public spending on these programs for 16 countries in Latin America and the Caribbean shows that the region spends on average 1.7% of GDP in these programs, ranging from only 0.2% in Jamaica to 4.3% in Argentina¹ (Alaimo et al., 2018). Most of this spending finances the aforementioned CCT programs typically focused on children from informal and poor households.² CCTs are not new in the region since the oldest date back to early 1990s, and show during the last decade

¹ Includes the pensions moratorium. The ‘Moratorium’ allowed workers of retirement age to receive a pension regardless of whether they had completed the full 30 years of required social security contributions through formal employment. The difference between the amount of completed contributions and the 30-year benchmark would be reconciled by discounting their “debt” from their pension benefit (with a substantial reduction). Excluding the spending associated with the moratorium, the non-contributory spending in 2014 is 2% of GDP.

² The rest of this spending includes health and old-age pensions.

a substantial increasing trend of total spending and coverage. They have emerged as a response to social pressure to protect workers and their families to life cycle risks (old age, illness, unemployment, informality). Many of them have the desired effect of providing coverage to large proportions of the population against those risks. However, some of these policies also generate undesired effects. At the micro level, non-contributory programs distort labor individuals' decisions, particularly between formal and informal jobs. At the macro level, they represent a growing fiscal burden for countries and reduce productivity and growth.

There is a growing literature that analyzes and measures the informality incentives of non-contributory spending, particularly those encouraged by CCT programs (Levy, 2008; Gasparini, Haimovich and Olivieri, 2009; Camacho, Conover and Hoyos, 2009; Bosch and Campos-Vázquez, 2010; Amarante, Manacorda, Vigorito and Zerpa, 2011; Bosch and Manacorda, 2012; Antón, Hernández and Levy, 2012; Garganta and Gasparini, 2015; Bérigolo and Cruces, 2018). However, there are still no studies assessing the distributive consequences of this labor distortion. The informality incentives of non-contributory programs are also relevant in terms of the overall distributive impact of the programs as they could alter the expected incidence of poverty and inequality. The literature focused on evaluating the impact of these programs on the economy in general, and on their labor implications in particular, can determine a relevant contribution for the design of a more effective, undistorted and equitable model of social protection.

This paper estimates the fiscal cost of the informality incentives generated by two non-contributory programs in Argentina and Uruguay: the Universal Child Allowance (AUH for its acronym in Spanish) and the Asignaciones Familiares – Plan de Equidad (hereafter AFAM-PE), respectively. We find that these represent a relevant portion of the total budget of these policies since informality rate is significantly higher than it would have been in the absence of the programs. Also, this labor unintended impact increases market income poverty and inequality. Therefore, the direct distributive incidence analysis of these transfers may overestimate the true impact on the disposable or final income distribution if we ignore the aforementioned second round effects of the programs.

Both programs intend to benefit children belonging to low-income strata or from vulnerable low protected households. However, the way to identify them is not the same and hence their performance considering the distributive impact and labor distortions differ. While the AUH in Argentina states a relatively simple design benefiting children from informal households, the eligibility of the Uruguayan AFAM-PE relies on a multidimensional socioeconomic indicator (*Índice de Carencias Críticas*) that enables a better targeting and a lower informality effect. The contrasting results between these two programs and some other simulated approaches demonstrate that considerable distributive improvements can be reached through alternative designs with both a more sophisticated eligibility criterion that considers other several dimensions besides the labor conditions of the potential receptors, and also a differential benefit scheme regarding beneficiaries' socioeconomic characteristics.

The rest of the paper is organized as follows. Section 2 discusses the related existing evidence and section 3 describes the main characteristics of the two non-contributory programs analyzed. Section 4 explains the methodology and the data we used to apply it. Section 5 shows the results and section 6 resumes the main conclusions of the paper.

2. Existing literature and empirical evidence

The labor supply and other work incentive effects of welfare programs have long been a central concern in economic research. A substantial body of evidence for developed countries concludes that eligibility criteria and amount of transfers can have large effects on people's decision to enter labor markets (Hoynes, 1997). Standard economic theory predicts that income transfers will cause a fall in beneficiaries' labor supply due to income effect (Moffitt, 2002). Concerns about the negative effects of welfare transfers potentially arise also in the medium and long terms due to welfare dependency, possibly induced by losses in marketable skills, welfare stigma or asymmetric effects of welfare eligibility on the transitions into and out of social assistance (Amarante et al., 2011).

For developing countries in the region, there is a well-established empirical literature on the impact of income support programs on households' socioeconomic conditions and labor market outcomes (Bertranou et al., 2002; Levy, 2008; Ferreira y Robalino, 2010; Cruces y Gasparini, 2010; Antón, Hernández y Levy, 2012; OIT, 2012; Frölich et al., 2014; Lustig y Pessino, 2014). This literature is important from a policy perspective, as it can guide towards a more effective and equitable design of social protection programs (Bosch and Manacorda, 2012; Alzúa, Cruces y Ripani, 2013; Azuara y Marinescu, 2013). Evidence indicates that in the short term this kind of programs has contributed to poverty alleviation and income inequality reduction, as well as having positive long-term effects resulting from the encouragement of human capital formation among children of low income families (Fiszbein and Schady, 2009; Ibarrarán et al., 2017).

The influence of non-contributory programs on labor market outcomes has received considerable attention as well. Different authors have studied the effect of cash transfer programs on the propensity to work, hours worked and the decision to have a formal or informal job. Araujo et al. (2017), study the Ecuadorian program Bono de Desarrollo Humano. They analyze the impact of welfare payments on the probability that men and women work, and on whether they are employed in the formal or informal sector. Although they find no effect on labor supply, it seems that women switch from formal to informal jobs as a program's consequence. Six years after welfare payments began, women just eligible for welfare were 0.5pp (8%) less likely to contribute to social security and 1.5pp (17%) less likely to have a business or self-employment status registered with the tax authorities than just-ineligible women. Moreover, they show that 40% of the decline in formal work observed was a result of a reallocation of work from more formal to less formal industries.

Many researchers have focused on the repercussions of Mexican social welfare programs, mainly the Seguro Popular. Alonso, Ortiz and Leal (2017), conclude that the distribution of transfers is key to determine the program's impact on labor outcomes. They find a negative impact of the program on formality (a 0.8pp increase in informality) and claim that it is not big due to frictions that reduce mobility between formal and informal jobs and the fact that the size of the transfer is relatively small. They also find that the informal sector is quite inelastic to small changes in the distribution of transfers. Bosh and Campos (2010), exploit the staggered adoption of Mexican municipalities of the program to evaluate its impact on informality. They estimate that if the program did not exist, 300 thousand employees would have joined the formal sector. This means that the stock of registered workers would have increased by 2.4% between 2002-2009 in the absence of the program.

Juarez (2012), studies the impact in Mexico City of an expansion of Seguro Popular's health benefits to low-educated women with informal jobs. She finds a 4 pp decrease in formality among these women attributable to the program. Bosch, Cobacho and Pages (2014), review ten different studies on this program and conclude that the implementation of Seguro Popular has changed incentives to contribute to social security. The evidence suggests a reallocation of between 0.4 and 1pp, equivalent to 140,000 to 400,000 jobs. During the same period analyzed, 2 million formal jobs were created implying that the increase would have been between 8% and 20% higher in the absence of the program. Besides, the reallocation seems to have been more intense among small firms and unskilled workers. Finally, Galiani, Gertler and Bando (2014) study the Mexican Adultos Mayores program. They find that the introduction of this non-contributory pension in the country makes a significant proportion of beneficiaries switch to non-paid (family business) jobs. They report a 20% reduction in labor supply of those near retirement age due to the program introduction, but no anticipation effects of future recipients.

The Colombian Subsidized Regime is evaluated by Camacho, Conover and Hoyos (2013). Using two datasets and different identification strategies, they find that the expansion of the Subsidize Regime for health coverage in Colombia increases informality by 4.0pp. The 2008 Chilean pensions reform, which ensured old-age pension to people that did not save enough to self-finance minimum pension, is analyzed by Attanasio, Meghir and Otero (2011). They exploit differential effects by birth cohorts to study the impact of the reform on formality. They find that workers 40 years old and older are 4.1% less likely to be formal. In the case of Brazil, the conditional cash transfer Bolsa Familia has been studied by the country's Ministério do Desenvolvimento Social e Combate a Fome (2012). Using 2009-2012 data, they find the program has positive impacts on education, health, child labor reduction and that it increases female labor force participation. As regards formality, a negative effect is found, although they claim it may result from a misunderstanding of eligibility conditions since having a formal job does not exclude families from the program.

Amarante et al. (2011) study the influence of the Uruguayan Plan de Atención Nacional a la Emergencia Social on workers formality. They show that the program reduces formal employment and earnings, primarily among men. Besides, although they find evidence of a modest rebound, they get to the conclusion that the adverse effects on formal labor supply

and earnings persist even two years after the end of the program. They assume that these long lasting effects are due to the dynamic incentives of entitlement for social assistance. Bergolo and Cruces (2016), study another Uruguayan program, namely Asignaciones Familiares-Plan de Equidad (AFAM-Pe). Using administrative data, they find a significant effect on formal employment (-8.0pp) that can be explained 2/3 by an increase in informal employment and 1/3 by a switch to non-employment.

As for Argentina there are two papers that study the impact of social assistance on labor outcomes. One of them, Gasparini, Haimovich and Oliveri (2009), reviews the program Jefes de Hogar that provided cash transfers to unemployed household heads meeting certain criteria. The authors find some evidence on informality bias of the program when the value of the cash transfer was relatively high compared to wages in the formal labor market. Furthermore, the gap in the jump into formality seems to be substantially larger for males than for females, and approximately the same for the extremely poor and the rest. Garganta and Gasparini (2015), analyze the recent child allowance program *Asignación Universal por Hijo* (AUH) that provides monthly cash transfers to unregistered workers with children under 18 years old. Their results suggest a statistically significant and economically large disincentive to the labor market formalization of program's beneficiaries. An increase in informality ranging between 2.8pp and 3.6pp is estimated. In contrast, no sufficient evidence for the existence of a significant incentive for registered workers to become informal is found.

As we have already mentioned, non-contributory transfers generate a considerable reducing impact on poverty and inequality. However, their unintended labor effects tend to worsen the potential distributive results since a higher informality rate implies a more unequal market income distribution. The distributive impact evaluations of these policies typically ignore the potential consequences on the income distribution caused by the second-order effects of the programs. In this paper, we consider this issue through a comparative study of two particular policies with different designs implemented in Argentina and Uruguay: the AUH and AFAM-PE, respectively. We discuss and estimate the budgetary cost and the distributive loss of the informality incentives generated by these two programs that differ particularly on the criteria used to determine eligibility.

We also include an additional and related discussion about the potential distributive improvements of these policies through the introduction of alternative frameworks. For this purpose, it is important to consider again the differences between these two designs in order to analyze the distributive improvements that can be reached through a different scheme. For instance, the simple design of the AUH in Argentina (in relation to the AFAM-PE in Uruguay), shows there is still scope for developing better eligibility criteria and benefit schemes in order to enhance the redistributive effects of these policies and reduce informality incentives. But it is worth noting that a more targeted spending could magnify the unwanted labor incentives associated with the programs and therefore it is crucial to consider this trade-off when we analyze a possible programs' reform. The eligibility criterion of the AFAM-PE through a multidimensional socioeconomic indicator (*Indice de Carencias Críticas*) shows there are alternatives in practice to appease this trade-off.

Eligibility based on a more sophisticated and complete socioeconomic description of households, that considers other several dimensions besides the labor conditions of the potential receptors, may generate a higher distributive impact and a lower informality effect. This unintended labor impact may be probably unavoidable even with such a design since informality is strongly related to vulnerability, but the distortion could be reduced and hence the direct and indirect distributive effect of the programs could significantly improve.

3. General description of AUH and AFAM-PE

The AUH was implemented in Argentina in 2009 by means of the Decree 1602/2009. The purpose of this massive conditional cash transfer program is to contribute to improving the situation of minors living in a social vulnerability context. The AUH is targeted to those children under 18 years old who do not receive any other family allocation and whose parents are either unemployed or informal workers³. The benefit consists of a non-remunerative monthly monetary payment of approximately US \$ 56 per child, up to a maximum of 5 children, which is handed out in two steps: 80% of the benefit is paid monthly and the remaining 20% is given to the beneficiary once a year after demonstrating that the eligible child has attended school during the year, that there has been compliance with the vaccination schedule and that the child has received other health check-ups as established by the Ministry of Health.

This non-contributory program covers a large proportion of the Argentinean population, the majority belonging to low-income strata. The AUH covered almost 4 million children, which represents 29% of all children in the country and 15% of total households (Garganta and Gasparini, 2015). The annual budget of the program, around 0.8% of GDP, is very high in comparison with other Latin America countries, as well as the monetary benefit that is also large according to international standards (Fiszbein and Schady, 2009). The real value of this per child transfer has remained relatively constant over time since it was adjusted annually to maintain the purchasing power against an inflationary scenario. Since its introduction in 2009, the AUH benefit represents 14% of the legislated minimum wage and hence a significant rise of the mean household income for unemployed and informal households with children (i.e., the potential beneficiaries of the program). For a typical poor participant household with three children, the benefit implies an increase of almost 35% in their total household income. In this way, the policy has generated a permanent and substantial income increase of beneficiary households, which is proportionally more pronounced on poor families with more children.

In the case of Uruguay, as consequence of the severe economic crisis that hit the country in 2002-2003, the government launched in 2005 a temporary social assistance program called Plan de Atención Nacional a la Emergencia Social (PANES). Targeting the poorest 10% of households, the program provided a cash transfer conditional on a series of health and

³ The decree restricts participation to those unregistered workers earning less than the adjustable legal minimum wage, but as this condition is difficult to monitor in practice it is not necessarily fulfilled.

education controls for children. According to the Law 18.227, this emergency program was replaced in January 2008 by a new system of family allowances, a conditional cash transfer program namely the Asignaciones Familiares – Plan de Equidad (AFAM-PE), targeted to households in vulnerable socioeconomic conditions with either pregnant women or children under 18 years old.. The first step to be considered for the AFAM-PE consists in an income test based on households' per capita income from registered employment and self-reported information on the application form. To be eligible a household income should be below certain (publicly unknown) threshold to enter to the program. Then, a means-tested is applied to assign a score that reflects vulnerability conditions from an estimation considering a large set of socioeconomic characteristics of the household: if the score is above a threshold of vulnerability a household could be vulnerable. Only after these two steps, a household could be eligible to be in the AFAM-PE. Moreover, the program's monetary transfers are conditional to health checks and school attendance for children in beneficiary households. The authorities enforce the eligibility criteria and the last conditions mentioned of health and education, checking periodically the income test (every two months) with administrative records and every year if children below of 18 years are in the school. The level of the transfer depends non-linearly on the number of children and their education level, though the average benefit for a household with two minors is estimated around US\$ 103 (Bérgolo and Cruces, 2018).

The program has been increasing its coverage over the years since its implementation. At the beginning of 2008 it covered 275,000 children, while in 2014 the program reached nearly 370,000 children representing approximately the 42% of all children under the age of 18 in Uruguay (Bérgolo and Cruces, 2018). The budget for the cash transfer component of the program in 2013 was just over 0.35% of the GDP (Carbajal, 2017). In terms of its relative coverage and its budget as a proportion of GDP, AFAM-PE was among the largest programs of its type in Latin America (Fiszbein and Schady, 2009).

Both programs (AUH and AFAM-PE) are key strategies of the whole social policy in each country and they will probably be at the core of the social protection debate in the medium and long-term. The substantial coverage and benefits of these policies determine that their distributive impact may be more extensive than the direct income effect potentially generated by the cash transfers. For instance, some potential unintended effects of these programs on the labor market imply an additional shift in poverty and inequality. There still no studies that evaluate the distributive consequences of these programs considering the aforementioned indirect labor effects. In this regard, some differences between the selected programs of this paper may arise. Unlike the AFAM-Pe in Uruguay, the AUH in Argentina has currently a simple design that is reflected both in the structure of its monetary benefits and in the conditions stipulated to determine eligible households. This simple approach, in relation to other similar programs in the region, has some advantages but gives rise to the possibility of incorporating more complex elements in its design, which would allow a more progressive social expenditure and a lower indirect labor impact.

4. Data and Methodology

To carry out this study we use microdata from Uruguay's and Argentina's national household survey (*Encuesta Continua de Hogares* - ECH - and *Encuesta Permanente de Hogares* - EPH -, respectively). Considering the socioeconomic structure of each country registered with these information sources we first estimate the whole distributive incidence of each program. Then, we identify the budgetary cost of the informality incentives of these policies based on the previous results found by Bergolo and Cruces (2016) and Garganta and Gasparini (2015). We also analyze the implications of this specific indirect labor effects on monetary poverty and inequality. Finally, we apply several complementary simulation exercises in order to analyze and measure the redistributive potential of the programs arising especially from different alternative designs. For a better understanding of this whole approach it is essential to consider the previous differences between the simple design of the AUH and the more complex framework of the AFAM-PE both to determine eligibility and to select the corresponding cash transfers of the beneficiaries. Beyond the necessary comparison between these two cases it is important to highlight some country-specific data restrictions and methodological considerations.

Argentina

In the case of Argentina we use the EPH survey corresponding to the first semester of 2015 due to the fact that the initial design of the AUH regarding the labor requirements to be eligible (informal workers) was kept until 2015. Since 2016, the children of some registered self-employed workers (*monotributistas*) were incorporated as new beneficiaries of the program. This modification could have changed the indirect labor effects of the policy already estimated (Garganta and Gasparini, 2015) which are used as an input in this paper.

The EPH covers 31 large urban areas with more than 100 thousand inhabitants, which represent 62% of the total country population. Although it is the main survey of Argentina on labor and income issues, its coverage should be adjusted considering the main purpose of the paper. Hence, we calibrate the weighted factors of the Argentinean survey in order to get representative estimations for the total population: differential adjustments are considered according to two main age groups (total individuals older and younger than 18 years old) based on the population projections carried out by the National Statistical Office of Argentina (INDEC).⁴

There are no questions in the EPH that enable to identify the AUH beneficiaries. Given this data limitation, the identification strategy consists to consider all eligible households regardless of whether they actually receive the benefit. Thus, we tag families with children under 18 and/or disabled individuals (without age restriction) and integrated by no formal

⁴ No significant changes arise if alternative weights adjustments are considered (for instance, through a greater number of groups of individuals according to their age and gender). Also, it is worth noting that this calibration is made under the assumption that the rural area (which represents 13% of the total population) has a similar age structure than the urban population identified in the survey.

workers as eligible households.⁵ To determine labor formality we follow the typical criterion of the literature: salaried workers entitled to a contributive retirement pension.⁶ In the case of self-employed workers we adopt a different approach due to the lack of a related information in the EPH for this type of labor relation. That is, those independent workers with the highest labor income are considered formal in order to replicate the number of self-employed workers registered in the country according to the official administrative data (AFIP). This last adjustment means that the informality rate considering all employed persons is 34.7% in 2015, above the 32.4% reached among salaried workers.⁷

The AUH establishes that beneficiary workers should earn less than the legal minimum wage. However, this may be not an operating restriction since informal workers' income is difficult to monitor. Hence, we do not consider any income bound to determine eligibility. Although this will be the general case, we will check the robustness of our main results considering different levels of self-exclusion coming from the richest eligible households.

Uruguay

In Uruguay, we use the Encuesta Continua de Hogares (ECH) the main household survey recorded by the Instituto Nacional de Estadística (INE). It covers information about socioeconomic characteristics and income variables of households at national level. This paper uses the period 2014 as a reference but similar results were obtained using different years of the survey.⁸ Throughout the ECHs we identified households that have the transfer from AFAM-PE and the amount that every household declared of transfer.

As a double check we construct a proxy of the means-test score used for eligibility based in a set of different socioeconomic and demographic variables of the household for those who are identified by the ECH that received the program and estimate the amount according to the equation officially used to calculate the total benefit. These estimations were used to identifying those households eligible for the AFAM-PE in the different microsimulations and quantify the amount that they potentially could receive.

From the basis of the results about disincentives in formality of about 8% of the AFAM-PE found in Bérigolo and Cruces (2018) the simulated scenarios without informality disincentives were constructed. For these purposes, the authors use administrative data linked with information about beneficiaries of the AFAM-PE based on a regression discontinuity design. Since our available data is the ECH, we adjusted it as much as possible to reply to a local effect as it is found in the regression discontinuity design. In this sense, using the score ICC estimated we choose a threshold were beneficiaries and non

⁵ Eligible households can be integrated by registered workers. This is possible as long as the formal workers are not the parents of those children under 18 years old.

⁶ See Tornarolli et al. (2014).

⁷ The slight increase of the informality rate after this adjustment is due to the fact that the vast majority of workers are salaried employee (approximately 77% of total workers). The values we get for the total labor informality rate are consistent with other similar estimations in Argentina (Bertranou and Casanova, 2013).

⁸ Results for the rest of the periods are available upon request.

beneficiaries from AFAM-PE are balanced from both sides of the threshold (the value of .712, – 0.712 of a poverty score was considered). We apply the estimated effect in Bérgholo and Cruces (2018) to our data and found that around the interval the informality rate for beneficiaries is 47.5%. This implies that a total of 2.848 workers are non registered employees due to the program, which means the policy generates an increase of almost 1.9 pp. in the informality rate.

Once we identify both policies' receptors we are able to construct the baseline scenario without the program for each country. For this purpose, we first proceed to discount the non labor income of the beneficiary households that correspond to these CCTs benefits. In addition, the absence of these policies implies trivially the consequential absence of the informality incentives they generate. Therefore, to estimate the counterfactual households' income without the AUH and AFAM-PE we should also state the labor market income that those unregistered workers from eligible households would have earned under a formal labor relation (without the programs). This will be the starting point to microsimulate the distributive impact of the current designs, the budget cost of the informality incentives and their consequences on poverty and inequality, and finally the potential redistributive effects of other alternative policy frameworks. Additional details of the simulation strategy are described in the following section.

5. Results

In this section we show the results of the several exercises applied according to the methodology described above. Table 1 registers the aggregate distributive impact of the programs through the comparison between the social indicators arising from two different scenarios, with and without the policies. That is, considering the direct income effect of the policies and also all possible indirect impacts the programs may have generated. The former refers to the income distribution shift caused by the receipt of a cash transfer benefit by eligible households. On the other hand, the latter distributive effect is driven by a set of unintended diverse behavioral changes. Regarding these last results we focus solely on the evaluation of the informality incentives, the most studied indirect effect of CCT programs that raises a deep concern over the medium and long-term distributive consequences of this type of policies.

The specific results identified in Table 1 show that both programs provoked a sharp percentage contraction in extreme poverty and to a lesser extent in moderate poverty. The AUH in Argentina registers in general a greater quantitative impact than the AFAM-PE in Uruguay, which is explained fundamentally by the previous lower level of poverty of the latter country and the higher coverage and benefits from the Argentinean CCT program. Likewise, inequality is reduced by the introduction of these policies. For instance, the Gini index fall by 3.4% and 1.4% in Argentina and Uruguay, respectively.

Table 1. The distributive impact of the programs

	AUH (ARGENTINA)		AFAM-PE (URUGUAY)	
	Without Program	With Program	Without Program	With Program
Extreme Poverty				
FGT (0)	7.51	4.12	0.61	0.35
FGT (1)	3.16	1.35	0.15	0.07
FGT (2)	2.07	0.78	0.06	0.03
Moderate Poverty				
FGT (0)	30.75	28.91	10.90	9.07
FGT (1)	11.91	9.48	3.07	2.34
FGT (2)	6.68	4.48	1.30	0.91
Inequality				
Gini Index	0.414	0.400	0.383	0.379
Annual Cost				
<i>Millions \$ (Local Currency Units)</i>		38,928.1		3,139.4
<i>% GDP</i>		0.72		0.24

Source: Author's calculation based on EPH survey from Argentina and ECH survey from Uruguay.

Note: The *Without Program* scenarios do not consider the informality incentives generated by the programs.

The budgetary needs to reach this aggregate distributive impact are important to consider regarding the effectiveness of these policies and the potential redistributive improvements of alternative designs. The total cost of the AUH represents more than 0.7% of GDP while in the case of AFAM-PE the public expenditure is significantly lower, 0.24% of GDP. As we discuss in the previous section, the introduction of this social spending may imply a labor informality incentive which is reflected through a greater number of unregistered workers than the counterfactual scenario without these programs (or under the absence of this specific indirect labor effect). Therefore, this unintended impact generates an additional cost of the program with its consequent distributive repercussion.

To estimate the budgetary cost of the informality incentive and its effect on poverty and inequality we first tag in each case those beneficiaries that would have been registered workers without the program. To do this, we consider the group of informal workers with the highest probability of being formal according to their observed characteristics.⁹ Then, following this approach and considering the estimated effects of these two programs on informality (Bérgolo and Cruces, 2018; Garganta and Gasparini, 2015) we simulate the entry into the formal sector by these unregistered workers until the informality rate reaches

⁹ We apply a *Probit* model to estimate the probability of being formal based on the following workers' characteristics: age, gender, educational level, marital status, geographical region, head of household, total number of households' members and employees, activity sector, public-private employment, size of company, worked hours and time dummies (quarters),

a lower value than the one achieved under the current design.¹⁰ Specifically, we state an informality level drop that ranges between 2.84 pp. and 3.61 pp. for the case of AUH (Garganta and Gasparini, 2015), while for the AFAM-PE in Uruguay the corresponding simulated fall reaches almost 1.9 pp. (Bérgolo and Cruces, 2018). The true/pure effect is hard to measure, since it may depend on the valuation that each worker does of each benefit (a program might be big in terms of budget, but if workers do not value what they get from it, it may not change their behavior towards informal jobs), that is, elasticities. And there might be also complement or substitution effects that change the overall effect of non-contributory programs on labor outcomes. With these caveats in mind, one could try to estimate a back-of-the-envelope aggregate effect for Argentina and Uruguay, two countries with above the average public spending on non-contributory programs.

Table 2 exposes these new results, adding to the estimated effects of Table 1 the simulated distributive impact of the programs without their informality incentives. In Argentina, this labor behavioral impact of the CCT program implies an annual cost between 7.5% and 9.1% of the current budget of the AUH.¹¹ Also, there is a distributive improvement in the program without the informality incentives, although it does not seem to be substantial. For instance, moderate poverty would have experienced more than a 7.1% fall in the absence of this indirect labor effect of the program, which is slightly above the 5.9% drop that the AUH has generated under its current scheme. The differential impact of this alternative design on extreme poverty and inequality would have also been marginal.

The total cost of AFAM-PE without the labor distortion would be relatively similar to the current one, and hence the Uruguayan CCT program shows almost no distributive changes arising solely from the incentives towards informality.

¹⁰ This selection is not deterministic: the criterion also considers the entry into the formal sector of individuals with low probability of being formal (although with fewer chances or in a smaller proportion than those workers with high probability). The results are robust using different (non-deterministic) selection alternatives.

¹¹ Table 2 considers the maximum effect on informality for both programs (Garganta and Gasparini, 2015; Bérgolo and Cruces, 2018)

Table 2. The distributive impact and budgetary cost of the programs' informality incentives

	AUH (ARGENTINA)			AFAM-PE (URUGUAY)		
	Without Program	With Program	With Program & Without Informality Incentives	Without Program	With Program	With Program & Without Informality Incentives
Extreme Poverty	7.51	4.12	4.09	0.61	0.35	0.39
Moderate Poverty	30.75	28.91	28.56	10.90	9.78	9.78
Inequality (Gini Index)	0.414	0.400	0.399	0.383	0.379	0.379
Annual Cost						
<i>Millions \$ (Local Currency Units)</i>		38,928.1	35,397.6		3,139.4	2,972.7
<i>% GDP</i>		0.72	0.65		0.24	0.22

Source: Author's calculation based on EPH survey from Argentina and ECH survey from Uruguay.

Note: The *Without Program* scenarios do not consider the informality incentives generated by the programs.

These last simulated schemes inevitably lead to a fiscal saving. So, considering also their distributive impact (although low) it is worth noting that these programs may become more cost-effective without informality incentives. This is implicit in Table 1 and Table 2. Although the absolute changes are not meaningful, their relative impact is significantly greater. For instance, if we consider the effect on indigence for each 1% of GDP destined to the AUH then the program increases its poverty reducing impact by 10.9% in the absence of its informality incentives. Improvements are larger for moderate poverty and inequality (Gini Index) whereas the corresponding greater effect in comparison with the current design reaches 19.9% and 31.2%, respectively. The AFAM-PE also shows a better performance in terms of its distributive incidence without labor incentives towards informality. However, improvements are lower. For instance, moderate poverty would have shown a 5% greater impact while the reduction of inequality for each 1% of GDP in spending would have been only 3.8% higher.

As a complement of these findings, Table 3 shows the potential distributive impact of both programs if we distribute this fiscal saving (considering the same current benefit schemes) among those families that would be beneficiaries even without the informality distortion. As expected, this new design generates an additional reduction on poverty and inequality given the possibility to state a higher transfer for eligible households: for the case of Argentina the absence of informality incentives would allow a 10.4% higher average benefit per child, while in Uruguay the corresponding increase would reach 6.5%.

Table 3. The distributive impact without informality incentives and the same current cost

	AUH (ARGENTINA)			AFAM-PE (URUGUAY)		
	Without Program	With Program	With Program Without Informality Incentives Same current budget	Without Program	With Program	With Program Without Informality Incentives Same current budget
Extreme Poverty	7.51	4.12	3.79	0.61	0.35	0.36
Moderate Poverty	30.75	28.91	28.36	10.90	9.78	9.74
Inequality (Gini Index)	0.414	0.400	0.398	0.383	0.379	0.379
Annual Cost						
<i>Millions \$ (Local Currency Units)</i>		38,928.1	38,928.1		3,139.4	3,139.4
<i>% GDP</i>		0.72	0.72		0.24	0.24
<i>Average benefit (\$LCU)</i>		644	711		896	954

Source: Author's calculation based on EPH survey from Argentina and ECH survey from Uruguay.

Note: The *Without Program* scenarios do not consider the informality incentives generated by the programs.

An alternative approach to identify the size of this labor distortion and understand its distributive effect is to provide a comparative analysis between the resulting labor market earnings and the disposable household income under the different programs' schemes. The former refers to the family labor income while the latter is composed in this study of both the market income and the households' non labor income coming exclusively from the cash transfers of these CCT programs.¹² Table 4 resumes these findings for each policy design. In the case of the AUH, the existence of the informality incentive causes an overspending equivalent to a per household transfer of \$21 which represents an increase of 10% of the counterfactual average benefit of the policy without distortion. The same analysis for the CCT in Uruguay shows that the program's distortion generates on average a 5.4% higher implicit benefit. This difference between policies is greater if we consider the magnitude of the implicit transfer relative to the average market income: it represents 1.84% of the average market income in Argentina while in Uruguay this benefit shows a significantly lower scale since it is only 0.4% of the average family labor earnings.

To a better understanding of these values some important issues should be mentioned. First, the market income we identified from the current designs is lower than the corresponding value of the simulated scenario without the programs. This is exclusively due to the resulting wage gap for those eligible (informal) workers that would have been formal in the absence of these policies. For the same reason, in each country the resulting labor income with the program but without informality incentives is identical to the "without program" scheme. Additionally, even though in the case of Argentina the average disposable income increases when we ignore the unintended labor effect of the program,¹³ the implicit program's benefit (the difference between the disposable and the market income) we get

¹² In order to simplify this analysis and to concentrate on the main purpose of this paper, we do not consider the incidence of taxes nor any other sources of non labor income to estimate these two income concepts.

¹³ This means that in Argentina on average the labor income increase of those eligible workers that would have been formal without labor distortions more than offset the CCT benefit loss they get by being formal. In contrast, the Uruguayan case shows a relatively constant disposable income with and without distortion.

from this alternative is lower than the corresponding average value of the current design. This last result determines the size of this labor distortion. The last policy scheme represents an equal spending program with the same implicit benefit of the current design but with no labor distortion which leads to an additional distributive improvement.

Beyond the identification of the magnitude and relevance of the labor distortion, this last analysis complements the distributive impact evaluation that could be attributed to the informality incentive of these programs. In this respect, we can estimate how this behavioral response affects poverty and inequality. For this purpose, Table 4 also shows the distributive indicators for both programs arising amongst others scenarios from the pre-transfer market income under the current design, the pre-transfer market income without informality incentives and the actual post-transfer income. Considering the AUH, we find that the moderate poverty in the absence of this program (a scenario in which some eligible informal workers would have switched to the formal sector) would have been 30.8 percent instead of the 31.4 percent we get if even without the program the informality incentive of the policy is kept. Hence, this labor distortion of the AUH has individually an upward effect on poverty: the behavioral effect of the AUH on labor informality increased poverty by 0.6 percentage points (pp.) which represents a 21 percent lower (reducing) impact on poverty of the program. For the case of the AFAM-PE the effect of the informality incentive on poverty is almost negligible. This is because this program is smaller, has a lower informality bias and is better targeted to very vulnerable households. Therefore, the market income poverty with and without this labor distortion shows almost no movement since the wage gap between formality and informality for very unskilled workers with low productivity is almost trivial or represents an insignificant value when we consider all households (eligible and non-eligible) in the analysis.

If we try the same exercise for both programs focusing on eligible households (Table 5) we find that in Argentina informality incentives caused also an increase on indigence and poverty among beneficiary households by 0.81 and 2.38 pp., respectively. For the case of AFAM-PE in Uruguay, due that we now concentrate the analysis on eligible households, the distributive consequences of the labor informality distortion shows up. However, this program registers again more modest effects. For instance, if we compare market income poverty for beneficiary households with and without this policy, we identify that the informality effect provoked only a 1.3% lower reduction of the program on this social indicator.

These results reflect that a simple fiscal incidence analysis of these programs that ignore the consequences of these labor incentives on the market income distribution will exaggerate the true effect of these policies on the disposable or final income distribution. The findings also show that this overestimation can lead to a more serious bias the larger the program and the larger the incentives on informality. This last issue is related fundamentally with the eligibility criterion of the programs. The distributive improvements of these programs without labor distortions are not trivial, particularly for the AUH in Argentina. Considering

the simple current design of this policy, the distributive impact of this program could be significantly higher through a greater targeting and a better redistributive benefit scheme. In contrast, the current more sophisticated design of the AFAM-PE generates a lower unintended effect on informality which determine that the distributive loss due to the labor distortion is relatively low. Hence, there is little scope in the Uruguayan case to enlarge the effect on poverty and inequality by a policy reform. The following results analyze for both programs the potential distributive impact under alternative designs.

Table 4. The distributive impact of the market and disposable income distribution.
Total Households

	AUH (ARGENTINA)				AFAM-PE (URUGUAY)			
	Without Program	With Program	With Program & Without Informality Incentives	With Program Without Informality Incentives Same current budget	Without Program	With Program	With Program & Without Informality Incentives	With Program Without Informality Incentives Same current budget
Total Households								
(a) Market Income	12,810	12,754	12,810	12,810	52,136	52,127	52,136	52,136
(b) Disposable Income (Market Income + Program's transfer)	12,810	12,988	13,023	13,044	52,136	52,341	52,339	52,350
Implicit average transfer (b-a)		234	213	234		214	203	214
(c) Extreme poverty								
Market Income	7.51	7.71	7.51	7.51	0.61	0.61	0.61	0.61
Disposable Income	7.51	4.12	4.09	3.79	0.61	0.35	0.36	0.36
(d) Moderate poverty								
Market Income	30.75	31.35	30.75	30.75	10.90	10.90	10.90	10.90
Disposable Income	30.75	28.91	28.56	28.36	10.90	9.78	9.79	9.77
(e) Gini Index								
Market Income	0.4143	0.4170	0.4143	0.4143	0.383	0.383	0.383	0.383
Disposable Income	0.4143	0.4004	0.3992	0.3976	0.383	0.379	0.379	0.379

Source: Author's calculation based on EPH survey from Argentina and ECH survey from Uruguay.

Note: The *Without Program* scenarios do not consider the informality incentives generated by the programs.

Table 5. The distributive impact of the market and disposable income distribution.
Eligible Households

	AUH (ARGENTINA)				AFAM-PE (URUGUAY)			
	Without Program	With Program	With Program & Without Informality Incentives	With Program Without Informality Incentives Same current budget	Without Program	With Program	With Program & Without Informality Incentives	With Program Without Informality Incentives Same current budget
Eligible Households								
(a) Market Income	8,204	7,872	8,204	8,204	32,607	32,528	32,607	32,607
(b) Disposable Income (Market Income + Program's transfer)	8,204	9,257	9,463	9,588	32,607	34,389	34,371	34,470
Implicit average transfer (b-a)		1,384	1,258	1,384		1,860	1,765	1,863
(c) Extreme poverty								
Market Income	24.01	24.82	24.01	24.01	2.71	2.72	2.71	2.71
Disposable Income	24.01	10.63	10.51	9.31	2.71	1.38	1.34	1.30
(d) Moderate poverty								
Market Income	68.76	71.14	68.76	68.76	40.55	40.64	40.55	40.55
Disposable Income	68.76	61.52	60.12	59.32	40.55	34.72	33.66	33.47
(e) Gini Index								
Market Income	0.380	0.376	0.380	0.380	0.260	0.261	0.260	0.260
Disposable Income	0.380	0.315	0.319	0.314	0.260	0.245	0.246	0.245

Source: Author's calculation based on EPH survey from Argentina and ECH survey from Uruguay.

Note: The *Without Program* scenarios do not consider the informality incentives generated by the programs.

The distributive effect of alternative designs

In this last section we wonder how to improve the current designs of the programs in order to make this public spending more efficient. For instance, what would be the distributive impact of these programs if we change the eligibility criterion based on labor informality and/or if we state a more equal benefit scheme among beneficiaries? As we have just mentioned, this challenge is particularly important for the case of AUH in Argentina considering that in Uruguay these issues have already been discussed and they are relatively settled. At least, that is what their current designs and the following results show.

Table 6 identifies the distributive impact of both programs under alternative designs, considering a different benefit scheme and/or eligibility criterion. For a comparative purpose, we state the same current budget cost for all the simulated scenarios of each policy. The ALT. 1 and ALT. 2 programs are both targeted only at those eligible households that are also poor in terms of income. However, while the former states the same current benefit scheme, the latter design considers a decreasing transfer on the total household income. Finally, ALT. 3 has the same benefit scheme as ALT. 2 but changing the eligibility criterion. In this last case, the program covers the poorest households of each country and therefore neither the AUH nor the AFAM-PE relies on informality or *Indice de Carencias Críticas* to determine the beneficiaries.

As expected, the distributive improvements through these alternative designs are considerable in the case of AUH but not significant and almost negligible for the AFAM-PE in Uruguay. The results for Argentina reflect that a greater reducing impact on poverty and inequality can be reached not only by a different benefit scheme but also through a better targeted eligibility criterion that does not consider informality as a unique dimension to select beneficiaries. It is important to note additionally that this type of designs reduce the unintended informality incentives and hence the distributive improvements could be higher than the estimated effects of table 6.

Table 6. The distributive impact of alternative designs

	ARGENTINA				URUGUAY			
	AUH Current design	ALT. 1: poor eligible households and same benefit scheme	ALT. 2: poor eligible households and decreasing benefit by income	ALT. 3: eligibility criterion by income and decreasing benefit by income	AFAM-PE Current design	ALT. 1: poor eligible households and same benefit scheme	ALT. 2: poor eligible households and decreasing benefit by income	ALT. 3: eligibility criterion by income and decreasing benefit by income
Extreme Poverty	4.12	3.26	2.48	2.33	0.35	0.35	0.35	0.34
Moderate Poverty	28.91	28.17	31.03	30.55	9.07	9.05	9.45	9.15
Inequality (Gini Index)	0.400	0.397	0.396	0.395	0.379	0.378	0.378	0.379
Annual Cost								
% GDP	0.72	0.72	0.72	0.72	0.24	0.24	0.24	0.24

Source: Author's calculation based on EPH survey from Argentina and ECH survey from Uruguay.

6. Conclusions

This paper analyzes the indirect distributive impact of the unintended informality incentives of two non contributory programs in Argentina and Uruguay. For this purpose, we first identify the budget cost of the policies that are attributable to this labor indirect effect: the informality rate in Argentina and Uruguay would have been lower in the absence of these programs and therefore a smaller number of households would have been eligible. Once we identify this overspending we analyze its distributive consequences. In particular, the simulation of this counterfactual income distribution involves both a lesser non labor income but also a higher labor market income for those eligible families that would have not been beneficiaries without the informality incentives of the programs. We finally evaluate the incidence on poverty and inequality of alternative programs' schemes in order to identify the potential distributive gains of these policies without its disincentives to formality and changing some specific inequities of the current designs.

The results suggest that the introduction of these programs has had a significant contribution to the reduction of poverty and inequality. However, the potential distributive improvements of these programs are not trivial, particularly for the AUH in Argentina that has a more simple design than the Uruguayan AFAM-PE. The more delicate socioeconomic situation of Argentina also determine the differential results between these two programs. In this respect, there is still scope to move towards a more redistributive AUH program if more complex elements are incorporated into its design in order to consider the socioeconomic differences among eligible households. Similarly, a new policy framework tending to reduce the disincentives towards labor formality would cause a more cost-effective spending and a distributive improvement.

In general, many CCTs in Latin America exhibit relative complex designs to determine beneficiaries and benefits as the AFAM-PE in Uruguay does. They do not target transfers considering exclusively the labor conditions of the receptors and they neither contemplate a constant benefit unrelated to the socioeconomic status of eligible households as the simple scheme of the AUH in Argentina does. The evidence of this paper shows it is possible in the short term to make some progress on the AUH in this regard and then try to achieve, through the support of greater and better evidence, a more ambitious social protection system in the medium and long-term. One possible structural solution—but difficult to implement—is to gradually decrease the tax on formality and the subsidy to informality and provide all workers with the same social insurance programs. This could be achieved by reducing labor contributions and replacing them with general taxes (Levy, 2008). Above all, poor workers need a more productive job; but they also need to benefit from social insurance and protection. Reaching this goal is essential for genuine social inclusion. It is time for Latin America and the Caribbean to move on and tackle new social challenges beyond those solved through CCTs (Anton and Levy, 2014).

7. Bibliographic references

- Alzúa, M. L., Cruces, G. y Ripani, L. (2013). “Welfare programs and labor supply in developing countries. Experimental evidence from Latin America”. *Journal of Population Economics*, Springer, vol. 26(4), pages 1255-1284.
- Antón, A., Hernández, F. and Levy, S. (2012). “The End of Informality in Mexico? Fiscal Reform for Universal Social Insurance”. Mimeo.
- Azuara, O. and I. Marinescu (2013). “Informality and the Expansion of Social Protection Programs. Evidence from Mexico”. *Journal of Health Economics*, Elsevier, vol. 32(5), pages 938-950.
- Bertranou, F.M., Solorio, C. and van Ginneken, W. (2002). *Pensiones No Contributivas y Asistenciales: Argentina, Brasil, Chile, Costa Rica y Uruguay*. Santiago de Chile, OIT.
- Bosch, M. and Manacorda, M. (2012). “Social policies and labor market outcomes in Latin America and the Caribbean: a review of the existing evidence”. Center for Economics Performance, London School of Economics and Political Science.
- Bérgolo, M. and Cruces, G. (2018). “The Anatomy of Behavioral Responses to Social Assistance When Informal Employment is High”. Available at SSRN: <https://ssrn.com/abstract=3229548> or <http://dx.doi.org/10.2139/ssrn.3229548>
- Ferreira, F. H. G. and Robalino, D. (2010). “Social Protection in Latin America: Achievements and Limitations”. Policy Research Working Paper N° 5305, World Bank.
- Fiszbein, A. and Schady, N. (2009). *Conditional Cash Transfers. Reducing Present and Future Poverty*. Washington D.C.: World Bank.
- Frölich, M., Kaplan, D., Pagés, C., Rigolini, J., & Robalino, D. (Eds.). (2014). *Social insurance, informality, and labour markets: how to protect workers while creating good jobs* (No. 7879). Oxford University Press.
- Garganta, S. y Gasparini, L. (2015). “The Impact of a Social Program on Labor Informality: The Case of AUH in Argentina”. *Journal of Development Economics*, Vol. 115, pp. 99-110.
- Gasparini, L. y Cruces, G. (2010). “Las asignaciones universales por hijo en Argentina: Impacto, discusión y alternativas”. *Económica*, Vol. LVI(1): 105-146.
- Hoynes, Hilary Williamson (1997). “Work, Welfare, and Family Structure: What Have We Learned?”, in *Fiscal Policy: Lessons From Economic Research*, edited by Alan Auerbach. MIT Press: Cambridge, Massachusetts
- Ibarrarán, P., N. Medellín, F. Regalia, and M. Stampini (Eds.) (2017). *Así funcionan las transferencias condicionadas. Buenas prácticas a 20 años de implementación*. Inter-American Development Bank.

Levy, S., (2008). *Good Intentions, Bad Outcomes: Social Policy, Informality and Economic Growth in Mexico*. Brookings Institution Press.

Lustig, N. y Pessino, C. (2014). “Social Spending and Income Redistribution in Argentina During the 2000s: the Increasing Role of Noncontributory Pensions”. *Public Finance Review*, Vol. 42 (3), pp. 304-325.

Moffitt, R. A. (2002). Welfare programs and labor supply. *Handbook of public economics*, 4, 2393-2430.

OIT (2012). *Pisos de protección social para la justicia social y una globalización equitativa*. International Labour Conference, 101st session 2012.