Subsidizing Informality?
Non-Contributory Public Spending
in Latin America and the Caribbean

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TECHNICAL NOTE

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Abstract

This paper presents new data documenting the level and evolution of public spending on non-contributory programs for 16 countries in Latin America and the Caribbean. Salaried formal workers contribute to social security and in return have access to an array of benefits -mainly old-age pensions and health services. In recent decades, informal workers – salaried and non-salaried- have gained access to similar benefits, financed through general revenues. Our calculations indicate that, on average, the region spends 1.7% of GDP in these programs. Although they were created in response to social demands, by targeting informal workers these programs may create a behavioral response -i.e. more informality. This paper does not attempt to measure behavioral effects. Its main contribution is to be the first to document this "subsidy to informality" following a common methodology across countries and years in the region.

JEL Codes: J46, H53, H55, J38.

Keywords: informality, government expenditures, welfare programs, labor policy.

1. Introduction

In many Latin American countries, labor regulations distinguish sharply between salaried and non-salaried workers. For salaried workers labor codes mandate that workers receive remuneration to ensure a decent standard of living, that workers are insured against a series of risks (mainly, poverty in old age, sickness and disability among others), and prevent firms to dispose of workers without just cause. These provisions map into a series of instruments that range from minimum wages to mandatory social security contributions to job security provisions. Alaimo et al (2017) call these provisions the "cost of salaried labor" and calculate its value for 20 Latin American and Caribbean countries.

This distinction, combined with weak institutions to enforce labor regulations, are at the root of the existence of 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". These programs emerged in the 1990s as a response to social pressure to protect workers and their families from life cycle risks (old age, illness, unemployment). Many of these programs have the desired effect of providing coverage to large proportions of the population against those risks. However, some of these programs also generate undesired effects. At the micro level, non-contributory programs distort individuals' decisions between formal and informal jobs. At the macro level, they represent a growing fiscal burden for countries and reduce productivity and growth.

Labor legislation in Latin America and the Caribbean establishes that those who employ salaried workers must make employer contributions, and at the same time, deduct a percentage of the salary of employees for personal contributions. These contributions entitle formal employees to several benefits that allow them to insure against certain risks related to old age, health, disability, work injuries, unemployment, child care, among others. In many cases, these contributions are bundled together, regardless of the status of workers. This is the case of Mexico, where formal employees contribute to a benefits package including contributions to child care and housing. In other cases, i.e. El Salvador, pension contributions and health are separate, so different levels of health and pension contributions are observed. In many cases, workers or employers cannot choose which contributions to make and which not to.

All these contributions paid by formal salaried workers (or their employers) constitute what we might call the "cost of formality". Regardless of the heterogeneity in the schemes of contributions (and benefits), in a context of low productivity and limited institutional capacity to enforce the law, this cost is an incentive to informal employment. On the other hand, in the absence of policies or programs that provide such benefits, either universally or via non-contributory mechanisms, informality means: no health insurance, no access to disability

pensions, old age pensions, or other work-related benefits. This affects not only workers but, in most cases, their dependents.

In this context, many countries have introduced programs that seek to fill these gaps in social security, financed by general revenues, i.e. non-contributory. The existence of these programs may change the incentives for being formal: to be formal, the worker contributes to many benefits, some of which he or she might never use, while the informal worker may or may not contribute and yet has access to similar benefits. One discussion that is beyond the scope of this note is the quality and the valuation that workers make of each of the formal and informal benefits. Levy (2008) takes this into account for Mexico.

Drawing upon pioneer studies for Mexico (Levy, 2008, Antón, Hernández, and Levy, 2012), this project quantifies public expenditure on non-contributory programs (henceforth PNC) aimed at the informal population in 16 countries in Latin America and the Caribbean. Its main contribution is that of generating a database that enhances labor productivity analysis in the region. The countries included in the study are: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Paraguay, Peru and Uruguay.

This note presents regional results, highlighting the main common aspects and differences between countries. The rest of the document has the following structure. Section 2 reviews regional literature on the effects of non-contributory programs on labor market outcomes. Section 3 introduces the methodology and data sources. Section 4 illustrates the main results by country and spending categories. Section 5 proposes different policy alternatives. Section 6 presents the concluding remarks.

2. Existing literature

From a macroeconomic viewpoint, social spending, contributory or not, is fiscally burdensome because political pressure tends to favor a larger welfare state (Galasso and Profeta, 2007). However, when compared to social security, social protection as represented by public non-contributory spending is particularly burdensome for two reasons exposed by Levy (2008): it is fully subsidized, and it erodes the tax base by increasing informality[1].

While studies reviewing the macro-fiscal implications of social protection spending for the region are still scarce, some trends are expected. First, aging will be the driving force of increasing social protection spending, mainly on retirement pensions and health services (Acosta-Ormaechea et al., 2017). In South America, Argentina, Brazil and Uruguay already

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[1] In a vicious-cycle, informality also erodes long-term productivity and economic growth, consequently magnifying fiscal implications, while also increasing the demand for free social protection programs (Levy, 2008).

spend over 5% of GDP on pension benefits. While younger and less formal countries (i.e. Central America) currently spend less than 2% of GDP on pension benefits, non-contributory spending (i.e. non-contributory pensions) will likely cause regional social protection spending to convergence towards OECD levels[2]. Opportunity costs of increased social protection spending will be greater if it means investing less in activities that increase productivity. On the other hand, falling fertility will affect the financial sustainability of PAYG systems and move some health assistance costs from families to States[3] (Cavallo and Serebrisky, 2016). Public health spending will also be greater to the extent that the quality of public health services converges to the quality of private health providers.

In light of these challenges, some authors have recommended reducing or eliminating payroll taxes while transferring part or all the fiscal burden to general revenues[4] (Levy, 2008; Antón, Hernández, and Levy, 2012; Antón and Hernández, 2014; Pagés, 2017). However, besides little evidence to prove that the formalizing effect of the transfer will be greater than its fiscal contingencies, such proposals need to consider not only the size of the informal labor market, but the overall size of the informal economy. For now, besides theoretical approximations by Bird and Smart (2014), Antón, Hernández, and Levy (2012), Antón and Hernández (2014), and Ulyssea and Reis (2006), there is no factual evidence supporting the expected positive net benefits for such implementation. An exception for the region may be a study for Colombia by Fernandez and Villar (2016). Using a Difference in Difference (DID) approach these authors find that the 2012 tax reform that reduced payroll contributions by half (substituting them with a tax on capital profits) reduced informality by 7 pp. Its effect on revenue, however, was a substitution gap of between 0.2% and 0.5% of GDP (they argue that revenue gains would have been slightly greater by using the VAT instead). They also suggest that formality gains may be short-lived.

Pagés (2017) furthers some interesting implications from other few existing studies for developed economies: i) payroll tax reductions have larger effects on wages than on employment, ii) since the employment response to tax reductions is lower, it may be an expensive means to create jobs, iii) payroll tax reductions may have differentiated impacts on different age groups and regions, with the youngest and seemingly less productive workers profiting less from such reforms, and iv) measuring methodologies are seriously constrained by regional differences within each country.

Future studies need to consider a more dynamic approach to estimate the possible impacts of trading payroll for VAT taxes. In fact, Antón and Hernandez (2014) did recognized the static nature of their analysis as being its main limitation. Specifically, by not considering the

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[2] Pensions at a Glance (2015) estimates expenditure on public pensions at an average of 9.0% of GDP for all its member countries in 2010-2015.
[3] Despite being less than 8% of the population, elderly people currently consume 17% of total health expenditures in Latin America and the Caribbean (Cavallo and Serebrisky, 2016).
[4] Bird and Smart (2014) show examples of countries that already finance its social protection with general revenues, and others that have recently considered reducing payroll taxes and transferring part of the burden to the Value Added Tax (VAT).

dynamics of aging[5], their results may underestimate the total long-run costs of the reform. On the side of the revenues, future research must also consider tax buoyancy over business cycles. As observed by Dudine and Jalles (2017), Taxes on Good and Services (TGS) are elastic to GDP fluctuations in emerging economies[6], something to consider when significantly increasing long-run public spending.

On the other hand, future debate on PNC programs will also depend on the collective valuations of whether social protection programs better the distribution of wealth, or what Antón, Hernández and Levy (2012) call the "redistribution motive". This is important to consider because empirical evidence seems to agree on the effectiveness of PNC programs in reducing poverty and inequality. For the United States and Brazil, Lustig et al. (2016) find that social spending on many non-contributory programs considerably reduce income inequality. Galiani et al., (2016) for Perú, and Bando et al., (2016) for Mexico suggest that non-contributory pensions significantly increase consumption and other measures of well-being among the elderly.

At a microeconomic level, several papers analyze the effect of non-contributory programs on labor market outcomes (see table A.1 in Alaimo, Carbajal, Garganta and Pessino, 2018 for a summary of results of selected studies on behavioral responses to non-contributory programs in Latin America and the Caribbean). These authors have studied the impact of different social programs on the decision to search for formal or informal jobs, and many find negative impacts, i.e. an increase in informality or a decrease in formality.

A recurrent research ground has been Mexico's Seguro Popular (SP)[7]. Bosch and Campos (2010) find that the stock of registered workers would have increased by 2.4% between 2002-2009 in absence of SP; Bosch, Cobacho and Pages (2014) find a reallocation of jobs from formal to informal of between 0.4 and 1 percentage points (pp), equivalent to 160,000 to 400,000 workers; Juarez (2012) finds a 4.0pp decrease in formality among women with less than high school education; Alonso-Ortiz and Leal (2017) find a 0.8pp increase in informality.

Araujo, Bosch, Maldonado and Schady (2017) study the impact of welfare payments on the probability that Ecuadorian men and women work, and on whether they are employed in the formal or informal sectors. Their analysis is based on two different identification strategies and two separate sources of data spanning more than 10 years. They find no effect on labor supply, but they do find that women switch from formal to informal jobs. 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 observed decline in formal work was a result of a reallocation of work from more formal to

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[5] For example, Angel et al., (2017) indicate that Mexico's elderly population will triple by 2050.

[6] The pass-through is statistically larger than one on both the short and long-run (Dudine and Jalles, 2017).

[7] The Mexican non-contributory health program "Seguro popular" has received much attention in the literature. The program targets workers not enrolled in social security (Instituto Mexicano de Seguridad Social – IMSS), so there are many studies using different identification strategies to try to capture its effect on labor outcomes, including informality.

less formal industries (suggesting it may also have negative direct consequences in labor productivity).

For Chile, Attanasio, Meghir and Otero (2014) study the 2008 pensions reform, which ensured old-age pension to people that did not save enough to self-finance minimum pensions. They found that workers 40 years old and older were 4.1% less likely to be formal. For Colombia's Subsidized Regime, Camacho, Conover and Hoyos (2013) find a 4.0pp increase in informality, even when simultaneously accounting for a change in the enforcement of laws that prohibit informal employment. That 4.0pp reduction is equivalent to 8% of the work force not entering the formal sector.

Bergolo and Cruces (2016), and Garganta and Gasparini (2015), study the effect of social assistance on informality. They look at family transfers (asignaciones familiares) targeted at households with children under 18 years old in Uruguay and Argentina, respectively. Both countries offer this assistance to formal workers through contributions. Bergolo and Cruces find a significant effect on formal employment (-8.0pp) which can be explained in two-thirds by an increase in informal employment and in one-third by a switch to unemployment. Garganta and Gasparini (2015) find an increase in informality ranging between 2.8pp and 3.6pp in Argentina.

As one may expect, the size of the program (its generosity) affects the size of its impact on labor outcomes. So even if the effect of one program on formality/informality might seem small, when combined with other non-contributory programs, the effect can be significant. Most studies reviewed by Alaimo et al (2018) analyze the impact on labor outcomes of one single program, but most countries offer a bundled or unbundled package of social assistance and the aggregate effect of such packages is unknown. Furthermore, while for most countries there seems to be a growing consensus regarding the fact that non-contributory public programs tacitly promote labor informality, there is still no evidence documenting their level and evolution in Latin America and the Caribbean. The next section offers a methodology for allowing cross-country comparisons of public spending on such non-contributory programs.

3. Methodological approach and data sources

Basic definitions

Some initial definitions are useful for understanding the exercise. First, the condition of formality is defined with respect to contributions to social security. As it will be seen, in some cases contributions to social security are paid for separately. In those cases, the worker who contributes to a retirement pension is the one considered formal. The study is based on the analysis of the costs and benefits of formality for salaried workers in the private sector. That is, excludes from public sector employees and self-employed workers.

The methodology follows Levy (2008) and Antón, Hernández and Levy (2012) where non-contributory spending is analyzed for Mexico. The case of Mexico has certain peculiarities that limit the direct application of this methodology to other countries in the region. First, only salaried workers are obliged to contribute to social security. This generates a distinction between legal informal workers (self-employed or contractors) and illegal informal workers (salaried workers not contributing to social security). Also, contributions to social security -usually related to retirement and health- in Mexico come bundled with a wide list of other contributions, e.g. housing, childcare, among others). Third, when looking at the non-contributory counterpart, some are programs explicitly aimed at informal workers, such as Seguro Popular (a non-contributory health insurance program); but others are more mean-tested oriented, without informality among the eligibility criteria.

Despite contextual country-level or regional specificities, this study limits its scope on public spending at state and federal levels. The focus of analysis are non-contributory programs considered direct counterfactuals to traditional social security contributions, which we call *strict sense* public spending on non-contributory programs.

Additionally, we offer an extension derived from analyzing the diversity of cases in the region. For example, there may be programs whose target population is informal workers, but which do not necessarily have a counter-part for formal workers. There are other programs directed to vulnerable groups or poor population, that due to the characteristics of the country result in an overlap between the target and the informal. We classify these expenditures as *non-strict sense* public spending on non-contributory programs.

The sum of both strict and non-strict expenditures is called *broad sense* public expenditure in a non-contributory program, that is, it includes all the benefits that an informal worker receives, even if they do not have a direct *formal* benchmark.

$Broad\ PENCP = Strict\ PENCP + Nonstrict\ PENCP$

The main aspects of the revised methodology are described below, while the Statistical Appendix contains details of those programs by country and sector. We now look first at the benefits associated with formal salaried labor in each country, and then look for non-contributory benefits received by workers not contributing to social security. These benefits, mainly non-contributory pensions and health benefits, also include a range of other benefits such as housing, social assistance, and active labor market policies.

Figure 2 shows estimates of the costs of formality in terms of mandatory contributions to social security (employees + employers), with three groups of countries: those with high formality costs (total mandatory contribution rates over 30%) as in Argentina, Brazil, Colombia, Costa Rica, Peru and Uruguay; countries with an intermediate cost (between 20% and 30%) as Bolivia, Chile, Ecuador, Mexico, Nicaragua, Panamá, Paraguay, República Dominicana, El Salvador and

Venezuela, and countries with lower costs, i.e. Honduras, Guatemala, Jamaica, and Trinidad and Tobago (less than 20%).

Figure 2. Average non-wage cost of salaried labor: Employees + Employers' mandatory contributions, 2014 (*)
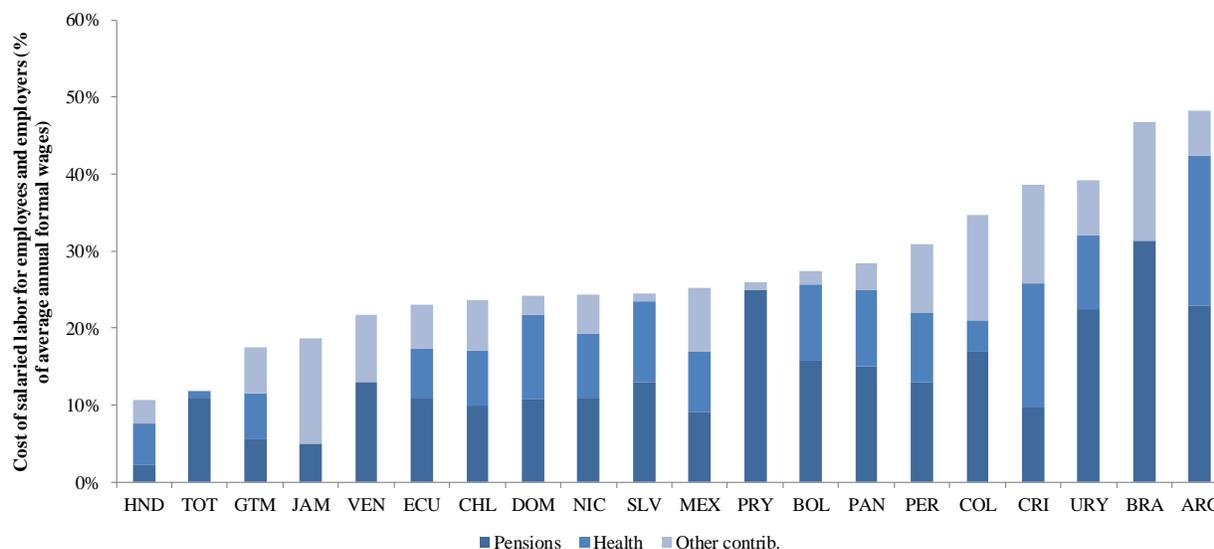
In countries where more than one regime operates, reference is made to the general regime and where rates vary according to income levels, we refer to minimum required contributions. Compulsory licenses, bonuses and other compensations are not included. Contributions made by the State are also not included. In the case of Colombia, the figure corresponds to 2014, since between 2013/14 a reform was introduced eliminating contributions to training and social assistance for workers who earn less than 10 minimum wages. In the case of Mexico, only one contribution to health is excluded for workers who earn less than three minimum wages. Source: Alaimo, Bosch, Gualavisí and Villa (2017).

On the benefits' side, the first programs to stand are those related to old age, which exist in all countries (Table 1). Programs such as Non-Contributory Old-age Pensions -or supplementary pensions to reach minimum income thresholds- are included within the strict-sense definition. In most countries health and retirement benefits for formal workers and their families are bundled together and considered the minimum standard of benefits. In Brazil and Jamaica social security contributions do not directly finance special health services for formal workers[8]. Given the non-existence of these embedded contributory health services, Brazil and Jamaica are the only two countries where programs linked to public health care are included within the non-strict NCP.

There is greater variability in the rest of the benefits. Work-injury insurance, vacations and other types of leaves, Christmas box, severance payments and training benefits are among the most frequent; family allowances and unemployment insurance are only found in seven countries; and subsidies for housing or child care are even less frequent. As already mentioned, this explains the differential treatment that the same type of non-contributory programs can have in different

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[8] We may find among the benefits that are usually granted by employers as part of compensations to workers total or partial payments to a private health insurance, but those are not considered as a contributory benefit since they are not established by law. In the case of Jamaica, only a percentage of contributions to the National Insurance Scheme (NIS) finance the National Health Fund (NHF). Therefore, only that percentage is included in our strict sense definition.

countries. Table 1 presents a distribution of the different contributory benefits for salaried formal workers for which we associate a non-contributory counterpart, when it exists.

Mapping Non-Contributory Programs

Once the costs and benefits of formality have been defined, we now map the different non-contributory programs aimed at informal workers and their families. There are different types of non-contributory programs serving informal workers. Some of them are directed exclusively to these workers and their families, while others are targeted at specific subgroups (formal, unemployed, inactive workers). Besides examining the respective regulations for each program, the decision to include or exclude them in our three non-contributory groups is guided by the following criteria:

a. Universal programs

- Are included in the strict sense if formal workers have similar benefits of a contributory nature. The most common case is the universal public health. In some countries, these are separate systems, where formal workers go to contributory health services and those who do not have access to them go to the universal public system. In other cases, despite being able to receive contributory services, formal workers make exclusive or complementary use of the public system. In these cases, as will be explained later, we have sought only to include informal workers in order to avoid overestimations.

- Programs with self-exclusion: programs with no formal-contributory counterpart neither formal/informal discrimination criteria and which are *de facto* used mostly by poor informal workers due to perceptions of low quality (or other reasons) are included in the broad sense. When possible, these programs are adjusted to include only informal labor.

- Universal programs in which there is no counterpart or evidence of self-exclusion are not included in any category, since they would not affect the formal/informal decision.

b. Programs addressing the vulnerable:

- They are analyzed case by case to determine whether they have a formal counterpart.

- The minimum wage level is considered as a factor that can determine, in practice, the fact that most of low-income population is also informal.

- Targeted programs: programs aimed at very specific populations are excluded, because, by nature, they do not affect the formal/informal job-seeking decision. Programs that are too small to be relevant for the latter decision are also excluded.

- Conditional transfer programs: they are included to the extent that they explicitly mention "not being affiliated or contributing to social security" in their eligibility criteria; or if

there is a similar contributory program (in the latter case, it is included within the strict domain).

- Training programs: Are included if (i) eligibility depends on family vulnerability/family income levels and not on individual income or other criteria (i.e. grants per child); or (ii) when there is a similar benefit for the formal labor force.

- Semi-contributory programs: they subsidize contributions or subsidize "minimum guaranteed pensions". The first type is mainly linked to programs that condone workers who have had informal careers in their entirety (or are sporadic contributors), so that they can access old-age pensions. These are very specific cases occurring in a few countries (Argentina and Brazil), but are relevant due to their magnitude. The second case is linked to countries with defined contribution systems (among others, Colombia, Chile, Perú, México).

As a summary, our examination of the non-contributory programs and their target populations has allowed the following classification:

1. *Strict* criteria: non-contributory programs that serve as direct counterfactuals to contributory benefits received by salaried workers in the private sector.

2. *Broad* criteria: building upon the *strict sense* definition are those aimed at informal workers without specific counterparts in means of formal benefits. The conditions under which these programs are included in the *broad sense* definition are:

- Eligibility requires the condition of not having a formal job.
- Administrative data allows to clearly distinguish between formal and informal population. There is evidence of self-exclusion by the formal, even if the regulations do not demand it.
- When the minimum wage is high, the probability of being formal and poor is low; in these cases, we assume that a large part of the vulnerable population is also informal, and we include programs targeted at vulnerable groups into the broad definition[9].
- When expenditure in a given sector is significant, such as in health. For example, in countries with perceptions of poor quality of public services people with higher income may adopt private medical insurance.

3. Excluded: universal programs with no counterpart in the benefits received by formal workers and other non-contributory programs that do not meet the above conditions.

Table 2 summarizes and gives some examples of the general classification of non-contributory programs based on the exposed criteria.

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[9] In this regard, household survey data gathered in the Labor Markets and Social Security Information System (SIMS) shows that (circa 2015), an average of 48% of active workers in 17 Latin American countries earned a hourly labor income lesser than or equal to the minimum hourly wage. The range is wide: from 20% of workers in Uruguay up to 83% of workers in Honduras.

Table 2. General treatment of non-contributory programs

Thematic Area	Examples	General classification
Old-age	Non-contributory pensions, Complementary or partial pensions.	Strict sense
Health	Public health services, Maternal and child health services.	Strict sense
Health	Programs for health promotion and disease prevention	Excluded as they address the general population
Active Labor market policies (ALMP)	Temporary employment programs, unemployment subsidies, training programs, youth employment incentive programs.	Differentiated treatment between countries according to the existence formal counterparts and access requirements in regulations (examples, unemployment insurance, training institutes for formal workers, family allowances, housing subsidies).
Family transfers	Family allowances, Conditional Transfer Programs, childcare services.	
Housing	Subsidized credit programs, construction of social housing.	
Social Assistance	Microcredit to worker cooperatives, programs for rural workers.	Broad sense or excluded, depending on eligibility criteria.
Social Assistance	General subsidies for the use of public services (energy, gas, transportation).	Excluded (target total population).
Education	School meals, student scholarships.	Excluded (the targeting criteria is not linked directly to the labor market).

Data

Once we identified -for each country- those non-contributory programs aimed at the informal population, the corresponding public spending data was gathered and systemized. Mainly, data comes from central government spending, meaning that programs from subnational governments are not included. The exceptions were Argentina, Mexico and Peru, where health spending by subnational governments was included as these are relevant given the role they fulfill as public health providers. For Mexico, state-run pensions for older adults and child care programs were included[10].

Public expenditure data includes both current and capital expenditures. In most countries, this information is published on the websites of the Ministries of Economy or Finance. In a few cases where information was not published at the program level, specific requests for information were made.

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[10] The study may underestimate the importance of non-contributory programs in Brazil, where state and municipal governments are responsible for the execution of health spending and can also execute other non-contributory programs. Although an attempt was made to incorporate the expenses linked to public health care in charge of states and municipalities, we could not access consolidated expenditure data that avoided duplication of expenditures.

For the sample of 16 countries, the period of analysis is from 2010 to 2015 and the expenses correspond -unless otherwise indicated- to executed expenditures (cash basis or accrued, according to the accounting criteria of each country). Given the time at which the examination was conducted (first quarter of 2016), most countries did not yet have the reports for 2015, so for this last year the information corresponds to the latest data available in each country. For that reason, 2015 is not considered for the purposes of the regional comparison. For a subsample of 10 countries, the series were extended back as many years as data was available. For example, the series for Chile and Uruguay start in 1990, but for other countries due to data limitations, the series start in early 2000s (Colombia, Nicaragua).

For programs that are not exclusively targeted at informal workers, it was necessary to adjust public expenditure information, to avoid overestimating the magnitude of NCP. These adjustments are of particular importance in the case of significant non-contributory programs such as universal public health systems when they are not completely separated from contributory health services, or when formal workers make use of the public system. The options to make these adjustments were the following:

- Use of administrative data of beneficiaries: The best option because it provides with reliable official data; it is nevertheless available only for very few countries.
- Estimation by service demand on household surveys: Not being able to access administrative records, the next best is the estimation based on surveys that include information on the proportion of formal and informal workers who use the services.
- Estimates based on the rate of informality in the economy: The last option, only used when not being able to access administrative data or appropriate surveys.

PCN data is displayed in local currency and as percentages of GDP and Total Public Expenditure. Although country level reports also show the data in terms of Social Public Expenditure, this measure presents problems of comparability due to the different definitions it has in each country[11].

PNC is also presented as expenses per informal worker, which ultimately allows for a better quantification of the incentive that these programs could generate. The magnitudes of these expenses are compared to average informal income and minimum wages. These indicators carry the following caveats. In the first place, although strict sense criteria use formal salaried contributions as the programs' counterparts, our informality rate includes both salaried employees and independents workers, beyond discussions on if they are legal or illegal informal workers. This decision was adopted because all of them benefit from PNC as informal workers.

Secondly, it is important to highlight that to more accurately calculate PNC spending per informal worker, the headcount of beneficiaries on each program would be necessary. In practice

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[11] For example, while some countries include non-contributory programs as labor market issues within Social Expenditure, others do so within spending on Economic Affairs. For the purposes of this examination, no progress was made in harmonizing these classifications across countries.

we assume equal distribution of PNC spending among the informal. The most complex point is when a significant proportion of PNC serves old-age pensions, whose target population is not informal workers, but inactive seniors not receiving contributory pensions. A more detailed analysis of PNC spending by informal worker requires greater detail on the beneficiaries of each program.

4. Comparative results for Latin America and the Caribbean

This section presents the results of PNC spending targeted at informal workers for the countries included in this project. Strict sense PNC is the most relevant to analyze the incentives to informality, so this data is analyzed first. The section ends with a brief analysis of PNC spending in a broad sense.

Strict-sense Public Non-Contributory Programs

By documenting the level and evolution of public spending on non-contributory programs for 16 countries in Latin America and the Caribbean we find that in 2014 the region spent 1.7% of its GDP in these programs, ranging from 0.2% in Jamaica to 4.2% in Argentina (Figure 3).

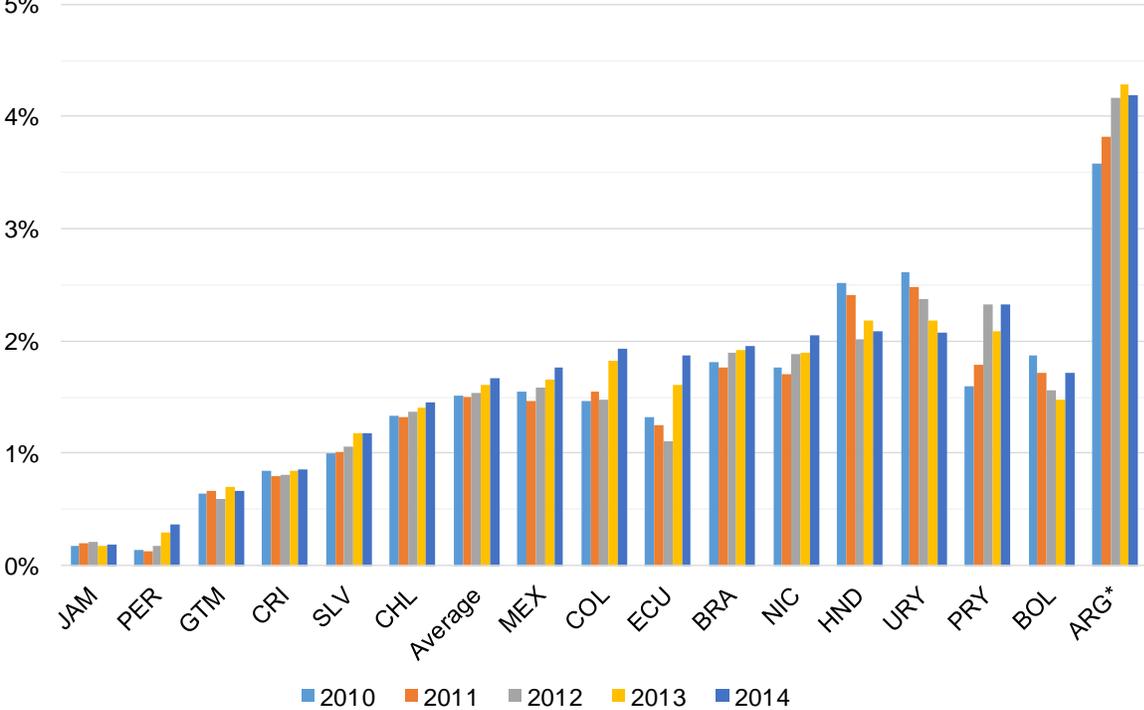**Figure 3.** Non-contributory spending (*strict*), % GDP, 2014.
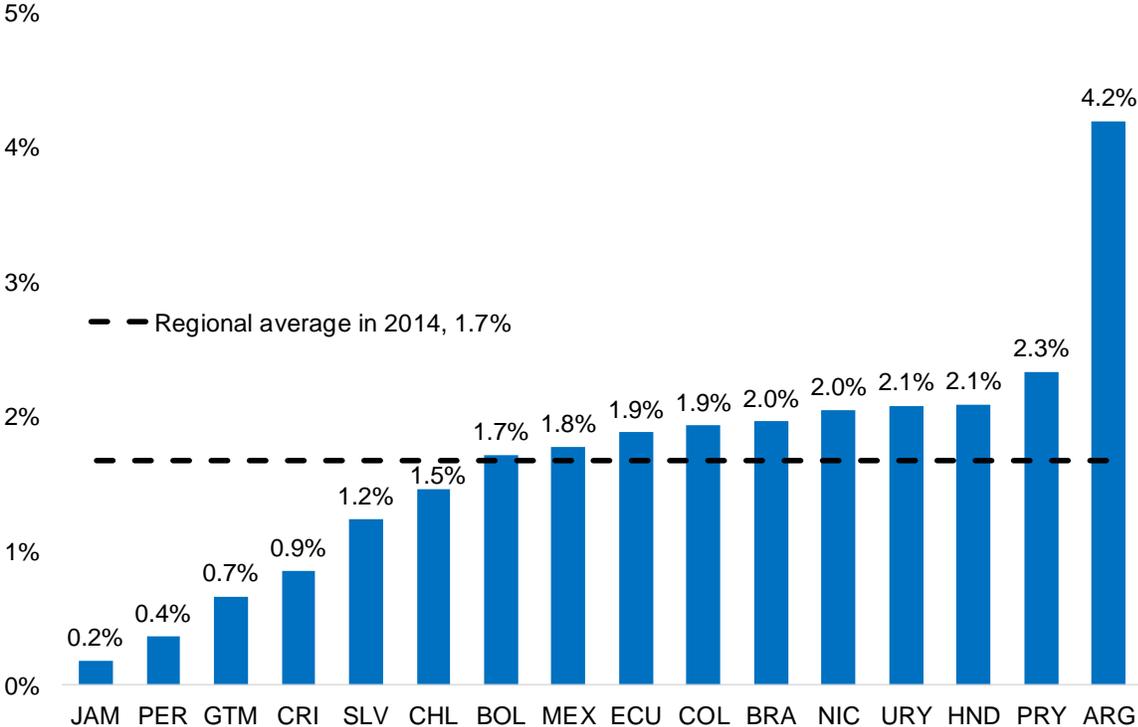
Note: Argentina includes the Moratorium program. Source: Authors based on the final reports of each of the countries participating in the project.

The short-term evolution of PNC spending -2010 to 2014- shows stability around 1.6% of GDP to 1.7% for the regional average. However, variations among countries are greater, as seen in the

declines for Uruguay, Honduras and Bolivia or the increases in Colombia, Ecuador, Paraguay and Peru (Figure 4). In general, and due to their respective magnitudes, the variations are driven by health care spending. The fall in PNC for Uruguay can be linked to a significant decrease in informality in that period, with consequent lower pressures on the health system. The increases observed in Colombia, Ecuador, Peru and Paraguay are also linked to the dynamics of public health care provision, although for the last two cases there has also been a notable increase in the participation of old-age non-contributory pensions.

Figure 4. Evolution of (*strict*) Non-contributory programs, % of GDP, 2010-2014.
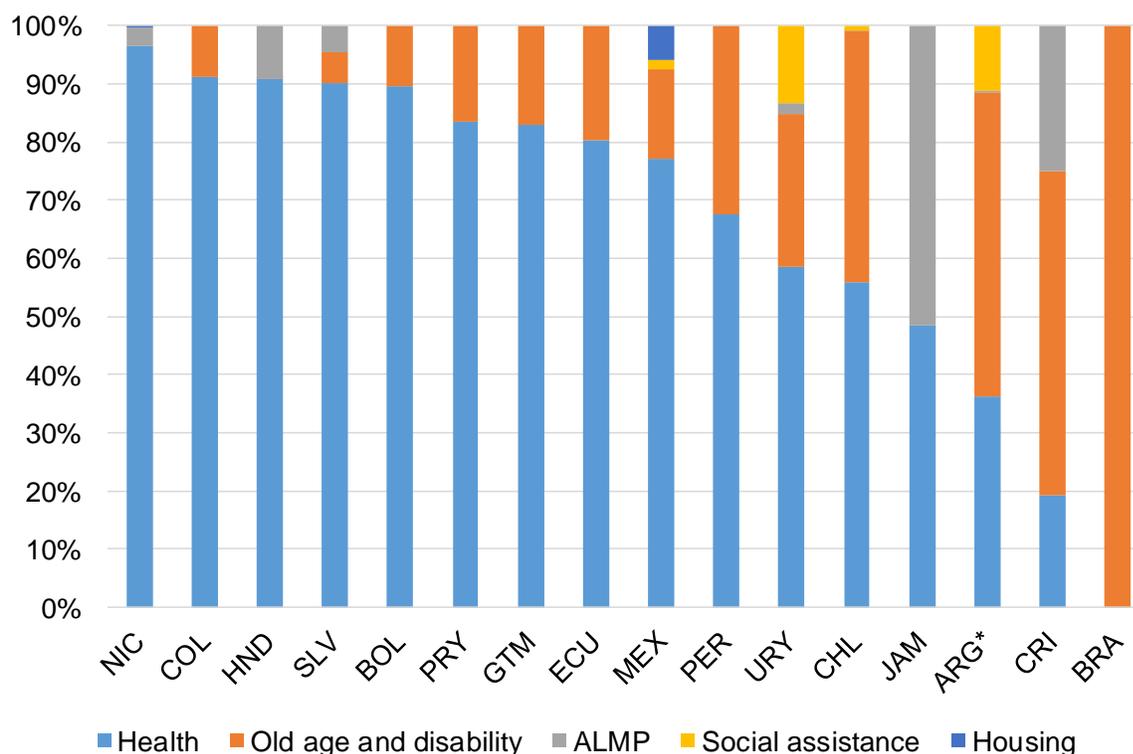

Notes: corresponds to strict sense PNC spending. *Includes *Moratorium*. Source: Authors based on the final reports of each of the countries participating in the study.

The distribution of PNC expenditure by thematic area reveals great heterogeneity on the existence and magnitude of non-contributory programs in the region. As expected, public health and old age pensions are the main contributors, with a regional average of 67% and 25% of total PNC spending in 2014 respectively (Figure 5). This is because most countries have large public health systems and non-contributory old-age pensions have proliferated in past decades (Rofman et al., 2013). In some countries as in Brazil the totality of the strict-sense PNC spending is linked to old age and disability pensions, while in others i.e., Honduras, Jamaica and Nicaragua non-contributory spending is limited to two dimensions.

A third sector of relative importance is represented by non-contributory expenses associated with on the job training and other labor market active policies (ALMP). Their direct counterparts are

unemployment insurances or training programs for formal workers when these exist[12]. In most countries this type of PNC spending has reduced importance: 3.2% in Nicaragua or 2% in Uruguay. In others though, they represent a greater proportion of total PNC spending (52% in Jamaica or 22% in Costa Rica).

Figure 5. Strict-sense non-contributory spending by sector, percentages, 2014.

Notes: *Strict sense* PNC. *Includes *Moratorium*. Source: Authors based on the final reports of each of the countries participating in the project.

Family transfers, child care and housing programs are scarcer. For the first type the most representative were *Asignación Universal por Hijo* in Argentina and *Asignaciones Familiares* in Uruguay. In the case of Housing, Mexico stands out with its *Vivienda Digna* y *Vivienda Rural* programs. Mexico and Nicaragua are the only countries where we could identify PNC spending related to the provision or improvement of housing conditions for informal workers.

Given the objective of quantifying PNC spending to determine how these programs ultimately affect the decisions of workers and employers to look for or stay in formal/informal sector jobs, it is interesting to display the results in terms per capita expenses, specially to account for differences in the size of a specific economy or labor market. Figure 6 presents the comparisons

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[12] For example, in Argentina, Chile and Uruguay we include the *Subsidio de Cesantía*, *Seguro de Capacitación y Empleo* and *Uruguay Trabaja* as respective counterparts of unemployment insurances for formal workers.

of PNC spending by informal worker in terms of the average income of informal workers and as percentages of the legal minimum wage[13].

As shown in Figure 6, PNC programs are more generous for informal workers in Argentina, Uruguay, Brazil[14] and Mexico. For Argentina, the high ratio is explained by the magnitude of the *Moratorium* program. If we excluded Moratorium, the ratio of per capita PNC spending falls to 46% of the average minimum wage, closer to that of Mexico and Brazil and below Uruguay. In Uruguay, PNC spending equals two-thirds the legal minimum wage[15]. A second group of countries presents a ratio of PNC spending to labor incomes that range between 15% and 20% i.e., Chile, Colombia, Costa Rica and Ecuador. A third group represented by smaller economies
i.e., Central American countries, Bolivia, Paraguay and Peru, are less generous in PNC spending, falling below 10% of their respective labor incomes.

Figure 6. Non-contributory spending per informal worker, 2014.

% of the legal minimum wage   _% of informal sector wages_

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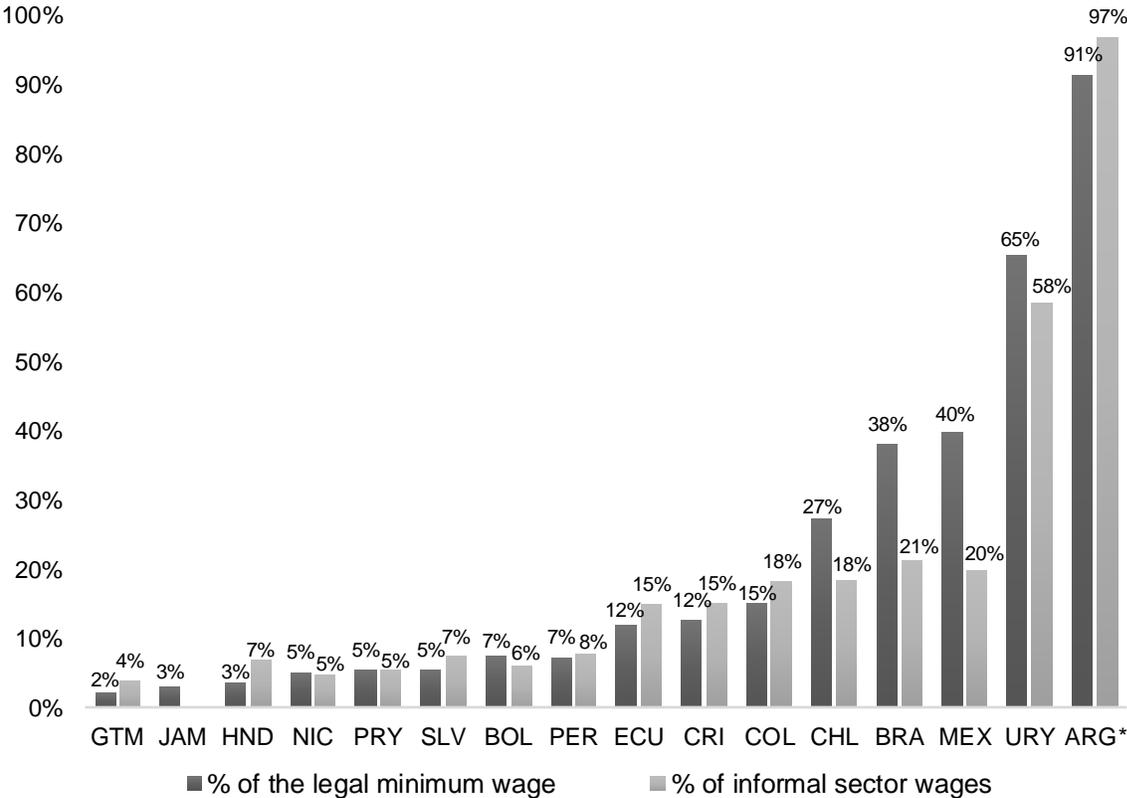
[13] It is important to remember that these are proxy indicators, as for example, most non-contributory pensions are targeted at people that labor market theory classifies as *inactive* (even when it is relatively safe to assume they were informal workers for the most part of their careers).
[14] As will be seen ahead, including Brazil's health system expenses dramatically increases -broad sense- PNC total spending.
[15] For Uruguay data availability allows for estimates of per capita PNC spending for each program (in correspondence to its target population), showing that *Uruguay Trabaja* represents 70% of total income for the informally employed; *Asignaciones Familiares* 20% and non-contributory Health Services 17%.

One important point to make is that these programs are not new in the region, the oldest dating back to the early 1990s. We could gather an extended time-series for a subsample of 10 countries. Figure 7 illustrates how for this sub-sample of countries public spending on non-contributory programs more than doubled between 2000 and 2015 (and almost quadrupled in Argentina due to moratorium pensions). Uruguay is the only country with a small reduction (4%) of strict-sense PNC spending in that period. This extended series also shows how PNC spending levels in Uruguay historically have been the highest among the six countries that introduced such policies in the 1990s (Argentina, Brazil, Chile, Mexico, Peru and Uruguay)[16].

Figure 7. Non-contributory spending, % of GDP, 1990-2015.
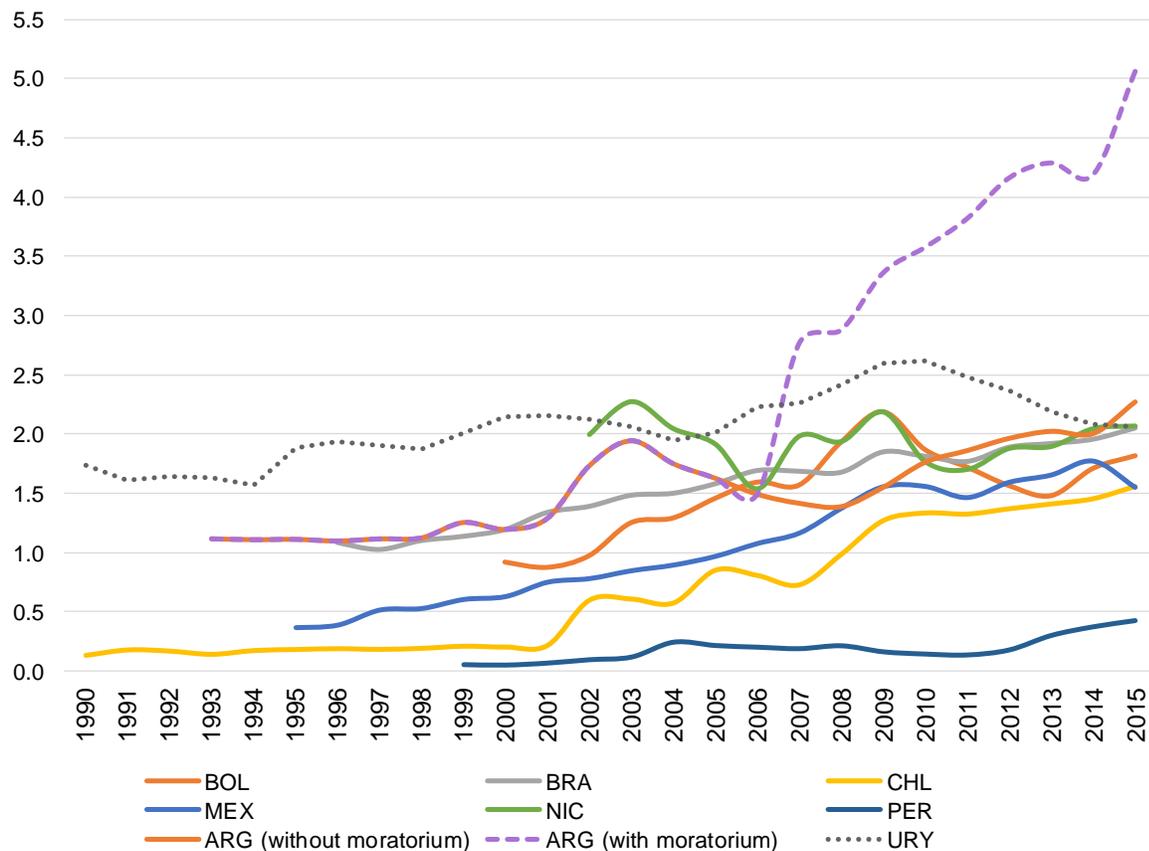
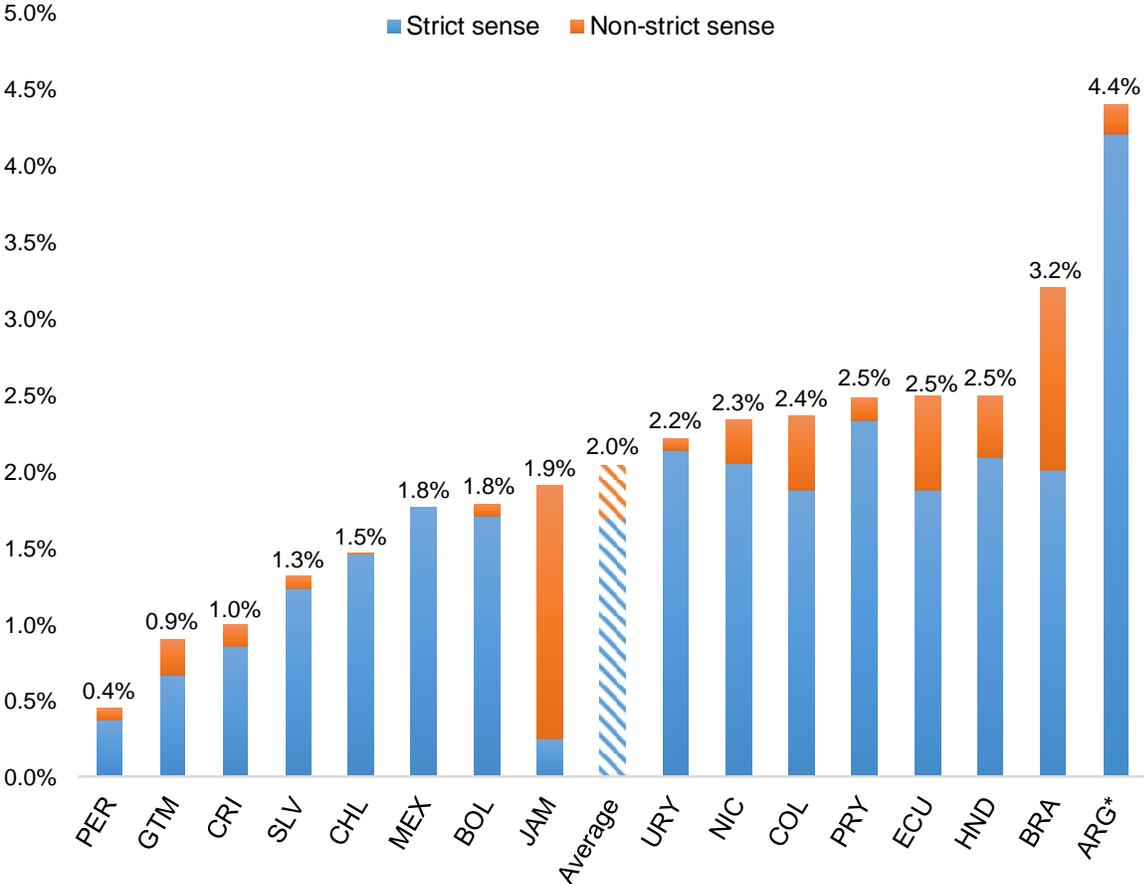

Source: Authors based on the final reports of each of the countries participating in the project.

Broad-sense Public Non-Contributory Programs

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[16] Some of these countries may have had PNC programs in previous years, but for which there is no public available data.

Broad-sense public expenses in non-contributory programs includes all the benefits that informal workers receive, even if formal workers are not served by direct counterfactuals. As Figure 8 illustrates, in 2014, the cost of broad-sense PNC spending averaged 2% of GDP (1.7% in the strict sense). Non-strict PNC programs are smaller than its strict counterparts, representing on average 18% of total PNC spending. In Jamaica and Brazil, however, non-strict PNC spending is relatively larger as it includes spending on public health; in Jamaica non-strict PNC spending represents 87% of total PNC spending in that year.
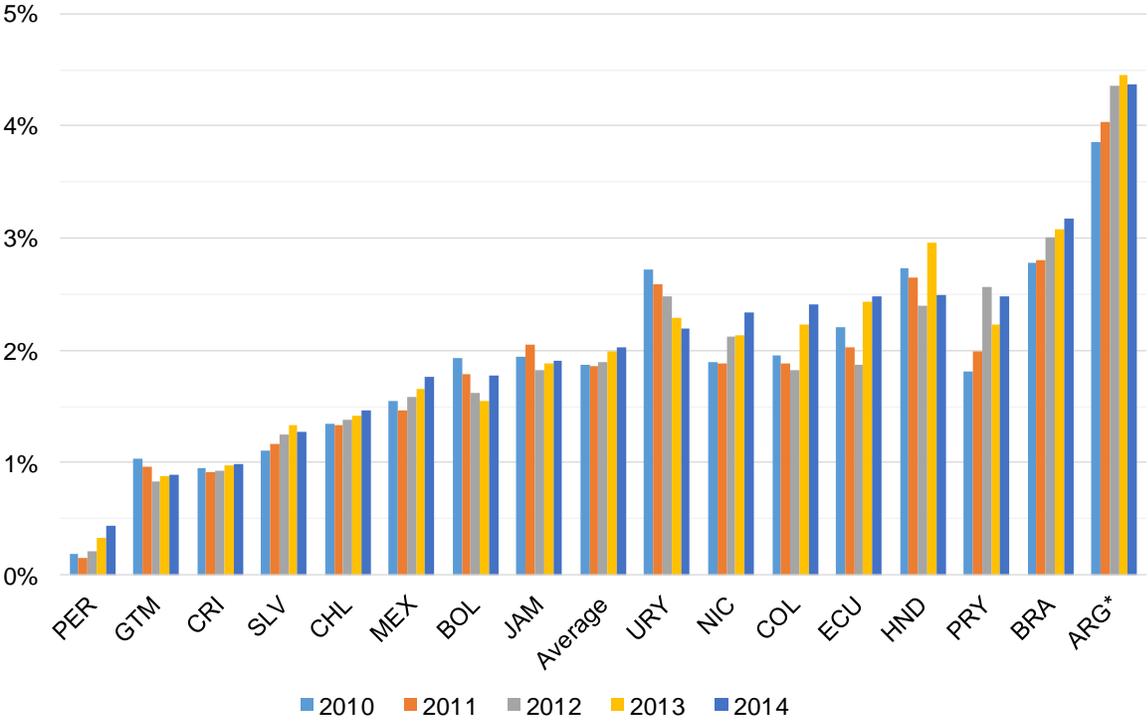
Figure 8. Non-contributory spending (*broad*), % GDP, 2014.

Source: Authors based on the final reports of each of the countries participating in the project. *Argentina includes pension moratorium.

As portrayed by Figure 9, average regional broad-sense PNC spending in 2010-2014 was relatively stable, oscillating around 2% of GDP in that period. The only countries with a decreasing broad-sense PNC spending in those years were Bolivia, Guatemala, Honduras, Jamaica, and Uruguay. For all, broad-sense PNC spending grew by 6% between 2010 and 2014.

Figure 9. Evolution of (*broad*) Non-contributory programs, % of GDP, 2010-2014.

Under the broad-sense definition, the distribution of expenditure areas does not change much since for most countries non-strict PNC spending is marginal (Figure 10). In that sense, the most relevant areas still are public health and old age and disability programs. Nonetheless, the other programmatic areas (housing, social assistance, family transfers) are now relevant in Colombia, El Salvador, Uruguay, and Argentina. Social assistance is more significant in the broad-sense definition mainly because we incorporated programs aimed at vulnerable populations in countries where there is a high degree of overlap between the informal and the vulnerable.

Figure 10. Broad-sense non-contributory spending by sector, percentages, 2014.
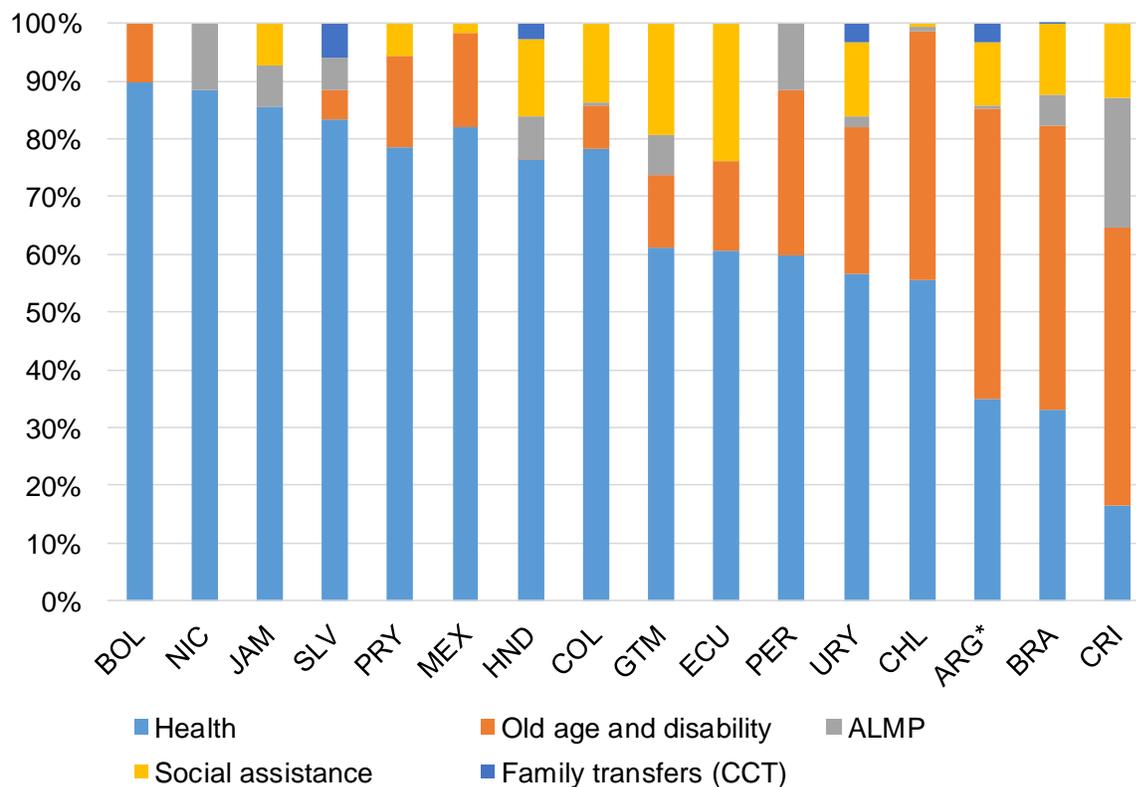
Notes: *Broad sense* PNC. *Includes *Moratorium*. Source: Authors based on the final reports of each of the countries participating in the project.

5. Policy alternatives

Non-contributory programs were designed as social protection strategies to reduce poverty and inequality. Most of the programs are successful in achieving these results. However, by providing benefits that otherwise formal salaried workers receive through contributory social security, they create distortions in the labor market. How to address these undesired effects without reducing the positive impacts in terms of poverty reduction and equality? There are some options to consider.

One option – probably the simplest one but will not fully solve the issue at hand- is to change the design of non-contributory programs, so that poor and vulnerable workers and their families can benefit from them, regardless of their employment status. By eliminating the eligibility condition of not being registered in social security to participate in the program, part of the distortive effect found in the literature would be reduced by design. In Argentina, the Program "Jefes y Jefas de Hogar", found to have negatively affected formal job attachment (Gasparini et al 2009), was phased out and replaced by a conditional cash transfer program (Plan Familias) and a non-contributory unemployment benefit scheme with a training component (Seguro de

Capacitación y Empleo). This measure could be accompanied by a strengthening of monitoring tools that can improve targeting and reduce leakages.

Second, policies oriented to reduce informality can decrease the potential pool of beneficiaries of non-contributory programs. There are many factors contributing to the creation of informal jobs. High labor costs (wage and non-wage) relative to job productivity, low job productivity, the low value given to social security benefits[17], weak enforcement of social security laws, and the inability to remain unemployed while searching for a formal job are factors that contribute to the high level of informality in the region (Alaimo et al, 2015). On the one hand, policies oriented to increase productivity (of workers and firms) can increase formality by generating more value and making it profitable for firms to become formal and to hire workers formally (Diagram 1). There is a need for training policies designed to help workers attain productivity levels that will enable them to find a formal job. The development of schemes to recognize prior learning, combined with targeted training, can be a stepwise approach to gain employment in the formal sector. For countries with strong dual educational system, apprenticeships program can help youth enter a formal working relationship (WEF, 2014). In addition, employment services should have the goal of ensuring that job seekers find jobs that are right for them, creating a productive and long-lasting match between firm and worker. Recently, many European countries are moving from a "work-first" approach, often used in activation strategies, to a "learn-first" process, emphasizing the retraining or skills upgrading of job seekers with poor skills and low qualifications (WEF, 2014). On the other hand, greater government enforcement of the law can motivate firms to formalize jobs, though at the potential cost of eliminating some informal, low-productivity positions that cease to be profitable when the firm must pay the benefits mandated by law. Comprehensive packages containing both "carrots" and "sticks" policies have proven to be successful in creating incentives to increase formality, rather than isolated single reforms. Over three decades ago, Spain was able to formalize and modernize its economy with a combination of policies (reduction in cost of formality, improved audit technology and increased enforcement, improved communication strategy with society, modernized administrative processes, and provided basic universal protection for all) that were implemented sequentially over the years (Oviedo et al, 2009).

Finally, a more drastic approach would be to change the financing mechanism of social security. Anton, Hernández and Levy (2012) propose a reform to shift taxation for social insurance from labor to consumption. They show that by setting a relatively high uniform value added tax rate (16% for Mexico) it is possible to provide all workers with the same health and pension benefits and compensate poor households for the VAT increase at a very low net fiscal cost (0.34 percent of GDP for Mexico). They argue that their proposal: (i) effectively protects all workers against risks, (ii) reduces distortions in the labor market stemming from social insurance taxes or subsidies allowing for an increase in the real wage despite the higher VAT, (iii) raises total factor

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[17] The demographic structure of the region is still young, for whom pensions are not a priority. Using the Latin America Public Opinion Project (LAPOP), which asks what government's investment priorities should be, Machado and Vesga (2015) estimate that only 4% of respondents named retirement pensions as their top priority.

productivity, (iv) helps to reduce poverty and income inequality, (v) links contributions with benefits ensuring fiscal sustainability, (vi) increases aggregate savings for retirement, and (vii) reduces evasion and widens the tax base.

6. Concluding remarks

This note makes progress toward understanding the budgetary effort Latin American countries make in terms of non-contributory programs. This is as a first step for comprehending how the configuration of contributory and non-contributory schemes affects labor market decisions. The different social protection schemes in force required a detailed study of each of the 16 countries in order for each program to be included in our estimates. In that process, we used two definitions to classify public spending on non-contributory programs: strict and broad. For most countries, strict-sense programs represent the majority of public non-contributory spending, and among these, public health and old-age pensions were the most relevant expenses.

With all these caveats in mind, one could still speculate that if a program like AUH, of only 0.72% of GDP generates distortions of 24% on household incomes, the overall effect of the "subsidy to informality" (5.1% for 2015) must be larger. As so, we must argue that the inherent characteristics of complex systems such as the labor market makes even apparently small social protection programs to have large impacts on the formal/informal job seeking decisions. It is therefore important to promote further research on the macro and micro mechanisms through which individuals respond to changes in this type of increasingly popular public policies. For this goal, it is essential to strengthen and create units to monitor and evaluate the efficiency and quality of public non-contributory spending in the region.

Besides the undesired effects on labor informality, non-contributory programs may also reduce pensions savings for retirement. This is particularly worrisome in countries with defined contribution pension plans[18], where pension benefits depend directly on personal savings. This effect is probably greater for workers with sporadic contributions, who already expect low pension benefits once they retire.

Some final caveats are important to acknowledge. First, the true/pure aggregate 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. There might also be complement or substitution effects that change the overall impact of non-contributory programs on labor outcomes. In addition, non-contributory programs target different populations groups, which makes it even harder to try to estimate the overall effect of these programs. For example,

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[18] Currently, 10 countries in Latin America have defined contribution pension plans (or defined contribution pension components within their social security systems), and that number is expected to grow in the following decade.

Amuedo-Dorantes and Juarez (2015) evaluates the impact of old-age transfers in Mexico and finds a crowd-out effect of public transfers on private transfers. That is, for each peso of public transfer to the elderly, the private transfer from adult children decreases by 0.86 pesos, and this effect is even larger for low income households. Again, non-contributory spending affects individual decisions, and the final effect will depend on the alternative use of private savings (i.e., if adult children reduce transfers to parents and increase investment on their own children's education and health, the result might not be negative after all).

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