

# Labour Market Segmentation and Policy Reforms in Bolivia

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## Abstract

According to a recent study from the IMF, Bolivia has the world's largest informal economy. This makes the case of Bolivia particularly important for understanding the nature of informal employment and the mechanisms driving its expansion, as well as for analysing what are the policy interventions that can contribute to livelihood enhancement for informal workers and households. To better understand the nature of informality in the country, we will rely on a finite mixture model with sample selection to estimate the size and number of segments within the informal labour market in Bolivia. Next, in order to shed light on the effects that different social protection programmes have had in the Bolivian labour market, we will take advantage of two natural experiments in the country, and use both regression discontinuity and difference-in-difference approaches in order to analyse the effects of these two programmes.

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An important question related to the labour market is the nature of informal employment and the mechanisms driving its expansion. This question is even more important in developing countries, where the phenomenon of informality is widespread. Recent studies show that the sources of informal employment are complex and heterogeneous; which can manifest as both a demand-driven phenomenon and a voluntary and primarily supply-driven form of employment (Bargain & Kwenda, 2014; Cunningham & Maloney, 2002; Dimova, Nordman, & Roubaud, 2010; Fields, 1990; Günther & Launov, 2012; Radchenko, 2014; Canelas, 2018),

According to a recent study from the IMF (Medina and Schneider, 2018), Bolivia has the world's largest informal economy. This makes the case of Bolivia particularly important for understanding the nature of informal employment, the mechanisms driving its expansion, and for analysing what are the policy interventions that can contribute to livelihood enhancement for informal workers and households.

The effect that social protection programmes have on work choices has become an important topic in the labour literature. The reviews of Hoynes, (1997), Moffitt, (2002) have shown that changes in the eligibility for, and in the generosity of, welfare benefits can have large effects on labor supply. Indeed, economic theory suggests that, given competitive market conditions, welfare benefits can reduce labour supply at the margin. They do this by raising the 'reservation wage' of beneficiaries. Social pensions, for example, do reduce the labour supply of older people, even though few social pension schemes require recipients to be inactive in order to qualify.<sup>4</sup>

Few previous studies have examined the effect of old-age pensions on informality. In Mexico, for example, the study by Galiani et al. (2014) on the non-contributory pension found that the elderly (aged 70 and over) switched from former activities in paid work to work in family businesses, which led to a reduction of 2.6 hours per week in their participation in formal employment in favour of informal unpaid work within the household. We do not fully understand the mechanisms and incentives that non-contributory old age pensions generate in the labour market, and how this impact informality.

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4 See Carvalho, I. (2000) Old-Age Benefits and the Labour Supply of Rural Elderly in Brazil. MIT, Lam, D., Leibbrandt, M. & Ranchhod, V. (2004) Labour Force Withdrawal of the Elderly in South Africa. Cape Town, African Development and Poverty Reduction Forum

Furthermore, co-responsibilities in conditional cash transfers (CCTs) programmes are known to have some effects on child labour, through making school attendance a requirement for receipt of the transfer (Barrientos and Niño-Zarazúa 2010). Child labour has an important dimension here, as it is largely confined to the informal sector. Early entry into the labour market usually involves early exit from school, which has long-term implications for labour market outcomes, including the perpetuation of informality. Thus, it is important to identify the routes by which CCTs could lead to a reduction in informal child labour among beneficiary households.

We will focus on two large national-wide social protection programmes in Bolivia. The first is *Renta Dignidad*, a universal non-contributory old age pension. This social pension was preceded by the Bonosol pension that started in 1997 until 2007, when the social pension programme ended. In 2008 the *Renta Dignidad* was introduced (Müller, 2009). The second is *Bono Juancito Pinto* (BJP), a cash transfer programme that was launched by the Bolivian government with the explicit objective of improving enrolment, retention, and completion rates of pupils in public schools. Different from other CCTs in Latin America, BJP does not follow a strict poverty targeting mechanism, but instead, is nearly universal in its coverage, as it covers 90 per cent of school-age children that are enrolled in public schools.

The programme began in 2006, providing income support to children enrolled in grade 1 to 5 of primary school. In subsequent years the government gradually expanded its coverage to include children in secondary education, raising the number of beneficiaries from nearly 1.1 million of school-age children in 2006 to 2,1 million in 2014

## **Data**

The data used in this study come from the Bolivian National Living Standards Survey MECOVI (Encuesta Nacional de Condiciones de Vida) for the period 2005--2018, which was conducted by Bolivia's National Statistics Institute (Instituto Nacional de Estadística Bolivia). The MECOVI is a nationally representative household survey of the Bolivian population. The survey collects detailed information on household demographics, health, education, occupations and labour force participation, housing and asset ownership, household food and non-food expenditures, and income, including contributions from social assistance. It also collects information on whether the individual has participated in paid or unpaid market activities for a private and/or family business and the number of hours allocated to these activities.

## **Methodology**

For the first part of the analysis, we will follow Günther and Launov (2012) and estimate a finite mixture model with sample selection in order to estimate the size and number of segments within the informal labor market in Bolivia.

Next, we will focus our attention on the effects that social protection programmes have on the labour market outcomes of adults in Bolivia. In particular, we will exploit two natural experiments in the country. First, we will take advantage of the change in age of eligibility of Bono Dignidad for identification. For this, we will rely on both regression discontinuity and difference-in-difference approaches.

For BJP, we will exploit the exogenous variation in the timing of the announcement of the programme expansion, as well as the age eligibility criteria, for identification. This strategy is similar to the one used by Canelas and Niño-Zarazúa, (forthcoming) to analyse the effects of the programme on labour market impacts among Bolivian children. More specifically, we will resort to difference-in-differences (DD) estimators to measure the effect of the programme on different adult labour market outcomes.

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