

Inequality and Incidence of Poverty in the Older Adults of Bolivia: Effects of Social Security According to Ethnic Condition (2000-2021)¹

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Introduction

Over the past two decades, Bolivia has implemented a series of reforms aimed at expanding its social protection system in response to an ageing population and growing social demands. Despite these efforts, poverty in old age remains a significant challenge, particularly among historically marginalised groups such as indigenous peoples. The country's demographic transition has been accompanied by persistent structural inequalities, which are deeply rooted in patterns of exclusion based on ethnicity, education, and territorial location (OIT, 2018; Rofman, 2020).

While Bolivia has made significant progress in broadening the scope of non-contributory and universal programmes, such as the Renta Dignidad introduced in 2008, its pension system still reflects labour market inequalities. Access to contributory retirement benefits remains highly stratified, favouring those with a history of formal employment and higher levels of education (J.-J. Dethier, 2010; Marteleto, 2012). This results in limited protection for indigenous older adults, who experience informality, low levels of education, and rural residence disproportionately.

This study aims to evaluate the effects of Bolivia's social security system on poverty and income inequality among people aged 60 and over from 2000 to 2021. The study focuses particularly on ethnic disparities, employing a multidimensional Ethnic-Linguistic Condition Index (CEL) to distinguish indigenous and non-indigenous older adults. Through quantitative analysis of household survey data and econometric modelling, the study will explore whether public policy efforts have contributed to reducing ethnic disparities in income security, or whether they have inadvertently reproduced them.

Theoretical Framework

Bolivia's welfare system reflects the broader characteristics of segmented and stratified welfare regimes in Latin America. As Aranco et al. (2022) and Esteve & Zueras (2021) have argued, social protection in the region is often based on institutional designs that mirror labour market inequalities, providing different levels of coverage and generosity according to individuals' occupational histories. This institutional segmentation exacerbates the exclusion of informal and rural workers, who are less likely to qualify for contributory pensions or comprehensive health benefits.

In this context, the expansion of universal, non-contributory programmes has been regarded as a corrective mechanism. In Bolivia, the Renta Dignidad is a paradigmatic example of this shift, as it guarantees a minimum income for all older adults, regardless of their contribution history. Research by J. Dethier et al. (2010) and Oliveri (2016) has shown that such programmes are effective in reducing extreme poverty among older adults. However, their redistributive effect is limited unless they are combined with other structural policies that address inequalities in education and labour.

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Belmont (2021) emphasise that inclusive social protection must be designed not only for universal coverage, but also with an equity lens that considers the heterogeneity of social groups. In Bolivia, the ethnic dimension is especially salient: Indigenous populations have historically experienced disadvantages in terms of access to education, formal employment, and public services, resulting in increased vulnerability in old age. According to Rofman (2020), closing these gaps requires policies that address the intersectional nature of inequality and go beyond mere expansion.

In this study, ethnic inequality is operationalised using a Composite Ethnic-Linguistic Index (CEL) (Candia Calderón, 2018; Molina B. et al., 2006; Pinto Saravia, 2022, 2023), which incorporates self-identification, mother tongue, and language spoken at home. This multidimensional approach is consistent with recent developments in the measurement of ethnicity in household surveys, enabling a more nuanced understanding of stratification in access to social protection.

Within this theoretical framework, Bolivia emerges as a pivotal case study for analysing the interaction between universal and contributory social security programmes and structural inequalities. This study makes a valuable contribution to regional debates on the equity of ageing policies and the effectiveness of state interventions in protecting older adults in multicultural and plurinational societies.

Objectives and Methodology

The present study seeks to evaluate the redistributive effect of Bolivia's social security system on poverty and income inequality among the population aged 60 and over, with a specific focus on ethnic disparities. The primary objective of this study is to analyse whether the expansion of public retirement pensions, the implementation of the universal non-contributory Renta Dignidad, and the extension of public health insurance have contributed to reducing economic vulnerability among older adults between 2000 and 2021.

The study is based on a quantitative, longitudinal approach using nationally representative data from the Bolivian Household Surveys from 2000 to 2021. The analysis is structured around three methodological strategies:

1. **Inequality Analysis:** Lorenz curves and Gini coefficients are utilised to assess the distribution of per capita household income among older adults, disaggregated by ethnic condition. The utilisation of these indicators facilitates a comparative analysis of intra-group inequality, as well as its temporal evolution.
2. **Poverty Analysis:** Absolute poverty is measured using the national poverty line, as defined by the National Statistics Institute (INE). The poverty rate is estimated for both Indigenous and non-Indigenous older adults, examining differences in levels and trends across the two decades.
3. **Multivariate Analysis:** The application of binary logistic regression models is predicated on the estimation of the probability of individuals being poor. The dependent variable is defined as poverty status, and the independent variables include access to a retirement pension, health insurance coverage, receipt of Renta Dignidad, educational attainment, sex, and urban or rural residence. The models are estimated separately for ethnic

condition, thus enabling an analysis of change over time in the effects of social protection components.

The Composite Ethnic-Linguistic Index (CEL) is utilised to delineate the ethnic condition. The index in question combines three distinct criteria: firstly, self-identification as Indigenous, secondly, mother tongue, and thirdly, language spoken at home.

This multidimensional classification provides a more robust identification of Indigenous populations, capturing both subjective and structural dimensions of ethnicity. The methodological framework utilised facilitates a comprehensive and disaggregated analysis of the impact of Bolivia's evolving social protection policies on the economic conditions of older adults, with a particular focus on the exacerbation or mitigation of ethnic inequality.

Main Findings

The findings reveal both progress and persistent inequality in the economic conditions of older adults in Bolivia over the past two decades. The country's social security system has contributed significantly to reducing poverty and income inequality; however, the impact of this system has been uneven across ethnic groups.

As demonstrated in Figure 1 (in appendix), which presents Lorenz curves for the years 2001 and 2021, income inequality among older adults has decreased significantly. For Indigenous older adults, the Gini coefficient fell from 0.628 in 2001 to 0.426 in 2021. Conversely, among non-Indigenous older adults, the coefficient exhibited a decline from 0.597 to 0.409 during the same period. This phenomenon can be interpreted as indicative of the redistributive impact of augmented non-contributory programmes. However, the Lorenz curves demonstrate that inequality remains more pronounced within the Indigenous population, indicating greater internal stratification.

Figure 2 (also in appendix) illustrates the prevalence of poverty among the elderly population from 2000 to 2021. The data demonstrate a marked decline in poverty levels, although significant ethnic disparities persist. In the year 2000, 72.4% of Indigenous older adults were living in poverty, compared to 40.3% of non-Indigenous individuals. By 2021, the poverty rate had decreased to 37.3% for Indigenous and 18.3% for non-Indigenous older adults. This indicates that while the prevalence of poverty among Indigenous elders has been reduced by almost 50%, their rate remains more than double that of non-Indigenous peers. The persistence of this gap indicates that structural inequalities continue to influence life conditions into old age.

The analysis disaggregates the impact of different components of the social protection system, including: i) Renta Dignidad: This universal benefit has contributed to reducing poverty risks across both groups. However, the relative poverty-reducing effect was stronger among non-Indigenous older adults, likely due to their lower initial poverty rates and greater access to complementary benefits; ii) Retirement Pensions: In 2000, access to a retirement pension significantly reduced poverty risk among Indigenous older adults, with an odds ratio (OR) of 5.57. However, by 2021, this impact had declined to an OR of 2.00, reflecting limited growth in contributory coverage for this population. It is evident that a significant proportion of Indigenous elders continue to be deprived of access to retirement pensions.

iii) Public Health Insurance: In 2021, it was demonstrated that access to health insurance was associated with a 20%–30% reduction in the likelihood of experiencing poverty among Indigenous older adults. This association was not significant in 2000, suggesting that there has been an improvement in the integration of public health policy in recent years.

Education has been identified as the most consistent and powerful determinant of poverty in old age. It is evident that older adults who have not received formal education are more likely to be impoverished. Indeed, in 2021, the proportion of Indigenous elders who had not received any education was almost 38%. This indicates that they were up to 12 times more likely to be poor than their educated counterparts. Furthermore, rural residence has been demonstrated to exacerbate vulnerability to natural hazards. It is evident that older adults residing in rural areas, a demographic which is disproportionately comprised of Indigenous individuals, encounter significantly elevated poverty rates when compared to their urban counterparts.

The binary logistic regression models for the period 2000 to 2021 demonstrate that education, retirement pensions and territorial location are the most significant predictors of poverty. The effect of Renta Dignidad has increased over time, becoming a central mechanism of income security, especially for those excluded from contributory systems. Despite the implementation of universal policies, ethnic inequalities persist, exhibiting resilience to income transfers and other forms of social policy. These inequalities are shaped by educational and geographic disparities, which act as significant contributing factors.

Discussion

The findings indicate that Bolivia's endeavours to extend social protection have resulted in significant progress in reducing old-age poverty and inequality. However, the findings also indicate that ethnic disparities remain structurally entrenched. Universal programmes such as Renta Dignidad and health insurance have been effective in reducing exclusion; however, these measures have not yet fully addressed the legacy of inequality that is deeply entrenched in the country's labour, education, and social systems.

The findings underscore the necessity of formulating multisectoral and inclusive public policies that address the underlying systemic barriers. The integration of social security reforms with investments in education and territorial equity is imperative for ensuring that older Indigenous populations can age with dignity and security.

Conclusions

Bolivia's social security system has played a pivotal role in reducing old-age poverty, particularly through the implementation of universal and non-contributory instruments such as the Renta Dignidad. These programmes have expanded the scope of coverage and enhanced income security for older adults who have historically been excluded from contributory systems. Nevertheless, the redistributive effects of social protection remain uneven, as ethnic disparities in poverty and inequality persist. It is evident that indigenous older adults continue to encounter considerable disadvantages regarding access to pensions, education, and fundamental services. This phenomenon is indicative of the protracted repercussions of structural exclusion. Despite the narrowing of the poverty gap between Indigenous and non-Indigenous populations, the discrepancy remains

significant, underscoring the necessity for more targeted and transformative policy responses.

To ensure a more equitable ageing process, it is essential that future social protection strategies extend beyond mere expansion and instead focus on structural equity. This includes the integration of intercultural and intersectoral approaches that explicitly address ethnicity, rural residence, gender, and educational inequality. It is imperative that policies are implemented to enhance the redistributive capacity of universal benefits, whilst concomitantly promoting access to contributory systems through labour market formalisation and inclusive education. It is imperative to address the territorial and institutional barriers that impede access to rights to advance towards a model of aging that is both just and inclusive in a plurinational society like Bolivia.

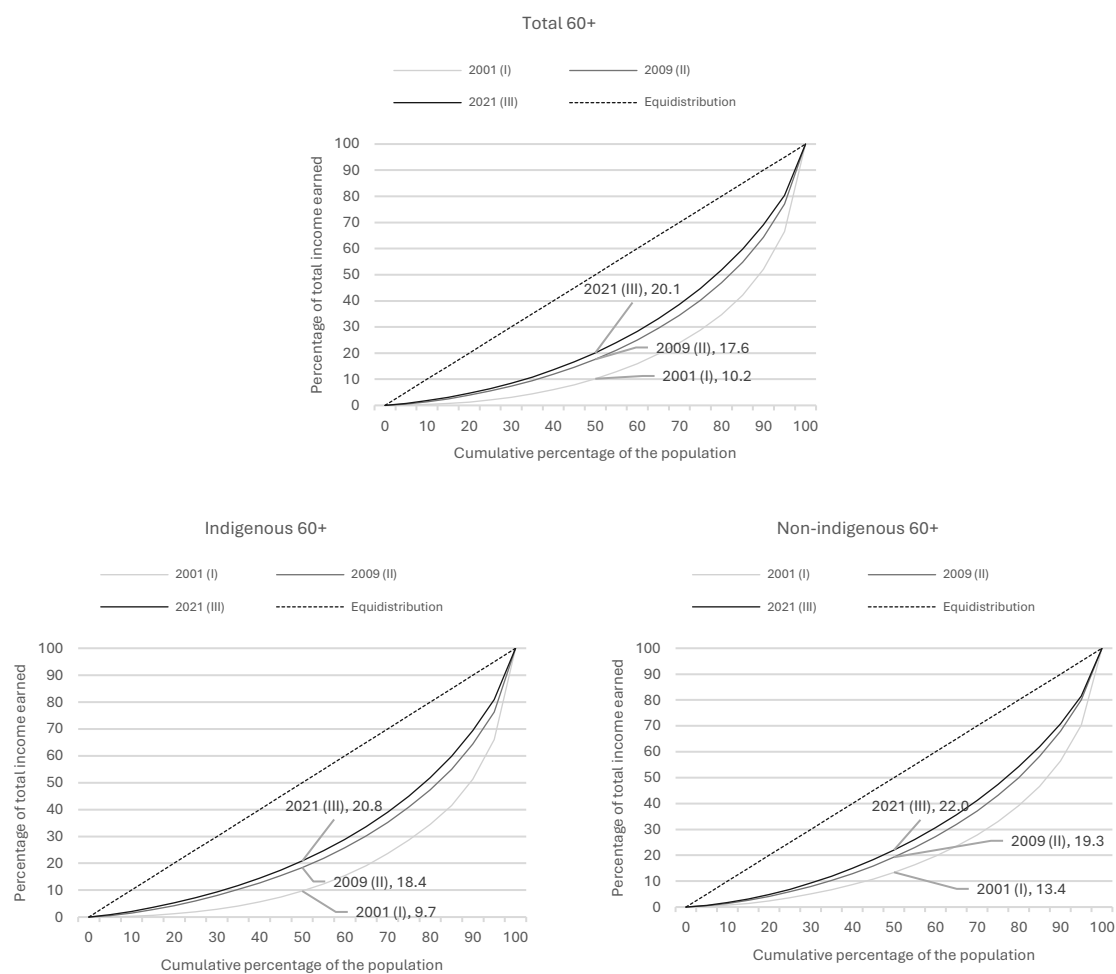
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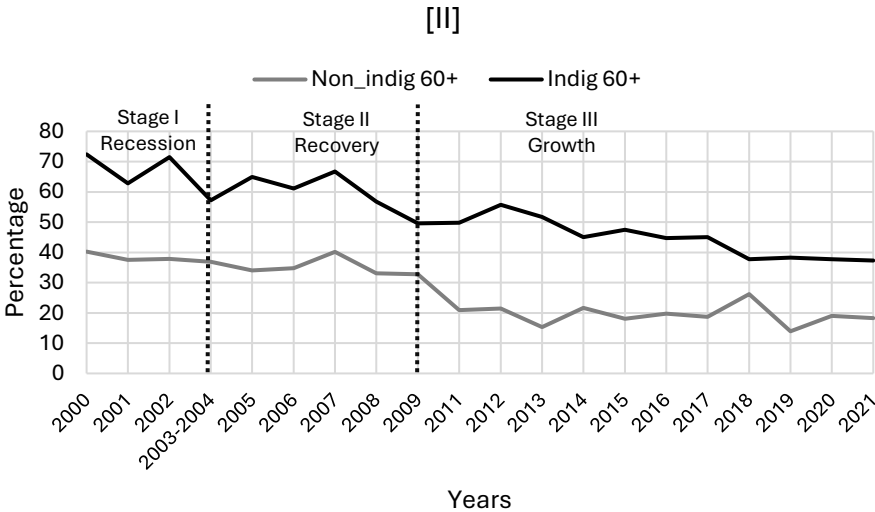
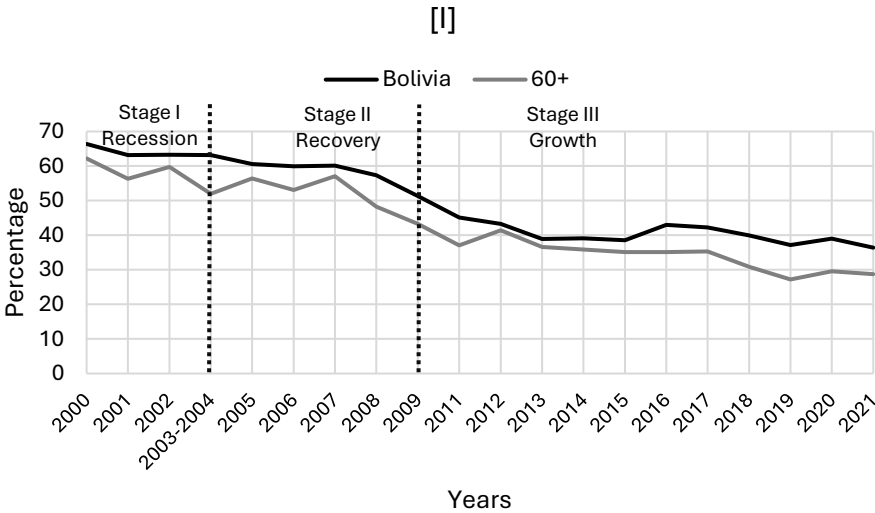
Appendix

Figure 1 Bolivia: Lorenz curves of people aged 60+ (total and by ethnicity) for 2001, 2009 and 2021.



Source: Based on INE Bolivia Households Survey 2001-2021.

Figure 2 Bolivia: Poverty incidence, total, 60+ years, by ethnic group, 2000-2021.



Source: Based on INE Bolivia Households Survey 2001-2021.