



# Discussion Paper

## The Dynamics of Inequality in the Best and Worst of Times, Bolivia 1997-2007

January 2010

United Nations Development Programme

POVERTY REDUCTION







# **The Dynamics of Inequality in the Best and Worst of Times, Bolivia 1997-2007**

---

**George Gray Molina and Ernesto Yañez**

**January 2010**



**Copyright © January 2010**  
**United Nations Development Programme**  
**Bureau for Development Policy**  
**Poverty Group**

304 East 45th Street  
New York, NY, 11375  
U.S.A.

E-mail: [poverty.reduction@undp.org](mailto:poverty.reduction@undp.org)

Website: [www.undp.org/poverty](http://www.undp.org/poverty)

## **Abstract**

This paper focuses on the dynamics of inequality in Bolivia between 1997 and 2007. During this period, moderate poverty declined by 3 percentage points (from 63 percent to 60 percent) and extreme poverty declined half a percentage point (from 38 percent to 37 percent). Despite the modest improvement, the absolute number of poor increased by 970,000, at an average rate of about 100,000 new poor every year. A high level of income inequality slowed poverty reduction in high growth years and increased the number of new poor in the years of poor growth. Behind these averages, however, are some small changes that merit closer attention. The first is the emergence of a new mobile and more educated demographic middle, spurred by three decades of rural-urban migration. The second is declining ethnic inequality among school goers in younger age groups, and the third is a declining gender wage gap, also in younger age groups. Each of these is an outlier to the overall trend of high poverty and inequality, but describes changes associated with an ongoing demographic transition — urbanization, increase in female labor participation and new obstacles to income mobility. Two policy interventions in Bolivia are likely to affect inequality dynamics in the future. The first is an intergovernmental fiscal transfer program, based on natural gas revenues. The second is a set of conditional and non-conditional cash transfers to children of schooling age and people over the age of 65. While both interventions are found to be potentially equalizing, they are likely to be insufficient to break the long-term trajectory of income and non-income inequality behind Bolivia's chronic poverty dynamics.

George Gray Molina is a Global Leaders Fellow at the University of Oxford and Princeton University. He can be reached at [george.gray-molina@politics.ox.ac.uk](mailto:george.gray-molina@politics.ox.ac.uk). Ernesto Yañez is on the board of the Central Bank of Bolivia and can be reached at [yanez.ernesto@gmail.com](mailto:yanez.ernesto@gmail.com).

## **Acknowledgements**

This paper was prepared for the joint PG/BDP and RBLAC project "Markets, the State and the Dynamics of Inequality in Latin America" coordinated by Luis Felipe Lopez-Calva (Director of the Poverty Cluster of the Regional Bureau of Latin America and the Caribbean) and Nora Lustig (Samuel Z. Stone Professor of Latin American Economics, Tulane University and non-resident Fellow of the Center for Global Development and the Inter-American Dialogue). Project managers in PG/BDP included, at various times, Selim Jahan (Director, Poverty Practice), Rathin

Roy (Acting Cluster Leader, Inclusive Development) and Shantanu Mukherjee (Policy Advisor, Microeconomics).

The coordinators and project managers are greatly indebted to Fedora Carbajal for her excellent research assistance; Mariellen Jewers, Michael Lisman, Shivani Nayyar and Anita Palathingal for their very valuable editorial recommendations; and Marina Blinova, Elia Carrasco, Patrice Chiwota, Queene Choudhury, Jacqueline Estevez, Maria Fernanda Lopez-Portillo and Alexandra Solano for their very helpful support in the administration of this project.

### **Disclaimer**

The views expressed in this publication are those of the authors and do not necessarily represent those of the United Nations, including UNDP, or their Member States.

## 1. Introduction

Bolivia is one of Latin America's weakest performers in terms of economic growth and poverty reduction (see CEPAL 2009). The growth rate, averaging about 1.1 percent per capita from 1997 to 2007, is in many ways typical of a natural resource-based economy with low levels of productivity and investment. A number of studies have focused on the binding constraints to growth in Bolivia, and have described historical, institutional and productivity obstacles (Hausmann, Gray Molina and Rodriguez, forthcoming; Calvo 2006). Less attention, however, has been focused on the determinants of Bolivia's high level of inequality, which slows poverty reduction and hinders human development in a broader sense (Perry et al 2006; Gray Molina, Yañez and Espinoza 2007).

This paper focuses on the dynamics of inequality in Bolivia over the past decade. Income inequality is currently one of the highest in Latin America, 0.58 on the Gini scale according to the most recent survey data. High inequality has posed an obstacle for poverty reduction in the best of times (2004 to the present) and has hindered growth in the worst of times (between 1999 and 2004). Beyond its impact on growth, however, disparities in education and labour markets for women, indigenous peoples and rural populations has diminished the capacity to build cumulative human capital over the past few decades. Bolivia was one of the most active reformers in education, health and decentralization in the 1980s and 1990s, but has not seen much cumulative impact over past policy efforts to date (Lora 1997 and Gray Molina, Perez and Yañez 1999).

Despite a trend of low growth and high poverty, there are some pockets of success that point to a potential turning point on inequality in the future. In this paper, we document three particular trends that might have an impact on Bolivian human development: the first is the delayed income effect of rural-urban migration, that has increased earnings for first and second generation migrants in capital cities; the second is a gradual closing of the educational gap between indigenous and non-indigenous citizens under the age of 25; the third is a closing wage gap for women in urban formal labour markets. Although these trends are taken from descriptive statistical data, and need further causal corroboration, they do suggest a nudge in the right direction.

What is missing from this snapshot on inequality, however, is the effect of public policy. In an ideal world, we would evaluate the impact of both past and present policy interventions. Due to data constraints, we have chosen to describe two present-day policy interventions that might have cumulative impacts in the future. The first intervention is a set of social transfers, both conditional and non-conditional, to people over the age of 65 and in primary school. The available cross-country evidence suggests these interventions, as a result of their targeting, are likely to be equalizing in the future — by smoothing shocks today and allowing cumulative impacts tomorrow. The second set of interventions, based on fiscal transfers of natural gas rents are, by magnitude, also likely to have a positive impact over human development capabilities. In both cases, however, we will argue that social and fiscal transfers — while equalizing — could be more pro-poor if supplemented by better design and implementation incentives.

The paper is divided in three parts. In the first part, we describe the general trend for economic growth, poverty and inequality in Bolivia. We include some simple decompositions

of inequality, and assess the overall effect of ethnic, gender and labour contributions to high income inequality. The second part presents descriptive evidence for three demographic micro-trends that tend to be equalizing over the long run. We describe small changes for rural-to-urban migrants, women and indigenous citizens in educational and labour markets. In the third part we move to potential policy impacts, and present the case of social transfers and territorial rent distribution. We briefly conclude the paper with findings and policy implications.

## **2. The trend: Growth, poverty and inequality**

### ***2.1 The best and worst of times: Growth and poverty 1997–2007***

The starting point for our analysis is a look at economic growth and poverty data series. We use the Unidad de Análisis de Políticas Sociales y Económicas' (UDAPE) growth and poverty series for comparability, based on the Encuesta de Empleo for 1997, the Mejoramiento de las Encuestas y Medición de Condiciones de Vida MECOVI for 2002 and the Encuesta de Hogares for 2007 (see UDAPE 2009). Two things stand out from the economic growth data for the past decade. First, the overall level of growth is low when compared to the Latin American average in this period (about a percentage point lower). Per capita growth is at 1.1 percent, which is more than a percentage point lower than the regional average. Bolivia, on both counts, is a laggard in the region. Second, economic growth follows a cyclical pattern, with weak performance after 1999 and a gradual improvement in growth, peaking in 2007. In historical terms, Bolivia experienced both the best and worst of times in terms of economic growth in this decade.

The important issue, however, is that the poverty level has not changed much over the decade — either in the good years or the bad. A spell of poverty reduction between 1999 and 2002 is followed by a flat spell between 2003 and 2007 (Table 1). Three things are evident from the poverty record. First, in relative terms, the poverty headcount was at 63.6 percent in 1997 and at 60 percent in 2007. Most of the decline can be traced back to declines in urban poverty in this period. Second, in absolute terms, poverty continues to increase throughout the decade, from 4.9 million in 1997 to 5.9 million in 2007, adding close to 1 million new poor in a decade. The most rapid increases occurred in periods of low economic growth. Third, extreme poverty, as proxied by indigence measures, has declined slightly over this period, from 38.1 percent in 1997 to 37.7 percent in 2007. As with moderate poverty, the absolute number of the indigent increased over this period from 2.9 million in 1997 to 3.7 million in 2007, adding over 700,000 new indigent to the poverty profile.

Table 1, Selected poverty indicators 1997-2007

		Poverty			Indigence			Gini
		Poverty Headcount (FGT1)	Poverty Gap (FGT1)	Poverty Magnitude (FGT2)	Poverty Headcount (FGT1)	Poverty Gap (FGT1)	Poverty Magnitude (FGT2)	
Bolivia	1997	63.6			38.1			0.59
	1999	63.47	35.99	25.62	40.74	22.22	15.86	0.58
	2000	66.38	40.16	29.81	45.16	26.32	19.53	0.62
	2001	63.12	34.55	23.88	38.84	20.06	13.89	0.59
	2002	65.15	36.65	25.95	41.34	22.31	16.00	0.60
	2003–2004	63.15	31.11	19.79	34.50	15.92	9.88	
	2005	60.59	34.13	23.80	38.16	20.30	14.08	0.60
	2006	59.92	32.39	21.79	37.68	18.15	11.87	0.59
	2007	59.96	30.43	20.05	37.55	16.23	10.36	0.56
Urban	1997	54.5			24.9			0.50
	1999	51.38	22.43	12.93	23.51	8.91	4.98	0.49
	2000	54.47	25.60	15.49	27.93	10.97	6.19	0.53
	2001	54.28	24.60	10.16	26.18	14.65	5.94	0.53
	2002	53.91	23.79	13.75	25.71	9.40	3.76	0.54
	2003–2004	54.41	22.20	11.97	22.95	7.64	4.67	
	2005	51.05	22.84	13.05	24.30	8.68	4.09	0.54
	2006	50.27	21.80	12.21	23.36	7.94	3.34	0.53
	2007	50.74	21.11	11.58	23.51	7.40		0.50
Rural	1997	78.0			59.0			0.64
	1999	84.00	59.37	47.43	69.94	45.12	34.5	0.64
	2000	87.02	65.39	54.62	75.01	52.92	42.65	0.69
	2001	77.69	50.95	39.10	59.71	36.39	27.00	0.64
	2002	78.75	57.56	45.80	62.12	43.31	33.70	0.63
	2003–2004	77.67	45.94	32.79	53.72	29.70	20.03	
	2005	77.60	54.29	42.97	62.90	41.03	30.86	0.66
	2006	76.50	50.60	38.30	62.30	35.55	25.40	0.64
	2007	77.29	47.95	35.98	63.97	32.83	23.57	0.64

Source: UDAPE (2009).

Note: FGT is short for the Foster-Greere-Thorbecke poverty measure.

The literature on pro-poor growth in Bolivia has emphasized the relatively low growth/poverty reduction elasticity in the Bolivian economy and the enduring nature of income and non-income inequality (Klasen et al. 2004; Landa and Jimenez 2005). Klasen et al. show that while economic growth has been moderately pro-poor in the early 1990s, it was not fast enough to lead to significant poverty reduction. Close to two thirds of poverty reduction was due to growth effects rather than distribution effects, and urban economic growth tended to be relatively anti-poor throughout the half decade. Klasen uses a CGE model to estimate potential scenarios for future poverty reduction. He finds that the expansion of natural gas exports is likely to boost growth and reduce urban poverty somewhat, but would lead to rising inequality

and rising rural poverty. Labour market and tax reforms have the potential to increase growth and urban poverty reduction, with relatively little impact on rural poverty. The combination of gas exports and labour market and tax reforms would yield the highest outcome in terms of economic growth. These results corroborate a growing body of literature on growth and pro-poor growth in Bolivia (Hausmann, Gray Molina and Rodriguez, forthcoming).

What has been missing from past analyses, however, is a closer look at outliers beyond the standard urban or rural averages. From a micro perspective, a number of demographic changes have accelerated human capital asset-building for certain subgroups of the population and improved returns over human capital accumulation over time. The starting point for a discussion of outliers is thus a basic decomposition of inequality measures themselves, to help gauge how far averages reflect an accurate account of inequality dynamics in Bolivia.

## 2.2 Behind the trend: Inequality decompositions

Although the Gini coefficient is the usual summary indicator for income inequality, there are some problems when attempting a decomposition of the factors that explain inequality. We decompose  $G(0)$  and  $G(1)$  for contributing factors and find that most income inequality is explained by differences in schooling (between 20 and 28 percent of overall inequality) and differences in occupational category (between 12 percent and 16 percent of overall inequality). Ethnic and gender decompositions reveal a smaller overall contribution to inequality. While revealing, the limitations of this kind of analysis are that we cannot distinguish single or multiple effects over income distribution. Schooling, for example could be jointly affected by occupational category in urban labour markets but not in rural ones. To account for multiple determinants, we turn to regression analysis.

**Table 2, Inequality decomposition (percent)**

	1997		1999		2002	
	G(0)	G(1)	G(0)	G(1)	G(0)	G(1)
Age	1.0	0.9	1.9	1.6	1.8	1.6
Gender	1.3	1.0	0.4	0.3	0.0	0.0
Schooling	22.9	20.8	18.2	17.4	28.4	27.9
Ethnicity	10.5	8.4	13.1	12.0	10.6	9.3
Labour activity	14.3	12.6	13.0	12.1	16.2	14.1
Zone			4.7	4.4	4.5	4.0
Department	4.5	3.7	6.4	5.6	5.2	4.6

Source: Yañez (2009).

The regression-based decomposition technique developed by Fields (2003) enables us to answer two questions. First, how much inequality in per capita expenditures can be accounted for by various household characteristics? Second, to what extent do these characteristics account for the change in inequality over time? This is what we report here in two steps. In the first step, the log of per capita expenditures is regressed on various household characteristics:

$$\ln(Y_{it}) = \alpha_t + \beta_t X_{it} + \varepsilon_{it} \quad (1)$$

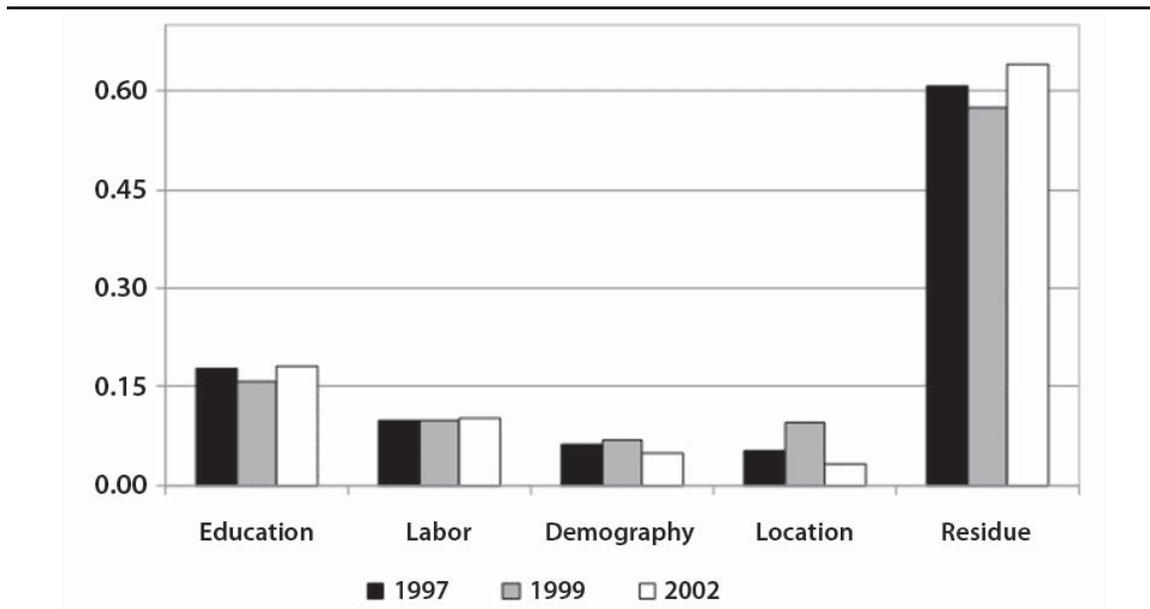
where the subscript  $i$  refers to the household,  $t$  denotes year,  $Y$  refers to the per capita expenditures of the household, and  $X$  is a vector of explanatory variables composed of relevant household characteristics. These include the household head's age, age squared, a dummy variable for gender, and dummy variables for educational attainment; dummy variables for the main economic activities of the household; regional dummies; and a dummy for whether or not the household belongs to a certain ethnic group. Table 3 shows the first step, with estimates of determinants of adult equivalent income for heads of household. The regression results ratify the key findings of the G(0) and G(1) decompositions.

**Table 3, First-step determinants of adult equivalent income**

<b>Log of adult equivalent income (bs. 1991)</b>	<b>Coef.</b>	<b>t</b>	<b>Coef.</b>	<b>t</b>	<b>Coef.</b>	<b>t</b>
Size of household	-0.0846	-9.92	-0.1140	-7.88	-0.0887	-8.02
Age of head of hh	0.0118	14.95	0.0120	9.15	0.0105	9.91
Indigenous head of hh	-0.2154	-8.49	-0.1742	-4.02	-0.1480	-4.58
Female head of hh	-0.1933	-7.10	-0.0919	-1.86	-0.0381	-1.08
Primary education complete	0.5435	8.95	0.4810	3.92	0.4193	4.41
Secondary education complete	0.8748	14.00	0.7780	6.21	0.8258	8.37
Superior/technical education complete	1.5585	23.06	1.3873	11.19	1.5033	15.08
Proportion of blue-collar in hh	0.7962	14.04	0.6375	6.13	0.5695	7.86
Proportion of white-collar in hh	0.8135	15.84	0.7949	9.66	0.9025	14.33
Proportion of self-employed in hh	0.7378	15.62	0.3828	4.77	0.3362	5.56
Proportion of owners/bosses in hh	1.5243	17.12	1.2916	7.98	0.9469	6.19
Proportion of unemployed	-0.7593	-5.68	-0.5108	-1.93	-0.6089	-4.60
Constant	3.9911	46.08	4.7518	28.46	4.2110	34.27
<b>Observations</b>	<b>4855</b>		<b>1667</b>		<b>3271</b>	
<b>R<sup>2</sup></b>	<b>0.3911</b>		<b>0.4161</b>		<b>0.3596</b>	

Source: Yañez (2009) based on MECOVI 1997, 1999 and 2002.

In the second step, the estimated coefficients on the various explanatory terms are used to derive the share of the log variance of per capita expenditures attributable to each of the  $j$  household characteristics, where  $\beta_j$  is the estimated coefficient of the  $j^{\text{th}}$  household characteristic, and  $X_{ij}$  is the value taken on by the  $j^{\text{th}}$  household characteristic. For example, a share of 0.1 for gender means that 10 percent of the log variance of per capita expenditures can be accounted for by gender. For household characteristics that are captured by more than one dummy variable, such as educational attainment of the household head (captured by dummy variables for primary, secondary and tertiary education, with those with less than a primary education being the excluded category), a consolidated share can be obtained by summing over the shares pertaining to each of the individual educational categories. Thus, a consolidated share for education can be computed as the sum of the individual shares for the three included educational categories, primary, secondary and tertiary education.

**Figure 1 Second-step inequality decomposition**

Source: Yañez (2009).

The second step is reported in figure 1. Two key results stand out from the Fields inequality decomposition. First, the largest contributors to income inequality are the level of schooling (about 15 percent), followed by labour activity (about 10 percent), followed by demographic characteristics of the household (about 8 percent). Second, ethnic and gender inequality, while statistically significant in the determinants of income regression, do not weigh heavily in the income inequality clustering, once we account for education, labour and demographic characteristics. While the explanatory power of the decomposition is moderate (about 50 percent of inequality is explained by omitted factors and variables), the results tend to corroborate an emerging narrative on enduring inequality in Bolivia. In the long run, education, labour characteristics and demographic change tend to explain much of remaining income inequality.

### 3. Micro-trends that equalize

Beyond the long-term trend, however, there are some small success stories that tend to equalize subgroups over time. In this section, we present three **demographic** micro-trends that have been transforming Bolivian society over the past 30 years. We start with evidence on rural-to-urban migration, which peaked in the late 1980s, and follow with two micro-trends in education and labour markets that have closed gender and ethnic gaps for specific subgroups in the 1990s. The three outliers presented in this section are mostly driven by demographic transition dynamics, and only marginally by public policies aimed at equalization. We pick up on this issue with a final section on probable policy effects in the future.

### 3.1 *Micro-trend # 1: Urban-rural migration has created a new demographic middle*

The first trend is related to migration. Bolivia is a country of migrants (Gray Molina and Yañez 2009). Approximately 53 percent of heads of household are lifetime rural-to-urban migrants. Studies of internal migration in Bolivia have described demographic change over time, estimated push-and-pull factors for migrants and analyzed the welfare impact of migration over income and access to social services (Andersen 2002, Urquiola et al. 1999; Tannuri-Pianto, Pianto and Arias 2004; O'Hare and Rivas 2007). In recent years, attention has shifted to external migration and remittances effects (Clemens, Montenegro and Pritchett 2008; Fajnzylber and Lopez 2008). However, few studies have pieced together the impact of migration on human development over the long run.

From a long-term perspective, internal migration has transformed Bolivian society, from being a predominantly rural to a predominantly urban society in less than three decades. Close to 2 million first or second generation migrants make up a new demographic middle in Bolivia today. The 'moving middle' is younger, more urban, more intercultural and better educated than in the past. Despite the structural nature of demographic change, enduring forms of discrimination based on ethnicity and gender continue to affect the new demographic profile.

Available household data sources allow us to look into determinants of migration only since the early 2000s. Table 4 shows the descriptive characteristics of lifetime migrants, structured by place of origin. Two characteristics stand out. First, there is a very high number of household heads migrating (53 percent of the total). As discussed in the literature, most household heads migrate alone, at first, and are then followed by other members. Second, most lifetime migrants are moving from rural areas to capital cities (52 percent), followed by small town migrants migrating to capital cities (27 percent).

**Table 4, Lifetime rural-urban migrants (household heads, 15 to 65 years old)**

Category	Number of people	Percent
Total non-migrant heads of household	792,044	47.1
From capital cities	364,730	46.1
From other urban areas	76,944	9.7
From rural areas	350,370	44.2
Total migrant heads of household	889,501	52.9
From capital cities	185,059	20.8
From other urban areas	241,465	27.2
From rural areas	462,977	52.0
Total heads of household	1,681,545	100

Source: Gray Molina and Yañez, based on MECOVI (2000).

Migrant characteristics are revealing. First, migrants are more educated than non-migrants. Rural migrants have, on average, three more years of schooling than non-migrants, while small-town migrants have, on average, two years more schooling than non-migrants.

Second, the average age of migrants is a year lower than that of non-migrants. Third, migrants are more female than non-migrants. Close to 17 percent of migrant heads of household are female, compared to 13 percent of non-migrants heads of household. Finally, migrants are more bilingual than non-migrants. Close to 81 percent of household heads speak an Indigenous language, while it is 83 percent for non-migrants. The overall migrant profile matches the characteristics of the middle of the population pyramid — the poorer strata of urban population.

We tackle the determinants of migration in two steps. In the first step, we estimate a probabilistic model for rural-urban migration for the whole sample, including regressors for observed characteristics (age, experience, education, wealth, civil status) In the second step, we address the self-selection problem, by including the residuals of the selection equation estimate, thus capturing the effects of non-observable characteristics (skill, luck or talent). With this second step, which only includes migrants, we provide a non-biased estimate of the impact of migration over earnings in the place of destination. In the following section we'll return to this issue, focusing more attention on the place premium for migrants.

**Table 5 Determinants of rural-urban migration, probit model**

Migrants	Rural capital flow		Urban capital flow	
	Coefficient	Standard Error	Coefficient	Standard Error
Sex	-0.054	0.1903	-0.155	0.2231
Age	0.023	0.0373	0.055	0.0380
Age <sup>2</sup>	0.000	0.0004	-0.001	0.0005
Ethnic origin	0.021	0.2375	0.023	0.1961
Married	-0.378*	0.1998	-0.140	0.2241
Years of Schooling	0.086***	0.0150	0.042**	0.0164
Number of members in hh	0.005	0.0285	-0.046	0.0340
Income Logarithm of hh	0.494***	0.0530	0.214***	0.0594
Deficit in Basic Services	0.020	0.0246	-0.016	0.0158
Deficit in Education	-0.007	0.0183	0.033*	0.0175
Constant	-5.125**	2.5127	-3.665**	1.7233
<b>N</b>	<b>634</b>		<b>415</b>	
<b>Prob &gt; chi<sup>2</sup></b>	<b>0.000</b>		<b>0.000</b>	
<b>Pseudo R<sup>2</sup></b>	<b>0.355</b>		<b>0.101</b>	

Source: Gray Molina and Yañez, based on MECOVI (2000).

Note: Deficit in basic services means lack of running water and/or lack of toilet in the household (place of origin). Deficit in education means that at least one member of the household is illiterate and/or is not attending school if of schooling age (place of origin).

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table 5 shows the first-step probit model. Three determinants are statistically significant in our sample. First, being married reduced the probability of migrating. This makes sense, given what we know about the migration process: typically, heads of household migrate first, make a foothold and eventually are followed by spouse and children. In some cases, this eventually includes extended family and friends (Sandoval, Albo and Greaves, 1981, 1982,

1983 and 1987). Second, higher levels of education predict a higher probability of migration. This also fits in well with what is known from past studies (Andersen 2002). Education levels allow a transition from rural to urban labour markets, from low-paying jobs to higher paying jobs. Third, the higher the family's level of wealth, the higher the probability of migrating. In the Bolivian case, the poorest do not migrate. This is indicative of high internal migration costs. Only the better-off can take on the risk and associated costs of migration (see Tannuri-Pianto, Pianto and Arias 2005). One important omission in the probit model is the non-statistical significance of indicators that measure the provision of local social services. This would tend to reassert the 'pull' factor of urban settings rather than 'push' factors from rural communities.

A closer look at pull factors leads us to focus on wage differences between urban and rural areas. Using a "place premium" approach (Clemens, Montenegro and Pritchett 2008), we estimate wage differences for otherwise identical workers in rural and urban areas, and see how much of the difference is based on observable (education, gender, ethnicity) or unobservable (skill, talent, ability) differences. The place premium is the wage difference attributable to geographic place of residence alone, after controlling for the observable and unobservable effects. It reflects a powerful incentive for migration, both at the individual and at the household level.

Table 6 shows the ratio of wages for a male, indigenous individual, 30 years of age. For the first migration path (rural to capital city), the ratio is highest for lowest levels of education. This result is robust to changes in specification. For the second migration path (small town to capital city), the wage premium is also higher as education increases, but not as high as in the first case. The wage premium is relatively smaller than it is for rural migrants. In both cases, the wage premium makes migration attractive.

**Table 6, Wage ratios, migrants versus non-migrants (heads of hh, 15 to 65 years old)**

Schooling	Rural migrants		Other urban migrants	
	Model I	Model II	Model I	Model II
5 years of schooling	4.56	4.69	1.23	1.31
11 years of schooling	2.87	2.85	1.29	1.17
16 years of schooling	1.95	1.25	1.34	1.81

Source: Gray Molina and Yañez, based on MECOVI 2000.

Given the relatively high wage premium estimated above, the key question is why there isn't more rural-to-urban migration in Bolivia, in particular, more migration of the poor. We expect migration to continue until the payoff for migration is higher than its costs. In addition, rural and urban wages are expected to converge to some equilibrium level where there is no more payoff for further migration. Following Borjas' (2004) comparative analysis of internal migration, 'costs' can themselves be decomposed into measured costs of migration (such as travel and adjustment costs, waiting costs, and so on) and non-measured costs (such as the loss of family or community safety nets, and other self-insurance mechanisms that are unique to rural residence). Two caveats may dampen the effects of the place premium estimates presented above.

The first is that the premium is likely to be lower if we could account for schooling quality. A preliminary test of this effect suggests that premiums declines from 4 to 3.5 for rural migrants with more than 12 years of education. The second caveat is that non-measured costs such as informal insurance mechanisms are likely to further dampen incentives to migrate. While data on insurance mechanisms are unavailable for the MECOVI household survey, the secondary literature on consumption and income smoothing in Bolivia suggests this might impose a significant cost over rural migrants. Both caveats begin to explain why we don't see more internal migration in Bolivia.

From a short run-perspective, wage premiums reflect high inequality between urban and rural areas. Over the long run, however, premiums have driven rural-to-urban migration over decades and are a powerful force behind welfare improvements for many thousands of migrants. First and second generation migrants today enjoy between two to four times the wages of their non-migrant peers. The effects for this subgroup are significant, and include a sizeable move from the bottom third to the middle third of the income distribution. While there is much to improve on remaining gaps in urban labour markets, rural-to-urban migration is a significant outlier to the stagnant macro-trend on income in Bolivia today.

### **3.2 *Micro-trend # 2: Ethnic inequality in education is declining for younger cohorts***

A second emerging trend relates to ethnic disparities in the education market. The literature of the 1990s on ethnic discrimination in Bolivia focused mostly on disparities in the labour market, but more recent studies have turned their attention to the education market. Most labour market differences between indigenous and non-indigenous groups in urban labour markets can be traced back to disparities in education levels and disparities on returns to education. In this section, we look at these disparities more closely for different cohort groups to determine whether there are any significant differences between younger and older age cohorts. We use the statistical conventions proposed by Stewart (2003) to estimate horizontal inequality between groups.

We start with a brief definition of ethnicity. Traditionally, ethnicity has been proxied by language spoken at home or language first learned. It has also been proxied, more recently, by ethnic self-definition, based on the respondent's sense of belonging to an indigenous group of people. However, each question captures a different dimension of ethnicity. Language proxies capture individuals with slight linguistic loss, who generally reside in rural areas. Self-identification proxies capture individuals who no longer speak native tongues, but nevertheless feel a part of a larger 'people' or community.

Molina and Albó (2006) argue for a comprehensive approach that captures multiple dimensions of ethnicity. They evaluate four dimensions that approximate ethnicity through census data: (1) a sense of ethnic self-identification, (2) mother tongue, (3) knowledge of native tongues and/or, (4) knowledge of Spanish. According to this definition, the authors build an Ethno-Linguistic Condition matrix (ELC) which combines the presence of dichotomic values divided in four variables. A combination of answers to these four variables results in eight relevant categories. The following table presents a definition for these categories and, at the

same time, suggests the complexity of ethnicity in Bolivia. It is important to mention that the scale is ordinal and does not quantify or internalize distances between groups.

**Table 7, Ethno-linguistic classification**

Category	Self-ID	Use of language		Openness	Ethno-linguistic condition
		Speaks	Learned in childhood	Speaks Spanish	
7	Yes	Yes	Yes	No	Fully isolated
6	Yes	Yes	Yes	Yes	Fully isolated
5	Yes	Yes	No	Yes	Predominant open
4	Yes	No	No	Yes	Only belonging
3	Yes	Yes	Yes	No	Only linguistically isolated
2	No	Yes	Yes	Yes	Only linguistically open
1	No	Yes	No	Yes	Not linked indigenously
0	No	No	No	Yes	Not indigenous isolated

Source: Albó & Molina (2005).

Two aspects of the Albo and Molina categorization are important for the analysis of group-based inequalities. First, it reveals that most Bolivians oscillate between categories 5-7 and 2-3, which accentuate the interplay between ethnic self-identification and language spoken. Second, once we look at this categorization by age cohorts we find that language loss in the younger generations is picked up by greater ethnic self-identification. Ethnic identity is 'changing' rather than diminishing for younger cohorts. In what follows, we use categories 2 through 7 to estimate gaps in educational achievement between indigenous and non-indigenous populations.

Indigenous individuals have, on average, lower levels of educational attainment than non-indigenous individuals. While the indigenous population is mainly concentrated in the primary level, the non-indigenous population is distributed homogeneously through the three higher levels of education. The breaking point between indigenous and non-indigenous is the secondary level. The ratio between indigenous and non-indigenous is greater than one in the first two levels and is close to zero in the last two, confirming that in secondary level the inequalities deepen. The Quechua population shows lower levels of education attainment than Aymara.

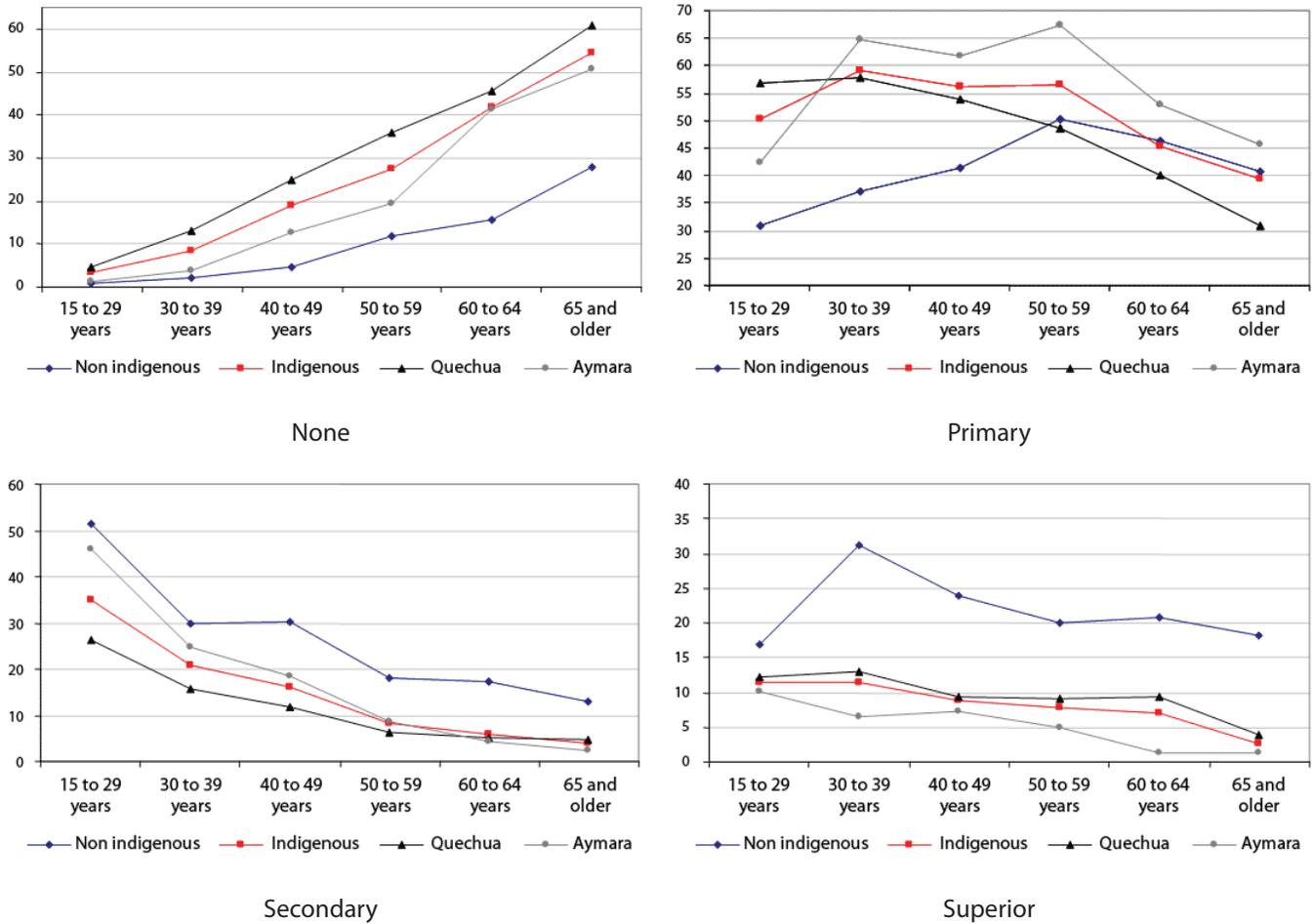
**Table 8 Instruction level for the population of 15 years and older (percent)**

	Total	Non-indigenous	Indigenous	HI	Quechua	HI	Aymara	HI
None	11.2	4.3	15.9	3.7	19.8	4.6	12.2	2.8
Primary	45.9	35.8	52.7	1.5	52.8	1.5	54.5	1.5
Secondary	28.8	39.0	21.7	0.6	16.8	0.4	26.2	0.7
Higher	14.2	20.9	9.6	0.5	10.6	0.5	7.0	0.3

Source: Gray Molina and Yañez (2009) based on MECOVI 2002 survey.

A closer look at age cohorts suggests the gap between indigenous and non-indigenous has decreased considerably over the past few years. For individuals with only primary schooling, the gap is relatively large for younger cohorts, and decreases with age. For individuals with superior education, the gap runs in the opposite direction. For individuals under the age of 29 there is almost no ethnic gap at the highest levels of education. This is significant, because it shows that after 30 years of urbanization and 10 years of education reform, schooling parity is becoming possible for the youngest age cohort at the highest level of education. When we look at average schooling attainment, the gap between indigenous and non-indigenous for under-29-year-olds is statistically insignificant. It becomes significant for those 30 to 39 years of age, and grows to be very large and statistically significant for those over the age of 40. This ten-year window — people going to school from 1972 to 1982 — is the transition period. After 1982, which coincides with the wave of rural-to-urban migration wave described above, the gap drops progressively to zero.

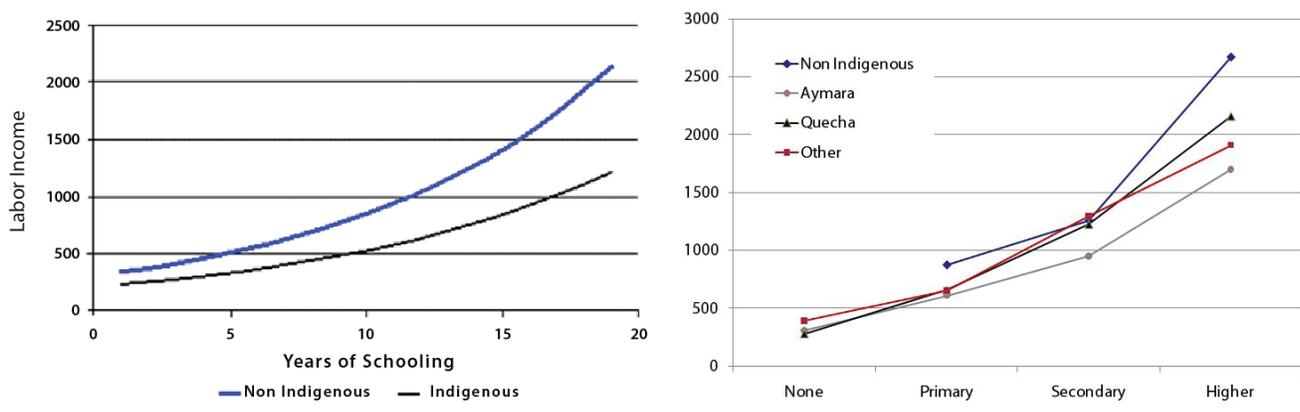
Figure 2, Schooling levels, 15 years and older, by age group



Source: Gray Molina and Yañez, based on MECOVI 2002 survey.

Figure 3 takes this analysis one step further by looking at the correlation between income and schooling and contrasting returns to education for indigenous and non-indigenous individuals. Incomes increase with education, but increase more quickly and at a higher level for non-indigenous individuals. Returns to education are higher for non-indigenous for every level of schooling, but as expected, are highest for those with 15 or more years of schooling (tertiary education). Although these estimates are only preliminary, they suggest a pattern that while the educational gap is closing for indigenous and non-indigenous, the returns to education still exhibit a pattern that increased inequality in the labour market. As discussed by Andersen, Mercado and Muriel (2003), the 'good news' is that income gaps are no longer driven mostly by ethnic gaps, but by educational gaps in segmented labour markets. Bolivia is following, on this issue, a more typically 'Latin American' pattern for younger age groups.

**Figure 3, Returns to education and income ratios, by ethnicity**



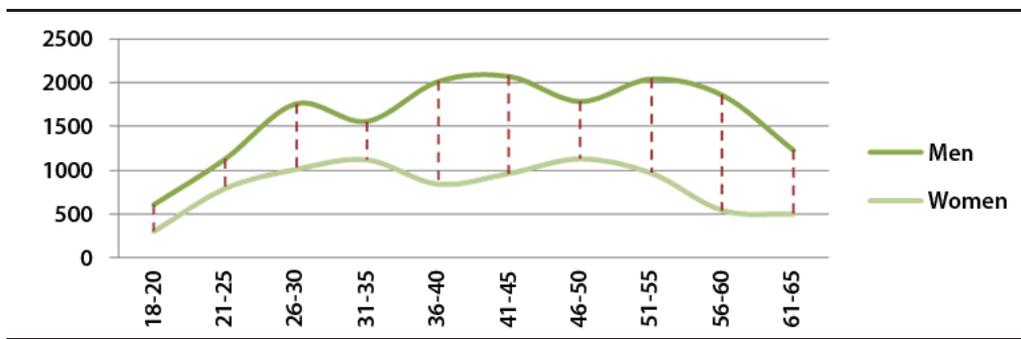
Source: Gray Molina and Yañez, based on MECOVI 2002.

### 3.3 Micro-trend # 3: The gender wage gap is declining for younger cohort groups

A final nascent trend relates to gender disparities in the labour market. Many studies have documented the rise in labour participation for women in the 1980s and 1990s (ILO 2009; Abramo and Valenzuela 2005). The increase in female labour participation has been driven by demographic shifts linked to migration, and in turn, has accelerated the demographic transition lowering female fertility rates in urban areas (UNDP 2006). More recent studies have looked more closely at heterogeneous evidence on female wage discrimination in formal and informal labour markets (Andersen, Mercado and Muriel 2003; Wanderley 2003). Andersen et al. find that after controlling for schooling levels and quality, and contrasting male/female wage ratios in different labour market sectors, average wage discrimination can be mostly explained by enduring 'pockets' in the commerce and agricultural sectors, rather than by the labour market average. This paper follows up on Andersen et al.'s work to test whether wage discrimination has decreased for subgroups by age group and labour sector.

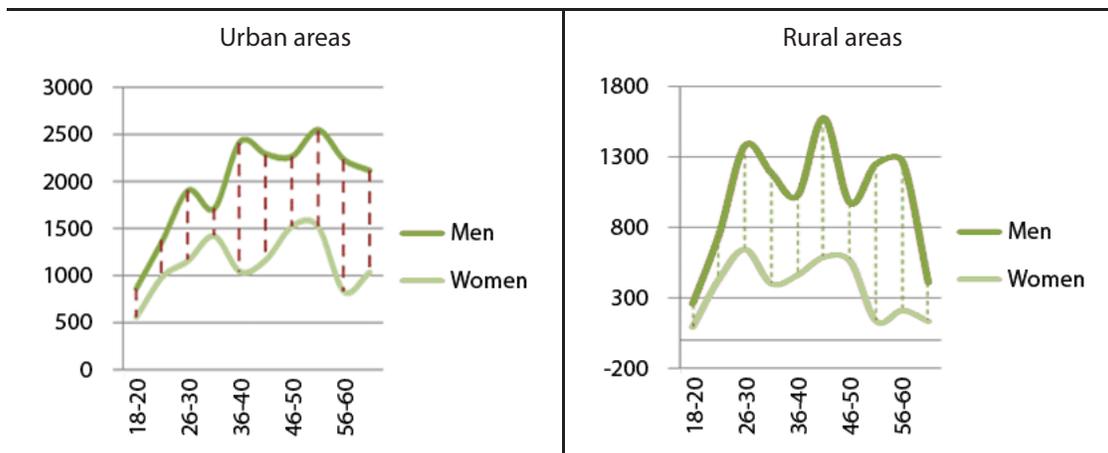
Figure 4 shows descriptive data on labour income gender gaps using 2007 household data. Two patterns show up on the age group data. First, male/female wage ratios tend to follow similar 'life-cycles'. Three cycles describe ups and downs in the labour income data: the first is a market entry cycle (18-to-30-year-olds) that tracks the first 10 to 15 years of labour activity, the second is a mid-career cycle (31-to-50 year-olds) that likely accounts for job changes and family adjustments; a final cycle (50 years and above) describes a gradual decline in labour income and labour participation. Second, there is a distinct narrowing in the male/female wage gap for individuals under the age of 25. The two youngest age groups show differences of between 20 percent and 25 percent; for older age groups, the wage gap widens to more than 100 percent. This is the trend that is most interesting from the perspective of longer-term labour participation.

**Figure 4 Gender wage gap, 2007**



Source: Espinoza (2009).

**Figure 5, Male-female labour income ratios, by urban and rural residence**



Source: Espinoza (2009).

Figure 5 disaggregates age group gaps by place of residence. The disaggregated data support the trend observed above. Women under the age of 25 have the lowest income gap, particularly in urban labour markets where income is not as variable as in rural labour markets. Two caveats

apply to the descriptive data. First, as women enter urban labour markets with higher levels of education, the gap would be expected to smoothen out. Without controls over education level and quality, however, the most we can say is that gaps are smaller for younger workers. The second caveat is that it is too early to ascertain whether the younger age group effect reflects a structural shift in labour markets or whether it is tied to a life cycle effect that later sees a widening of gaps in the middle of the cycle. Despite these caveats, the descriptive data do support the econometric evidence of other researchers, particularly Andersen, who measures wage discrimination in urban labour markets (Andersen, Mercado and Muriel, 2003).

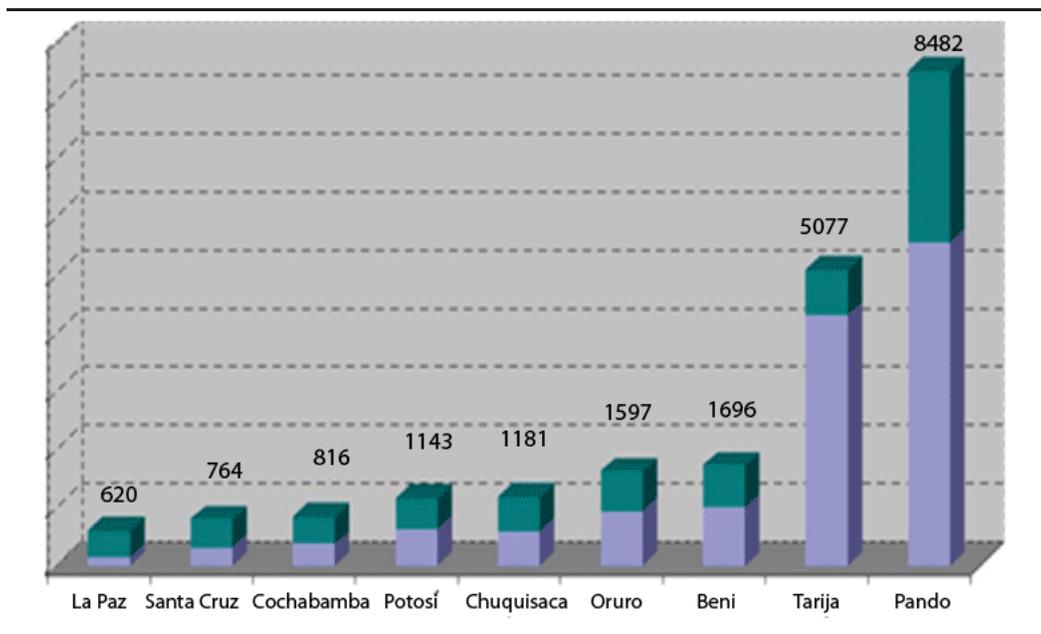
## **4. Policies with an equalizing potential**

### **4.1 Policy #1: Gas Revenue Transfers**

The most important policy initiative taken in recent years is the distribution of gas revenues to subnational departments and municipalities. The increase in government revenues over gas was achieved in two different administrations, with a law approved during the Mesa administration in July 2005 (Law 3058), and a decree passed by the Morales administration in May 2006 (Decree 28701). Neither decree nationalizes the gas sector in the conventional or historical sense — via expropriation or changes in property rights. Both measures increased government take significantly — Law 3058 increased government participation from 18 percent to 50 percent of production value, Decree 28701 increased this to up to 82 percent — and the nationalization decree included a renegotiation of contracts with close to a dozen multinational companies. While the present rate of government take is estimated to fluctuate between 67 percent and 75 percent of gross production value, the revenue windfall represents a pendulum swing with respect to the past (Medinacelli 2007).

The increase in government revenues accruing from the hydrocarbons sector reached \$967 million in 2007, about twice the size of total foreign aid (donations plus credit) in the country. The current structure of intergovernmental transfers is, however, highly skewed. The Bolivian state transfers block grants to municipalities on the basis of population (co-participation transfers) and poverty-weighted population (HIPC transfers). The state also makes block grants to departments on the basis of a negotiated distribution formula (IDH, royalties and other hydrocarbon revenues). The negotiated formula tends to favour gas-producing departments (Tarija and Chuquisaca) and small non-producing departments (Pando and Beni), at the expense of where most of poverty is concentrated — in large non-gas producing departments like La Paz, Cochabamba and Santa Cruz. Figure 6 shows municipal and departmental transfers on a per capita basis for the year 2007. Fiscal transfers to the department of Pando are 13.6 times larger on per capita terms than transfers to the department of La Paz, and 11 times larger than transfers to Santa Cruz (two departments which include over half of Bolivian population).

**Figure 6 Per capita fiscal transfers by department, 2007**  
(municipal transfers = green, departmental transfers = blue)



Sources: Based on Paz Arauco 2008.

#### 4.2 Policy # 2: Social Transfers (*Renta Dignidad, Juancito Pinto*)

The second important policy initiatives are conditional cash transfers (Gray Molina 2010). Additional revenues from the hydrocarbon sector finance two social transfer programmes to schooling age children (*Juancito Pinto*) and the elderly (*Renta Dignidad*), and account for over \$230 million, or approximately 2 percent of GDP in 2007. The transfers reach over 1,300,000 children and approximately 730,000 men and women over the age of 65. While the *Juancito Pinto* is modeled over the *Bono Escuela* programme of the city of El Alto and similar programmes in Brazil (*Bolsa Familia*) and Mexico (*Progresá*), *Renta Dignidad* is an expansion of the *Bonosol* payment implemented with the capitalization of public companies in the 1990s. The difference with *Bonosol* is the source of payment, which was paid for nine years with utilities from capitalized companies and internal debt, and is now paid with hydrocarbon taxes and royalty payments to the regions.

The *Juancito Pinto* payment has been designed to increase school attendance and reduce dropouts, and has been in place since November 2006. In 2007, over 1,320,000 children enrolled in public schools from first to sixth grade, besides children under 11 years of age in alternative and technical education schools, as well as children and adolescents enrolled in special education programmes. Each child receives an annual Bs. 200 payment (about \$26), subject to an annual evaluation that the child is attending school. There are three sources of payment: 53 percent financed by YPFB, 33 percent by the Treasury and 13 percent by COMIBOL. The total annual cost of the *Juancito Pinto* payment is \$39 million.

The Renta Dignidad is an annual payment to 600,000 Bolivians over the age of 65 and no retirement income, and an additional 130,000 Bolivians who do receive a retirement payment. The amount paid to those without retirement income is Bs. 2,400 (about \$320), and the amount paid to salaried retirees is Bs. 1,800 (about \$240). The source of payment is highly disputed: in 2008, it amounted to about \$ 55.6 million paid by the prefectures and \$134.4 million by the Treasury, municipalities, universities and capitalized enterprises. The deduction of prefectural funds has been contested by civic committees and prefectos who argue it amounts to a 38 percent reduction in their IDH transfers, or about 8 percent of their total funds. The total annual cost of the Renta Dignidad is about \$190 million.

Although there are no specific studies analyzing the impact of the Renta Dignidad on poverty and inequality, there is a recent study on the Bonosol/Bolivida precursors of the Renta Dignidad (Jemio 2006). Using the 2001, 2002 and 2003-2004 MECOVI data sets, Jemio finds two important welfare effects. First, cash transfers to the elderly, while universal, have a stronger incidence among the poorest deciles of the population. In the bottom three deciles, close to 15 percent of households receive the payment. In the top three deciles the figure drops to about 10 percent. Close to 20 percent of rural households receive the benefit in the three poorest deciles. The second finding is that, while mostly concentrated on the poor, the poverty reducing effect is relatively small for 2001 and 2002, but reaches about 1.1 percentage point for 2003-2004. In that year, the poverty reducing effect of the payment is 2.1 percent in rural areas and 0.4 percent in urban areas. Most of the payment is used on consumption. Jemio reports 36 percent of payments used for food, 22 percent for health and 10 percent for clothing.

How do social transfers affect the demographic trend and outliers described above? While the poverty reducing effects are relatively modest for both Renta Dignidad and Juancito Pinto, the available evidence does suggest it is generally pro-poor both by incidence and targeting. The available evidence also suggests it is too early to gauge the full effect of both social transfers on poverty and inequality in the long run. Unfortunately, neither transfer was preceded by a careful baseline survey. Future evaluation studies will require paired comparisons or econometric controls to measure the specific effect of either transfer on poor and non-poor households. Over the long run, and from a comparative perspective, conditional cash transfers have been moderately successful in other countries of Latin America, when accompanied by adequate social service coverage. To the extent that the Bolivian transfers reach the bottom third of the population, as they seem to, their long run effect is likely to be positive.

## 5. Conclusion

This paper reviews available information on growth, poverty and inequality in Bolivia. Two findings stand out from this review. First, low economic growth and high income inequality have slowed poverty reduction in Bolivia. Unlike many other countries in the region, Bolivia has not experienced a significant decline in poverty in this half decade of high growth. In fact, the absolute number of poor increased on average by 100,000 per year over the past decade. As discussed comparatively, high inequality has slowed poverty reduction in the good years and accelerated poverty in the bad years. Income inequality is one of the highest in the region, and non-income inequality — of education and land, for example — is also relatively high.

Second, a decomposition of income inequality suggests that the most significant contributor to income inequality is education — through low levels of achievement as well as low rates of return in labour markets. Educational achievement in Bolivia has been plagued by both demand and supply side constraints (Urquiola 2001). With very high educational rates of return beyond 12 years of schooling, income inequality endures despite improvement in educational access. All of this poses a new puzzle for the empirical record. With relatively high rates of return on education, why haven't more people rushed to obtain higher levels of good quality schooling? The comparative literature has discussed at least two hypotheses: a skill bias that raises the educational threshold for meaningful employment, and a skewed distribution of educational opportunities, biased against rural workers (Bourignon, Ferreira and Lustig 2005; Perry 2006).

Beyond average trends, however, the record also describes some underlying changes that may prove to be a turning point in human development in the future. Three outliers seem to tell a somewhat promising story for certain subgroups of the population. The first outlier is income mobility associated with rural-to-urban migration. Given sparse inter-generational data on income, we focus on wage premiums for a cross-section of lifetime migrants. The large wage premium suggests that worker in urban labour markets earn between 20 percent to 400 percent more than identical workers in rural areas, controlling for education levels, age and experience. Two caveats not captured by the available data are schooling quality and proxies for informal insurance mechanisms left behind in rural areas. Over the past 30 years, Bolivian society has been transformed by this gradual process: today, Bolivia is predominantly urban and is seeing the emergence of a 'new middle', more educated, more mobile and better paid than previous generations of Bolivians. By raising the living standards of first and second generation migrants, the new middle is a site of long-run income equalization.

The second outlier describes a declining ethnic gap in education. This is closely related to the migration process described above. With spatial mobility, thousands of rural households in the 1970s and 1980s accessed urban social services by virtue of their residence. Education reform in the 1990s is likely to have accelerated this further, but there is little evidence available on the long-term impact of education reform in Bolivia. In this section we looked at descriptive data on schooling levels and rates of return on schooling in urban and rural areas. The results suggest that for age groups younger than 29, gaps have declined significantly. Our descriptive profile corroborates previous econometric studies that also suggest that ethnic wage discrimination, proxied by language or self-identification, has declined in recent years. Inequalities in access to education, schooling quality and low returns to schooling explain more today than ethnic discrimination.

The third outlier describes a declining gender gap for wages of younger age groups. A declining gender gap is also related to migration and a significant increase in female labour participation over the past twenty years. As with other countries in the region, the demographic transition in Bolivia is still incomplete (Filgueira 2007). High levels of fertility, low female labour participation and stop-and-go urbanization have meant that, on average, the gender wage gap closed only for wealthier income groups. In this section of the paper, however, we look at wage gaps for different age groups, and find that beyond income level, gaps are declining for younger cohorts. While sparsely documented, this is good news for future drops in fertility rates

and growing female labour participation. Future research needs to focus on this promising outlier in the future.

This paper largely assumes that ‘outliers matter’. Analytically, this raises a number of questions on how to define outliers with respect to long-term trends: should we consider every promising micro-trend, or limit the analysis to those that can reasonably snowball into larger effects? Are outliers themselves predictors of future trends, or are they quirks unlikely to affect the course of long-run change? Can we reasonably consider a micro-trend to be significant if we cannot yet ascertain the statistical significance of the improvement in well-being we are interesting in measuring? All of these questions, while important, raise methodological questions beyond the scope of this paper.

One issue that does seem relevant to address is how to accelerate pro-poor and equalizing change where most transformation have been slow, cumulative and not policy driven. The slow rate of poverty reduction in Bolivia points, in particular, to the cumulative impact of demographic drivers: stop-and-go urbanization, truncated drops in fertility, limited improvements in female labour participation, weak labour markets, which together describe a dense set of constraints for poverty reduction. Moreover, the distribution of demographic opportunities also seems to matter. High income and non-income inequality makes growth-induced poverty reduction less effective. There is a pending equalizing agenda for educational, health and labour policy in Bolivia.

The second important issue is the politics of equalizing policy. The slow changes described above are linked to a particular period of political change in Bolivia, a period that started with a prolonged democratic transition in the 1980s, and ended with high levels of social conflict and rapid political change in the 2000s. The high levels of political instability have often been seen as obstacles to cumulative policy impact in Bolivia. After two decades of a similar pattern, however, it may be time to reconsider to what extent poverty and inequality are themselves driving conflict over property rights, the rule of law and long-run institutions. The spectacular increase in gas revenues over the past few years has added incentives for zero-sum politics over fiscal rents. Bolivia is today trapped in a struggle over policy, but more importantly, over the power to set policies. A coalition of poor and middle income groups — the bottom and middle of the income pyramid — is badly needed to lock in long-term social and economic change.

Bolivia has not yet turned a corner on poverty and inequality. The policy optimism of the 1990s has been tempered by poor results in the 2000s, despite the highest economic growth rates since the 1960s. The impact of the global downturn is likely to exacerbate distributional conflict and postpone or interrupt the cumulative effects of human capital accumulation. We believe, however, that beyond the current downturn, a long-term look at demographic and policy drivers might suggest a promising avenue for equalizing policies in the future. If outliers are to become trends, policy intervention needs to bolster promising social changes and set the course for broad based human development in Bolivia.



## References

- Abramo, Laís and María Elena Valenzuela (2005), "Women's labour force participation in Latin America", *International Labour Review*, 144, 4, Geneva: ILO .
- Albó, Xavier (2008), "The 'Long Memory' of Ethnicity in Bolivia and Some Temporary Oscillations", in Crabtree, John and Laurence Whitehead, *Unresolved Tensions: Bolivia, Past and Present*, Pittsburgh: University of Pennsylvania.
- Andersen, Lykke (2002), "Migración rural en Bolivia: ventajas y desventajas", La Paz: IISec-Universidad Católica Boliviana.
- Andersen, Lykke, Alejandro Mercado and Beatriz Muriel (2003), "Discriminación étnica en Bolivia: en el sistema educativo y el mercado de trabajo", Documento de trabajo del PIEB/Universidad Católica, La Paz: PIEB.
- Borjas, George (2004), *Labour Economics*, New York: McGraw-Hill/Irwin.
- Bourguignon, Francois, Francisco Ferreira and Nora Lustig eds. (2005), *The Microeconomics of Income Distribution in East Asia and Latin America*, Washington, DC: Oxford University Press and The World Bank.
- Calvo, Sara (2006), "Applying the Growth Diagnostics Approach: The Case of Bolivia", Washington, DC: The World Bank.
- CEPAL, (2009), *Panorama Social de América Latina*, Santiago: CEPAL.
- Clemens, Michael, Claudio Montenegro and Lant Pritchett (2008), "The Place Premium: Wage Differences for Identical Workers across the US Border", Working Paper # 148, Washington, DC: Center for Global Development.
- Espinoza, Patricia (2008), *The Endurance of Ethnic and Class Cleavages: A Social Stratification Study in Bolivia*, MPhil thesis, Development Studies, QEH, Oxford: University of Oxford.
- Fajnzylber Pablo and Humberto Lopez eds. (2008), *Remittances and Development: Lessons from Latin America*, Washington, DC: The World Bank.
- Fields, Gary (2003), "Accounting for income inequality and its change: a new method, with application to the distribution of earnings in the United States", *Research in Labour Economics*, 18.
- Filgueira, Fernando (2007), "Cohesión, riesgo y arquitectura de protección social en América Latina", Serie de Políticas Sociales, Santiago: CEPAL.
- García Linera, Alvaro (2004), *Sociología de los movimientos sociales en Bolivia*, La Paz: Oxfam/Diakonia and Plural.
- Government of Bolivia (2007), *Plan Nacional de Desarrollo: Lineamientos estratégicos*, Ministerio de Planificación para el Desarrollo, La Paz: Government of Bolivia.

- Gray Molina, George and Ernesto Yáñez (2009), "The Moving Middle: Migration, Place Premiums and Human Development in Bolivia", Background paper for the 2009 HDR Report. New York: UNDP.
- Gray Molina, George (2010), "The Challenge of Progressive Change in Bolivia under Evo Morales", in Raul Madrid ed. *Leftist Government in Latin America: Successes and Shortcomings*, Cambridge: Cambridge University Press.
- Gray Molina, George, Ernesto Yáñez and Patricia Espinoza (2007), "Horizontal Inequalities in Bolivia: How Ethnic and Class Cleavages Endure", CRISE Working Paper, Oxford: Centre for Research on Inequality, Ethnicity and Human Security, University of Oxford.
- Gray Molina, George, Wilson Jiménez, Ernesto Pérez de Rada and Ernesto Yáñez (2000), "Poverty and Assets in Bolivia: What Role does Social Capital Play", in Orazio Attanasio and Miguel Szekely (2000), *Portrait of the Poor: An Assets-Based Approach*, Washington, DC: Inter-American Development Bank.
- Gray Molina, George, Ernesto Pérez de Rada y Ernesto Yáñez, (1999), "La economía política de reformas institucionales", Documento de trabajo R-350, Washington, DC: Inter American Development Bank.
- Hausmann, Ricardo, George Gray Molina and Francisco Rodriguez, (forthcoming), *The Bolivian Growth Puzzle, 1970-2005*, La Paz: Corporación Andina de Fomento.
- IADB (2008), *Outsiders?: The Changing Patterns of Social Exclusion in Latin America, 2008 Report on Economic and Social Progress*, Washington, DC: Inter-American Development Bank.
- ILO (2009), *Global Employment Trends for Women*, Geneva: International Labour Organization.
- Jemio, Luis Carlos (2006), "Efectos macro- y micro-económicos del BONOSOL", La Paz: Fundación Milenio.
- Stephan Klasen, Melanie Grosse, Rainer Thiele, Jann Lay, Julius Spatz, Manfred Wiebelt (2004), "Operationalising Pro-poor Growth: A Country Case Study on Bolivia", Gottingen: BMZ, Dfid, Kfw, GTZ and World Bank.
- Lall, Somik, Harris Selod and Zmarak Shalizi (2006), "Rural-Urban Migration in Developing Countries: A Survey of Theoretical Predictions and Empirical Findings", World Bank Research Policy Working Paper No. 3915, Washington, DC: The World Bank.
- Landa, Fernando and Wilson Jimenez (2005), "Bolivia: Crecimiento pro-pobre entre los años 1989 y 2002", *Revista de Análisis Económico*, UDAPE, La Paz: UDAPE.
- Lora, Eduardo (1997), "Una Década de Reformas Estructurales en América Latina: Que se ha Reformado y Como Medirlo", Washington, DC: Inter-American Development Bank.
- Medinacelli, Mauricio (2007), *La Nacionalización del Nuevo Milenio: Cuando el Precio fue un Aliado*. La Paz: Fundemos.
- Molina Barrios, Ramiro and Xavier Albó (2006), *Gama étnica y lingüística de la población boliviana*, La Paz: Sistema de Naciones Unidas.

- Niimi, Yoko and Caglar Ozden (2008), "Migration and Remittances in Latin America: Patterns and Determinants", in Fajnzylber Pablo and Humberto Lopez eds. *Remittances and Development: Lessons from Latin America*, Washington, DC: The World Bank.
- O'Hare, Greg and Sarah Rivas (2007), "Changing Poverty Distribution in Bolivia: The Role of Rural-Urban Migration and Urban Services", *GeoJournal* 68, pp. 307-326.
- Paz Arauco, Verónica (2008), "El desafío urgente: actuar ante las asimetrías departamentales", Documento de trabajo 4/2008, Informe de Desarrollo Humano, La Paz: PNUD-Bolivia.
- Perry, Guillermo ed. (2007), *Informality: Exit and Exclusion*, World Bank Latin American and Caribbean Series, Washington, DC: The World Bank.
- Perry, Guillermo, Omar Arias, Humberto Lopez, William Maloney and Luis Servén, (2006), *Poverty Reduction and Growth: Virtuous and Vicious Circles*, World Bank Latin American and Caribbean Series, Washington, DC: The World Bank.
- Sandoval, Godofredo, Xavier Albó y Tomas Greaves (1981), *Chukiyawu. La cara aymara de La Paz -El paso a la ciudad*. Cuaderno de investigación I. *Nuevos lazos con el campo*. CIPCA 26 (1981).
- \_\_\_\_\_ (1982), *Chukiyawu. La cara aymara de La Paz. Una odisea-"buscar pega"* Cuaderno de investigación II. *Nuevos lazos con el campo*. CIPCA.27.
- \_\_\_\_\_ (1983), *Chukiyawu. La cara aymara de La Paz. Cabalgando entre dos mundos* Cuaderno de investigación III. CIPCA 28.
- \_\_\_\_\_ (1987), *Chukiyawu. La cara aymara de La Paz*. Cuaderno de investigación. IV. *Nuevos lazos con el campo*. CIPCA 29.
- Tannuri-Pianto, Maria, Donald Pianto and Omar Arias, (2004), "Rural-Urban Migration in Bolivia: An Escape Boat?" Brasilia: Brazilian Association of Graduate Programs in Economics, Proceedings of the 32nd Brazilian Economics Meeting.
- Stewart, Frances (2003), "Horizontal Inequalities: A Neglected Dimension of Development", Working Paper # 1, Centre for Research on Inequality, Human Security and Ethnicity, CRISE, Queen Elizabeth House, University of Oxford.
- Tannuri-Pianto, Maria, Donald Pianto and Omar Arias (2004), "Rural-Urban Migration in Bolivia: An Escape Boat?" Brasilia: Brazilian Association of Graduate Programs in Economics, Proceedings of the 32nd Brazilian Economics Meeting.
- UDAPE (2009), *Dossier de estadísticas, sociales y económicas de Bolivia*, La Paz: UDAPE.
- UNDP-Bolivia (2005), *La economía boliviana más allá del gas*, Informe temático de desarrollo humano, La Paz: UNDP-Bolivia.
- UNDP-Bolivia and UNICEF-Bolivia (2006), *Cuatro millones de actores: Niños niñas y adolescentes en Bolivia*, Informe temático de desarrollo humano, La Paz: UNDP-Bolivia and UNICEF-Bolivia.

- Urquiola, Miguel, Lykke Andersen, Eduardo Antelo, Jose Luis Evia and Osvaldo Nina (1999), "Geography and Development in Bolivia: Migration, Urban Concentration, Welfare and Convergence: 1950-1992", Inter-American Development Bank Research Network Working Paper, Washington, DC: IADB.
- Urquiola, Miguel (2001), "Identifying class size effects in developing countries: evidence from rural schools in Bolivia", Policy Research Working Paper Series 2711, Washington, DC: The World Bank.
- Villegas, Horacio and Javier Núñez (2005), "Discriminación étnica en Bolivia: examinando diferencias regionales y por nivel de calificación", *Estudios de economía*, 32, 2: 201-218.
- Wanderley, Fernanda (2003), *Trabajo no mercantil e inserción laboral: una mirada de género desde los hogares*, La Paz: Plural.
- World Bank (2009), *Migration and Remittances Factbook 2008*, Washington, DC: The World Bank.





United Nations Development Programme  
304 East 45th Street  
New York, NY, 11375  
U.S.A.  
E-mail: [poverty.reduction@undp.org](mailto:poverty.reduction@undp.org)  
Website: [www.undp.org/poverty](http://www.undp.org/poverty)