The Dynamics of Poverty in Bolivia

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Abstract

The research aims to the understanding of the main factors that explain the dynamics of poverty in Bolivia. A main working hypothesis is that poverty is strongly linked to low social mobility levels. Social mobility can be defined as the equality of opportunities, or in other words, the probability that somebody can reach a better social position independently of his position of origin.

We rely in the concept that low social mobility generates a vicious poverty circle in which households that were poor yesterday, will see that their children are poor today, and with high probability, their children's children will be poor tomorrow. Indeed, our research hypothesis is that the dynamics of the phenomenon (the vicious circle) is explained fundamentally by two self reinforcing factors – ethnic and gender discrimination; which in turn lower the social mobility levels in a dynamic framework. This is proved partially along this research, especially for the subsets of indigenous women.

Resumen

La presente investigación tiene como objetivo identificar los principales factores que explican la dinámica de la pobreza en Bolivia. La hipótesis de partida es que la pobreza está ligada a una baja movilidad social. La movilidad social puede ser definida como la igualdad de oportunidades, es decir, la probabilidad de que los individuos puedan mejorar su posición social independientemente de su posición de origen.

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Consideramos que la baja movilidad social genera un circulo vicioso de pobreza en el cual los hogares que fueron pobres ayer son pobres hoy, y, con alta probabilidad, los hogares de sus hijos también serán pobres. Nuestra hipótesis es que la reproducción de la pobreza se explica, en gran medida, por dos factores: la discriminación étnica y la discriminación por género, elementos que actúan profundizando la baja movilidad social

Introduction

Poverty in Bolivia has become an endemic phenomenon, and the country has achieved strong support from international donors in order to fight poverty. More than 60 per cent of the total population is poor in Bolivia, and more than 80 per cent of total rural population is poor In this regards, our research tries to understand the dynamics of poverty throughout the analysis of the Social Mobility Index by population subsets One of the leading approaches in the study of the dynamics of poverty in Bolivia was proposed by Mercado (1992) In this study the author argues that the high rate of global participation of members of a household in the labor market penalizes the children's educational attainment. The low earnings of the parents pressure children to exchange school hours for working hours in order to meet the minimum income requirements of the household. Later on, this translates into a worsened laborers conditions (in terms of skills), and lower income levels, which reinforces child labor in the future. This generates a vicious circle where children leave school today, worsening their working opportunities for the future and worsening their ability to keep their children in school in the future.

In the late 1990s the interest to study the causes and the dynamics of poverty focused on the problems of the education system The methodology proposed by Altonji and Blank (1999) was used to study the phenomenon in Bolivia The central elements of these investigations referred to the quality of education and the ethnic and gender discrimination.

The work of Dahan and Gaviria (2000) and Andersen (2001) constituted the background to study poverty in Bolivia from the viewpoint of social mobility. Andersen (2003) and Mercado *et al* (2005b) concluded that low social mobility is caused by the low quality of public education, and this becomes one of the main factors that explain the dynamics of poverty.

Therefore, according the previous investigations and their findings, we follow this research with the assumption that the main factor that explains the dynamics of poverty in Bolivia is linked to low social mobility levels. We mean by social mobility: the equality of opportunities, that is to say, the probability that somebody can reach a better social position independently of his or her position at origin. Low social mobility generates a vicious poverty circle, in which households that were poor yesterday, will see that their children are poor today, and with high probability, their children's children will be poor tomorrow (Mercado, *et al.*, 2002).

Although, low social mobility in Bolivia is closely related to ethnic discrimination, we have some evidence that this phenomenon is reinforced by gender discrimination. And this is the core concept around which the present research aims to give some answers.

Therefore, our research hypothesis acknowledges the fact that social mobility is one of the main factors that explains the dynamics of the poverty circle in Bolivia. Indeed, our research hypothesis is that the dynamics of the phenomenon (the vicious circle) is explained fundamentally by two self reinforcing factors –ethnic and gender discrimination; which in turn lower social mobility levels in a dynamic framework.

Our research will analyze ethnic discrimination, contrasting the social mobility levels within sub samples: i) indigenous vs. non-indigenous; ii) male vs. female, iii) and a crossed analysis combining i. and ii. results. In summary, the objective of this research is to extend our knowledge on the causes that explain the dynamics of poverty in Bolivia. For this, we will try to identify the main variables that explain the low levels of social mobility. We will start with the hypothesis that low social mobility is explained by high levels of ethnic and gender discrimination.

Section 2 provides a brief background regarding poverty in Bolivia and its link with social mobility. Section 3 explains the methodology used in the research. Section 4 provides the results and empirical evidence. Finally the concluding remarks are at the end of the paper.

1. The Bolivian Context

The Bolivian economic growth for the period of 1952 to 2006 showed a modest behavior, on average, the economy rate of growth was very close to the population's rate of growth (Mercado, *et al* , 2002). Poverty in Bolivia has become an endemic phenomenon, we were poor yesterday, we are poor today and, most likely, we will be poor tomorrow Bolivia has experimented with almost all conceivable economic policies. We have nationalized, privatized, capitalized and nationalized again, while we continue to be stuck in poverty

Alongside the public economic policies, increased public expenditures only resulted in larger fiscal deficits, devaluations did not have a noticeable effect on our balance of payments, on the contrary, they only imposed disincentives to the national productive apparatus by raising the prices of imported capital goods, and an expansive monetary policy only resulted in a reduction of net international reserves and a reduction in the purchasing power of the local currency due to inflationary pressures. We opened up the economy to the free trade and, in other periods, we closed the economy, however all the efforts were vain, the economy stayed in much reduced levels of growth

The actual poverty status in Bolivia is very high, indeed, the country maintains the higher poverty levels in the South America But beyond the actual poverty numbers[1] we want to highlight the concept that a poverty rate of fifty per cent poverty can mean two completely different things One interpretation of this might be that the probability of becoming a poor person is 50 per cent; or from another point of view, the whole population is poor half of the time That means that the 50 per cent of the population is always poor, while the remainder is unlikely to become poor If the same households are poor all the time, it is much more difficult to develop strategies to alleviate the hardship. Poor people cannot save for harder times, as all times are hard, and they cannot borrow against higher future income because they don't expect their incomes to be any better in the future It seems that the best strategy is to transfer knowledge and skills to this deprived population in order to prepare them to enhance their entitlements management in the future[2]

1 Incidence of poverty and extreme incidence of poverty in 2004 was 63 1% and 34 5% respectively

2 We are taking the concept of entitlement as Sen (1999)

In accordance with a study carried out by the Institute of Socio-Economic Research (IISEC) of the Bolivian Catholic University (Mercado *et al.*, 2005), the tendency factors are more important than the short run factors to explain economic growth, that means that the structural restrictions are more important than those linked to the economic policies, and these structural constraints reduced the economic policies effect in the short run. This idea is supported by Klasen *et al.* (2002), who highlights the strong dichotomy among the behavior of urban economic agents versus their rural counterparts The production function is not consistent between them in terms of technology, production scale, workers skills and most importantly products. This situation constitutes a restraint of the Bolivian economic growth from this lack of technological progress of rural areas

This diagnosis has led to the investigators to examine about the structural factors that would be restraining the economic growth. Andersen (2003) introduced within the explanatory variables the low social mobility index, she demonstrated the high correlation between the low social mobility index and the low rate of growth for the Bolivian economy. Other investigations, such as Mercado *et al.* (2005), corroborated Andersen's initial discoveries, at the same time they demonstrated the little effectiveness that would have the economic policies in a context of strong structural restrictions.

Later works were focused to determine the factors that would explain the low social mobility, as well as to find the links between the social sphere and the economic growth. The investigations of Mercado *et al.* (2004) and Leitón (2005) put their emphasis in the educational system, the segmentation in the social structure and the discrimination associated to factors of ethnic origin and gender.

We understand as social mobility the set of opportunities that the individuals have to ascend in the social scale, low social mobility implies that people are stuck somewhere in the income distribution scale year after year, and generation after generation If the structural social factors -basically those referred to the household's heritable aspects- are important; then, the possibilities of social ascent are reduced, *i.e.* there exists a low social mobility condition. This implies the lack of a link between the efforts of people to overcome poverty such as training (studying several years), working harder, saving and investing; as they don't expect these efforts to pay off in the future and create a vicious circle, in which a low social mobility condition is reducing the incentives for growth, implying lower economic growth rates and which is reinforced in the next period by

a low social mobility index, and so on (Vicious Circle of Poverty) In sum, when these efforts produce no payback, people make less effort and less incentives to growth, thus, the country doesn't growth

The actual literature show us that the education is the most important factor concerning the social mobility, however, there other factors or barriers to social mobility, like the differences in education quality and education geographical scope between rich and poor people, even with public (free) education, there are still indirect costs clothing, school supplies, transport, etc , and opportunity costs due to low households' income levels, children are linked to domestic and farm work The latter has became an important source of income for poor people.

Furthermore, the discrimination in the labor market reduces the returns to education to those population underprivileged segments. Extensive investigations have tried to account for discrimination and social group within the whole population Mercado *et al.* (2004) have found that the marriage market corresponds to high levels of discrimination and that the structure of the marriage market imposes a discrimination strategy *per se* within social groups.

2. Methodology

The ISM will be calculated following the methodology proposed by Andersen (2003)[3] In first instance the Fields Decomposition is applied to the results of the regression of the form:

$$(1) \quad X_{t,i} = \alpha + \beta Z_{t,i} + \varepsilon$$

Where:

$X_{t,i}$: Educational gap for period t and cohort i,
α : Constant term
β : Matrix of coefficients for the households' characteristics
$Z_{t,i}$: Matrix of households' characteristics
ε : Error term

3 For a full description of Andersen (2003) methodology, please see appendix.

We have defined the educational gap as the children's years old versus the number of years of education he has received at the moment of the survey, minus six years (which determines the time when children enroll the school)

However, the SMI is calculated based in a regression where the dependent variable is the educational gap and the explanatory variables are the "family records", for example, the level of the parents' education, the household's income, the parents' ethnic condition among others. If those variables are statistically significant to explain the educational gap, we conclude that the social mobility is low. The estimation through the Fields' decomposition will be applied to test the importance of each explanatory variable, through the relative contributions to the factorial inequality.

In order to answer the questions proposed in this research we have identified the following cohorts that will help us to understand the poverty dynamics in Bolivia. The Social Mobility Index is calculated for the periods 1993 and 2003-2004 with the Bolivian households' survey data. The periods proposed give us 10 years time span.

Also, we have taken into account people between 12 and 18 years old for the first cohort; between 19 and 25 years old for the second cohort and finally the total sample of 12 to 25 years old for the third cohort. Furthermore, we make distinction by gender and ethnicity characteristics. Therefore we obtain the following Social Mobility Indexes (See Table 1)

Table 1
Index of Social Mobility: Cohorts and Subsets

Cohorts: 12-18 years old 19-25 years old 12-25 years old	All	Indigenous	Non-Indigenous
All	√	√	√
Men	√	√	√
Women	√	√	√

As the SMI is based on the educational gap, we only consider people that are between 12 to 25 years old. We expect that the results will show us no changes in the

social mobility index between 1993 and 2003-2004 Also it is expected that the social mobility index is smaller for the indigenous women sub sample

In the second step, and in order to identify the phenomenon in more detail, the above results allow us to calculate the variations of the SMI between the periods selected In this regards, we will be able to acknowledge how people have evolved in terms of social mobility.

We expect that the SMI index will be lower in the crossed *Indigenous-Women* box Also, it is expected that the SMI is lower in the cases where the proportion of people that attend public schools is higher to those that attend private schools. As before, it is expected that the social mobility has not changed between 1993 and 2003-2004

In the third step we will try to see the process from a more dynamic angle[4] Thus, for the year 1993 we will take the same sub sample as before. Importantly, both age and education will be included within the educational gap The same will be applied to the 2003-2004 survey and its subsequent estimations. Hence, with the previous results we follow the same methodology as in the SMI and contrast both results How the differences help to explain the phenomenon? The estimation of the probability for a person to be poor in 1993 and remain poor in 2003-2004 leads us to important remarks about the permanent characteristics of poverty

A poor-poor condition for both 1993 and 2003-2004 can show us the stickiness of poverty according specific characteristics; mainly making distinction by gender and ethnicity. According the explanation given above, we define the following econometric process in order to understand the phenomenon[5]

Let:

$$\hat{P}_{1993} = x_{1993}\,\hat{\beta}_{1993} + \varepsilon_{1993}$$

$$\hat{P}_{2003} = x_{2003}\,\hat{\beta}_{1993} + \varepsilon_{1993} \qquad (3 \text{ y } 4)$$

$$e = P_{2003} = \hat{P}_{1993} \qquad (5)$$

4 According the characteristics of the households databases, we cannot use panel data estimation. The methodologies of each survey have changed However we can perform other standard econometric analysis

5 This methodology follows the one provided by Juhn et al (1993)

P: The estimated educational gap
β: Model coefficients
ε: Statistical errors of all the regressions built for the SMI

To examine changes in poverty over time (the dynamic effects) the following null hypothesis will be used:

(4) $$H_0 : \varepsilon = 0$$

If we cannot reject the null hypothesis then we conclude that the poverty circle is a permanent phenomenon. Rejection of the null hypothesis implies a transitory phenomenon. Or in other words, we can split our hypothesis according the following:

$$a) \frac{1}{n} \sum e \frac{<}{>} 0,$$

$$b) \frac{1}{n} \sum e = 0$$

Where:
a) Indicates a systematic behavior of poverty
b) Indicates a permanent incidence of poverty

3. Empirical Evidence

This chapter starts the explanation with the identification of poverty in Bolivia, and subsequently we follow the analysis around the Social Mobility Index and Educational Gaps as explanatory variables of the dynamics of poverty in Bolivia.

In order to characterize poverty within the country, let's take a look to Table 1, we can find the levels of poverty in Bolivia from 1999 to 2003. According the data, poverty incidence accounts for 63 per cent of total population, where indigenous people are more deprived with 70 per cent of poverty incidence. In the same table, we can highlight that indigenous people are more affected by extreme poverty[6]. Consistently,

6 Poverty incidence equals the head count ratio. Also extreme poverty is explained by 1 US$ poverty line per day

this replicates for urban areas, capital cities and for rural areas. The latter ones shows a deeper poverty condition, with more of 80 per cent of poverty incidence for indigenous people

Table 2
Indicators of Poverty(1) and Inequality
According to Geographic Area and Linguistic Ethnic Condition (1999 - 2004)

Indicators	1999	2000	2001	2002	2003-2004(3)
Bolivia					
Incidence of poverty (%)	63.5	66.4	63.1	63.3	63.1
Indigenous	73.1	76.0	69.4	71.0	70.1
Non-Indigenous	45.1	54.1	51.9	53.3	49.1
Extreme Incidence of poverty (%)	40.7	45.2	38.8	39.5	34.5
Indigenous	50.6	56.1	46.0	48.7	42.0
Non-Indigenous	21.8	31.1	25.9	27.5	19.4
GINI Index	0.58	0.62	0.59	0.60	n.d.
Urban					
Incidence of poverty (%)	51.4	54.5	54.3	53.9	54.4
Indigenous	60.8	62.2	59.1	60.5	61.7
Non-Indigenous	40.7	48.2	48.2	48.1	43.7
Extreme incidence of poverty (%)	23.5	27.9	26.2	25.7	22.9
Indigenous	30.2	34.1	29.3	31.6	29.0
Non-Indigenous	15.9	22.9	22.2	20.5	14.1
GINI Index	0.49	0.53	0.53	0.54	n.d.
Capital City (2)					
Incidence of poverty (%)	46.4	52.0	50.5	51.0	52.8
Indigenous	56.7	60.5	55.1	58.8	61.0
Non-Indigenous	35.4	45.5	44.7	44.1	40.6
Extreme incidence of poverty (%)	20.7	25.7	22.3	23.9	21.7
Indigenous	27.1	32.2	25.0	30.8	28.1
Non-Indigenous	13.9	20.6	18.8	17.9	12.0
Rural					
Incidence of poverty (%)	84.0	87.0	77.7	78.8	77.7
Indigenous	85.8	89.8	81.4	81.9	80.7
Non-Indigenous	72.1	78.0	64.1	70.2	66.4
Extreme incidence of poverty (%)	69.9	75.0	59.7	62.3	53.7
Indigenous	71.8	78.3	65.7	66.7	58.3
Non-Indigenous	57.5	64.3	38.1	50.1	36.4
GINI Index	0.64	0.69	0.64	0.63	n.d.

(1) Considered by Income Line Method
(2) It includes capital cities and El Alto city.
(3) The information is from MECOVI 2003-2004. INE
Source: Own elaboration with data of National Institute of Statistic

Table 3
Income Poverty Line (2003 - 2004)

Characteristics	N° of persons (Thousands)	% of Persons	Per capita household income (Bs.)	Extreme Incidence of poverty	Incidence of poverty	Schooling Gap	Severity of poverty
National whole	9,138	100.0	399	63.1	34.5	31.1	19.8
Cohorts							
25 years old or less	5,384	58.9	342	68.0	37.5	33.1	20.7
Between 25 and 44 years old	2,157	23.6	480	56.9	29.3	27.2	17.2
Between 45 and 64 years old	1,159	12.7	504	54.5	28.5	27.4	18.2
64 years old or more	437	4.8	427	57.6	39.5	35.0	25.9
Gender							
Male	4,474	49.0	407	62.2	34.1	30.7	19.6
Female	4,664	51.0	392	64.0	34.9	31.5	19.9
Level of education reached							
None	629	11.4	219	75.9	53.3	46.2	33.7
From 1 to 5 years of education	1,525	27.7	276	70.8	41.4	37.8	25.7
From 6 to 8 years of education	888	16.2	351	61.3	29.9	28.1	16.8
From 9 to 12 years of education	1,669	30.4	470	51.7	20.1	20.3	11.0
More than 12 years of education	785	14.3	1,120	18.8	4.7	6.1	2.9
Ethnic condition							
Indigenous	6,106	66.8	310.2	70.1	42.0	36.4	23.9
Non-Indigenous	3,032	33.2	579.0	49.1	19.4	20.6	11.6

Source: Institute of National Statistic

Furthermore, when we follow the analysis by gender situation, it is important to note that women are facing higher rates of poverty incidence rather than males. Table 3 shows us that phenomenon and also is possible to follow the analysis of poverty incidence throughout the number of years of education. Interestingly, as higher are the numbers of years of education, the poverty incidence ratio decreases consistently in all the cases[7]

The households' income surveys that we have analyzed provides us results for poverty incidence in absolute numbers. The results are consistent with Table 2 and Table 3 explained above. Also, when we provide results (absolute numbers) for the average years of educations. Annex 3 and Annex 4 accounts for those results

According the characteristics explained in the methodology, we have made the econometric estimation of the regressions (with the Ordinary Least Squares Method) for the calculation of the SMI and we have obtained the results showed in Annex 5 to Annex 14. The households characteristics included in the regression are:

Dependent Variable:

(10) SG: Education Gap = Years old - Years of education - 6

Explanatory Factors:

AEDUMA: Mother's years of education
AEDUPA: Father's years of education
MIEMBROS: Number of household members.
REG2: Dummy for the La Paz City
REG3: Dummy for Cochabamba City
REG7: Dummy for Santa Cruz City
OCUPADO: Dummy for employment condition. Employed = 1
DORMI: Number of rooms available in the house
DAGUA: Dummy for water access
DCLOACAS: Dummy for sewage access
DJEFEMU: Dummy women head households
DJEFESOL: Dummy for the head household marital status

7 Annex 1 and Annex 2 provides results for Urban and Rural scenarios

It is important to highlight that even though we follow the methodology proposed by Andersen (2003), we are not including the same explanatory variables due to the purposes of this research and also important to data constraints. Indeed, the data from early surveys such as the 1993s cannot provide more detailed information and we cannot follow the same households and persons in both surveys. Instead of, we are comparing the conditions for similar groups in two times in the space.

As we are studying only one country, the results of the SMI can differ from other studies, the comparisons made in previous studies are not the aim of this one. We are focused to acknowledge the behavior of the SMI within Bolivia. However, the SMI calculated by Andersen (2003) for Bolivia is 88 percentage points. We must keep in mind this feature at the time to interpret the results on Strategy Papers framework.

Table 4 show us the results for the first cohort studied, *i.e.* people between 12 and 18 years old and for all the subsets defined above. The results provide a very interesting performance of the SMI within the population subsets and within the time span selected. In terms of the full sample, the SMI has increased importantly and across the subsets this is reinforced steadily.

Now, what have happened with the male-female condition? Is it true that females are 'SMI worse-off' rather than males? The results shows mixed results, for the general women subset the SMI is higher than the males one. However, when we analyze the indigenous-women condition, the results points to a worsened SMI position; as was expected, indigenous women present the lowest SMI.

Furthermore, if we compare in general the indigenous condition versus the non-indigenous one, the result shows that the indigenous condition got a lower SMI rather than the non-indigenous.

Hence, we can rely in the assumption that those within the ethnicity condition are tied to lower education levels and lower access to development opportunities. From one point of view this can constitute a problem to overcome poverty and from another point of view, this can be understood as a structural barrier to further development (economic, political and social), which in turn need to be focalized and work towards its improvement.

Table 4
Index of Social Mobility
Cohort: 12 to 18 years old

Detail	1993	2003 - 2004
All	0.921	0.942
Male	0.903	0.930
Female	0.934	0.949
Indigenous	0.900	0.910
Non-Indigenous	0.940	0.943
Indigenous Men	0.906	0.962
Non-Indigenous Men	0.919	0.925
Indigenous Women	0.881	0.872
Non-Indigenous Women	0.952	0.957

Source: Own elaboration

Following our study, if we cross the analysis between indigenous condition and gender condition, again the results shows a worse off position for the indigenous women Moreover, interestingly in 1993 non-indigenous people were better off rather their counterparts, but this is no true for the 2003-2004 results, we must highlight that the SMI shows a higher level of social mobility for the indigenous-males. These results presumably belong to the second generation reforms carried out in Bolivia during the 1990s The governmental policies introduced by mid-1990s should have achieved important effects in terms of social development and access to opportunities and also, improvements in the effective use of entitlements (Sen, 1999) Within these policies we can highlight the most important ones the educational reform, health system improvements, the new social security network reform, government decentralization (Participación Popular), and all the social policies carried out within the Poverty Reduction Strategy Papers framework

If we replicate the analysis for the next cohort (19-25) we find different results (See Table 5) In general, the SMI has not changed through time, and the conditions for people within this cohort are the same from the last 10 to 15 years When we try to understand what is happening inside each subset we find several ups and downs in the index a) as far as males presents the higher social mobility indexes in 1993, this is not consistent with the results for 2003-2004 In the latter years there have been changes in the distribution of the index, with a lowered SMI for males in general; b) thus, as long as non-indigenous condition has lowered their SMI, the indigenous one has increased

the same applies to indigenous males versus non-indigenous males, c) Also, for the women subset, the non-indigenous ones have maintained their SMI (at the limit), but for the indigenous women the situation has got worst. The indigenous women SMI have dropped by almost 30 percentages.

Table 5
Social Mobility Index
Cohort: 19 to 25 years old

Detail	1993	2003 - 2004
All	0.906	0.902
Male	0.931	0.917
Female	0.882	0.886
Indigenous	0.905	0.952
Non-Indigenous	0.925	0.906
Indigenous Men	0.930	0.989
Non-Indigenous Men	0.945	0.913
Indigenous Women	0.888	0.593
Non-Indigenous Women	0.906	0.898

Source: Own elaboration

Finally, we need to observe what have happened in the full sample. For people between 12 and 25 years old, the results showed similar to the previous cohort. Again the women indigenous condition is the most disadvantaged one (see Table 6).

Table 6
Social Mobility Index
Cohort: 12 to 25 years old

Detail	1993	2003 - 2004
All	0.926	0.944
Male	0.930	0.947
Female	0.922	0.940
Indigenous	0.926	0.963
Non-Indigenous	0.943	0.944
Indigenous Men	0.945	0.986
Non-Indigenous Men	0.941	0.943
Indigenous Women	0.903	0.921
Non-Indigenous Women	0.945	0.946

Source: Own elaboration

Consequently, we have made an exercise of SMI differences between the two periods proposed.

Table 7 provides us with the results with the following remarks

- In general, the SMI have shown a positive behavior (and almost zero for the 19-25 cohort)
- People within the 19-25 years old did not benefit from the upward behavior of the SMI. In contrast, within this cohort, the index has experienced a downward trend for the following subsets: males, non-indigenous, non-indigenous males, and more heavily for indigenous women
- The most important improvements in the SMI were accounting within the 12-18 cohort, again proving the focus pointed by the Bolivian governments in poverty alleviation schemes alongside with the Poverty Reduction Strategy Papers
- The increments in the SMI seem to favor the indigenous conditions. The higher improvements are given in these subsets, except for indigenous women

Table 7
Social Mobility Index
Cohorts Differences: 1993 vs. 2003-2004

Years old Detail	Between 12 to 18 years old	Between 19 to 25 years old	Between 12 to 25 years old
All	0.021	(0.004)	0.018
Male	0.027	(0.014)	0.016
Female	0.016	0.003	0.018
Indigenous	0.010	0.047	0.037
Non-Indigenous	0.003	(0.019)	0.001
Indigenous Men	0.056	0.060	0.041
Non-Indigenous Men	0.006	(0.032)	0.002
Indigenous Women	(0.009)	(0.295)	0.018
Non-Indigenous Women	0.004	(0.008)	0.001

Source: Own elaboration

Now that we have acknowledged the patterns of the SMI by cohort and controlling by indigenous and gender conditions, we follow our methodology and we apply the criteria proposed in equations 2 to 5. Precisely, Table 8 provides us the results for equation 5[8]. We need to remember that we are now trying to understand the patterns of the educational gap inside the sub-sample used to study the Social Mobility phenomenon.

We have found an overall increase in the educational gap. Which is mainly explained by a higher increase for indigenous people, and specifically (and markedly) for indigenous women. These results are consistent with the ones explained above in the sense that, even though that indigenous people (males) are improving their education levels, it seems that the indigenous condition *per se* may represent a constrain to close the gap. This reinforces the idea that the earnings in terms of years of education ending with a higher social mobility index is greatly explained by the focused social programs implemented in Bolivia during the 1990s. Which has not achieved a sustainability status and therefore still needs further support throughout social programs.

Table 8
Coefficient E
Changes in the Probability to be Poor in Bolivia

e = p2003 - p1993

Calculated differences between 1993 - 2003

Years old Detail	Between 12 to 18 years old	Between 19 to 25 years old	Between 12 to 25 years old
All	0.0584	0.3839	0.2377
Male	0.0323	0.2622	0.2187
Female	0.0881	0.5601	0.2650
Indigenous	0.3781	1.4142	0.9771
Non-Indigenous	0.0573	0.2616	0.1759
Indigenous Men	0.3217	1.4041	0.8164
Non-Indigenous Men	0.0201	0.1200	0.1790
Indigenous Women	0.3965	1.7145	1.2482
Non-Indigenous Women	0.0834	0.4636	0.1874

Source: Own elaboration

8 The estimation of equations 2 to 7 are provided in full in Annex 2

In general, the results shows that Bolivia as a hole has not reversed the widening educational gap and still is a binding problem to account for and overcome This means that the economic conditions and the efforts that have been made in order to overcome poverty are not enough in this process. Even thought we have claimed that the social policies constituted an important pillar in order to overcome poverty and that have transferred better skills to the population that allow them to do a better use of their entitlements, the detailed results have mixed trends

4. Final remarks

The poverty status in Bolivia has not changed dramatically along the last 15 years. The Social Mobility index has shown improvements in various segments of the population, but still there are important groups that are lagging behind

For the 12-18 years old cohort and in terms of the full sample, the Social Mobility Index (SMI) has proved and increase, which replicates for the all the subsets males versus females, indigenous versus non-indigenous and the crossed analysis for the indigenous-gender condition.

In particular, the results are mixed for the women subsets. For the general women subset the SMI is higher than the males one. But, when we follow the analysis for the women indigenous, the results are disappointing due to a worsened SMI position This proves our hypothesis about indigenous women with the lowest Social Mobility Index

However, regarding the comparison between indigenous versus non-indigenous subsets, the results point to a better position of the non-indigenous population Thus, in 1993 non-indigenous people were better off than the indigenous ones rather their counterparts, but unexpectedly, this is no true for the 2003-2004 results

The governmental policies introduced by mid-1990s should have achieved important effects in terms of social development and access to opportunities and also, improvements in the effective use of entitlements

For the 19-25 years old cohort, the SMI has not changed through time, and the conditions for people within this cohort are the same as for the last 15 years. But, we

acknowledge that in the latter years there have been changes in the distribution of the index, with a lowered SMI for males in general; regarding the indigenous conditions there were observed an improvement of the SMI for the indigenous population, and a decrease for the non-indigenous segment. Also, for the women subset, the non-indigenous women have not presented a change. But the situation of the indigenous women has deteriorated to a great extent. Lastly, for the full sample (12-25 cohort), again the women indigenous condition is the most underprivileged

Finally, we want to highlight the importance of social programs that seemed to got important effects in poverty alleviation levels. According the results obtained, the educative reform alongside the second generation reforms in Bolivia have introduced interesting steps towards poverty reduction. Low social mobility generates a vicious poverty circle, in which households that were poor yesterday will see that their children are poor today, and with high probability, their children's children will be poor tomorrow.

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Annex 1
Urban Income Poverty Line

Characteristics	N° of persons (Thousands)	% of Persons	Per capita household income (Bs.)	Extreme Incidence of poverty	Incidence of Poverty	Schooling Gap	Severity of poverty
Urban	5,706	100.0	508	54.4	22.9	22.2	12.0
Cohorts							
25 years old or less	3,380	59.2	434	59.8	26.3	24.7	13.3
Between 25 and 44 years old	1,467	25.7	582	49.6	19.5	19.5	10.5
Between 45 and 64 years old	654	11.5	673	41.5	13.8	15.9	8.4
64 years old or more	205	3.6	656	41.8	21.0	20.0	12.7
Gender							
Male	2,784	48.8	512	53.6	22.6	21.8	11.7
Female	2,922	51.2	503	55.2	23.3	22.6	12.2
Level of education reached							
None	220	6.2	308	66.1	32.7	30.7	18.7
From 1 to 5 years of education	740	20.9	358	62.3	26.0	25.9	14.5
From 6 to 8 years of education	559	15.8	400	55.8	22.6	22.5	12.0
From 9 to 12 years of education	1,309	37.0	515	47.6	16.4	17.3	8.7
More than 12 years of education	705	20.0	1,141	19.2	4.6	6.2	2.9
Ethnic condition							
Indigenous	3,395	59.5	396.9	61.7	29.0	26.0	14.4
Non-Indigenous	2,311	40.5	670.1	43.7	14.1	16.6	8.4

Source: UDAPE, 2003

Annex 2
Rural Income Poverty Line

Characteristics	N° of persons (Thousands)	% of Persons	Per capita household income (Bs.)	Extreme Incidence of poverty	Incidence of Poverty	Schooling Gap	Severity of poverty
Rural	3,432	100.0	219	77.7	53.7	45.9	32.8
Cohorts							
25 years old or less	2,004	58.4	187	81.8	56.4	47.4	33.1
Between 25 and 44 years old	690	20.1	263	72.3	50.0	43.6	31.6
Between 45 and 64 years old	506	14.7	284	71.3	47.4	42.3	30.8
64 years old or more	233	6.8	226	71.6	55.8	48.2	37.6
Gender							
Male	1,690	49.2	232	76.4	53.0	45.4	32.7
Female	1,742	50.8	254	73.1	49.3	43.2	31.1
Level of education reached							
None	408	20.8	171	81.1	64.4	54.6	41.7
From 1 to 5 years of education	785	40.0	198	78.9	56.0	49.0	36.3
From 6 to 8 years of education	329	16.8	268	70.7	42.4	37.7	25.0
From 9 to 12 years of More than	360	18.3	305	66.5	33.4	31.3	19.3
12 years of education	80	4.1	930	15.3	5.7	5.4	2.7
Ethnic condition							
Indigenous	2,712	79.0	201.6	80. 7	58.3	49.3	35.8
Non-Indigenous	721	21.0	286.6	66.4	36.4	33.3	21.6

Source: UDAPE. 2003

Annex 3
Poverty Incidence and Income Levels

Details	From EIH of 1993					From MECOVI 2003 - 2004				
	All	Male	Female	Indigenous	Non-Indigenous	All	Male	Female	Indigenous	Non-Indigenous
Observations	2,864,170	1,408,647	1,455,523	817,407	1,675,999	4,707,317	2,300,344	2,406,973	885,405	3,568,770
Mean	286.699	287.047	286.362	219.377	334.036	597.244	599.657	594.937	367.677	665.486
Decil 1	1.472	1.498	1.448	1.671	1.440	1.771	1.761	1.777	2.121	1.772
Decil 2	2.503	2.538	2.470	2.829	2.465	2.882	2.878	2.891	3.804	2.774
Decil 3	3.382	3.413	3.350	3.703	3.339	3.669	3.667	3.663	4.864	3.548
Decil 4	4.214	4.254	4.180	4.647	4.183	4.518	4.544	4.498	5.839	4.408
Decil 5	5.191	5.244	5.131	5.556	5.151	5.480	5.494	5.462	7.015	5.364
Decil 6	6.379	6.467	6.299	6.757	6.388	6.630	6.659	6.612	8.164	6.549
Decil 7	8.109	8.221	7.998	8.335	8.101	8.120	8.104	8.132	9.725	7.950
Decil 8	10.662	10.746	10.569	10.962	10.507	10.303	10.280	10.325	11.876	10.302
Decil 9	15.206	15.318	15.107	15.424	15.146	15.406	15.393	15.429	15.709	15.857
Decil 10	42.882	42.301	43.449	40.115	43.282	41.221	41.222	41.211	30.882	41.477
Decil 10 / Decil 1	29.106	28.225	29.973	23.955	30.033	23.260	23.368	23.171	14.542	23.380
Percentil 90 / Percentil 10	9.301	9.203	9.401	8.293	9.798	8.018	8.069	7.978	5.886	8.791
Percentil 95 / Percentil 80	2.332	2.272	2.396	2.252	2.358	2.520	2.527	2.514	1.912	2.481
GINI Index	0.529	0.525	0.534	0.499	0.533	0.503	0.503	0.504	0.399	0.510
Theil Index	0.639	0.627	0.651	0.515	0.671	0.523	0.523	0.523	0.291	0.532
Coefficient de Variation	2.533	2.489	2.575	1.563	2.708	1.562	1.560	1.564	0.945	1.560
Coefficient of Atkinson (e=0.5)	0.239	0.235	0.243	0.209	0.245	0.212	0.212	0.212	0.132	0.216
Coefficient of Atkinson (e=1.0)	0.389	0.384	0.395	0.351	0.395	0.354	0.354	0.354	0.244	0.361
Coefficient of Atkinson (e=2.0)	0.584	0.579	0.589	0.541	0.591	0.552	0.554	0.549	0.446	0.556
Entropy Generalize Index (c=0.0)	0.494	0.485	0.502	0.431	0.503	0.437	0.438	0.437	0.280	0.447
Entropy Generalize Index (c=1.0)	0.639	0.627	0.651	0.515	0.671	0.523	0.524	0.523	0.292	0.533
Entropy Generalize Index (c=2.0)	3.209	3.099	3.316	1.222	3.667	1.220	1.216	1.223	0.446	1.216
fgt(alfa 0)	10.67	10.39	10.95	14.52	8.01	3.91	3.84	3.97	6.98	2.96
fgt(alfa 1)	3.91	3.76	4.07	5.38	2.99	1.37	1.36	1.37	2.79	0.95
fgt(alfa 2)	2.47	2.37	2.56	3.41	1.93	0.78	0.76	0.8	1.61	0.54

Source: Author's own estimation. Based on Bolivian Households Surveys 1993 - 2003/2004.

Annex 4
Educational Statistics (Age cohorts)

Detail	From EIH of 1993			From MECOVI 2003 - 2004		
	Observations	Mean	Standard Desv.	Observations	Mean	Standard Desv.
All						
Between 12 to 18 years old	426,125	1.053	1.473	680,871	1.076	1.519
Between 19 to 25 years old	241,018	3.664	3.096	358,999	3.789	3.217
Between 12 to 25 years old	667,143	1.996	2.534	1,039,870	2.012	2.598
Male						
Between 12 to 18 years old	214,415	1.047	1.398	337,839	1.127	1.495
Between 19 to 25 years old	126,280	3.719	2.909	208,402	4.078	3.245
Between 12 to 25 years old	340,695	2.038	2.456	546,241	2.253	2.730
Female						
Between 12 to 18 years old	211,710	1.058	1.546	343,032	1.025	1.542
Between 19 to 25 years old	114,738	3.603	3.291	150,597	3.388	3.137
Between 12 to 25 years old	326,448	1.953	2.614	493,629	1.746	2.416
Indigenous						
Between 12 to 18 years old	66,549	1.821	1.945	57,869	1.776	1.928
Between 19 to 25 years old	48,869	4.970	3.716	25,666	5.474	3.657
Between 12 to 25 years old	115,418	3.154	3.231	83,535	2.912	3.094
Non-Indigenous						
Between 12 to 18 years old	359,576	0.910	1.321	622,188	1.002	1.439
Between 19 to 25 years old	192,149	3.332	2.824	333,172	3.652	3.128
Between 12 to 25 years old	551,725	1.754	2.290	955,360	1.926	2.521

Source: Author's own estimation. Based on Bolivian Households Surveys 1993 - 2003/2004.

Annex 5
Econometric Estimation
Estimation from EIH of 1993
Estimation for All

Schooling Gap	12 to 18 years old			19 to 25 years old			12 to 25 years old		
	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.
Mother's years of education	(0.036)	(70.280)	0.037	(0.107)	(79.280)	0.067	(0.075)	108.980	0.044
Father's years of education	(0.039)	(72.610)	0.042	(0.053)	(36.120)	0.027	(0.051)	(69.100)	0.030
Number of household members	0.067	63.880	0.012	0.147	62.610	0.018	0.086	66.380	0.009
Dummy for the La Paz City	(0.307)	(53.640)	0.005	(0.395)	(25.820)	0.002	(0.290)	(37.790)	0.002
Dummy for Cochabamba City	(0.146)	(19.880)	0.002	(0.422)	(22.060)	0.005	(0.239)	(24.490)	0.002
Dummy for Santa Cruz City	0.016	2.440	0.000	(0.055)	(3.190)	0.001	0.010	1.170	0.000
Dummy for employment condition (Employed=1)	0.496	85.660	0.027	1.276	111.810	0.060	1.726	265.970	0.110
Number of rooms available in the house	(0.110)	(64.120)	0.022	(0.258)	(59.840)	0.031	0.020	9.040	0.001
Dummy for water access	(0.333)	(52.610)	0.012	(0.715)	(38.210)	0.014	(0.415)	(47.270)	0.006
Dummy for sewage access	(0.085)	(17.140)	0.006	(0.534)	(40.850)	0.024	(0.051)	(7.750)	0.002
Dummy women head households	(0.023)	(2.920)	0.000	0.160	8.700	0.001	(0.104)	(10.580)	0.002
Dummy for the head household marital status	(0.094)	(4.610)	0.000	0.892	18.650	0.002	0.359	13.750	0.001
Constant	1.727	160.470		4.730	171.170		2.381	169.060	
R2			0.166			0.247			0.205
Sum of Factor Inequality Weights			0.165			0.247			0.204
Social Mobility Index			0.921			0.906			0.926

Source: Own elaboration with data of National Institute of Statistic

Annex 6
Econometric Estimation for Gender

Schooling Gap	Estimation for Males									Estimation for Females								
	12 to 18 years old			19 to 25 years old			12 to 25 years old			12 to 18 years old			19 to 25 years old			12 to 25 years old		
	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.
Mother's years of education	(0.036)	(51.060)	0.042	(0.073)	(41.320)	0.043	(0.064)	(67.490)	0.037	(0.037)	(48.320)	0.033	(0.137)	(67.090)	0.090	(0.086)	(85.160)	0.050
Father's years of education	(0.045)	(60.290)	0.055	(0.052)	(28.010)	0.026	(0.054)	(55.000)	0.033	(0.036)	(45.550)	0.033	(0.054)	(23.530)	0.028	(0.047)	(43.950)	0.028
Number of household members	0.052	39.370	0.010	0.166	56.620	0.026	0.071	42.570	0.008	0.083	50.530	0.013	0.125	33.990	0.012	0.103	51.140	0.009
Dummy for the La Paz City	(0.345)	(47.290)	0.009	(0.524)	(27.060)	0.008	(0.302)	(30.230)	0.004	(0.261)	(29.420)	0.003	(0.244)	(10.300)	0.001	(0.270)	(23.020)	0.000
Dummy for Cochabamba City	(0.209)	(21.880)	0.003	(0.116)	(4.760)	0.001	(0.145)	(11.230)	0.001	(0.084)	(7.520)	0.000	(0.711)	(24.080)	0.010	(0.341)	(23.250)	0.003
Dummy for Santa Cruz City	(0.053)	(6.320)	0.001	0.222	10.040	0.005	0.018	1.570	0.000	0.049	4.980	0.000	(0.446)	(16.790)	0.002	(0.054)	(4.150)	0.000
Dummy for employment condition (Employed=1)	0.678	95.100	0.057	1.617	109.450	0.109	2.015	242.690	0.167	0.273	28.450	0.008	0.893	50.330	0.026	1.400	135.720	0.064
Number of rooms available in the house	(0.086)	(38.270)	0.019	(0.298)	(51.680)	0.039	0.057	19.590	0.003	(0.130)	(50.050)	0.025	(0.240)	(37.680)	0.027	(0.011)	(3.390)	0.001
Dummy for water access	(0.284)	(34.230)	0.011	(0.846)	(34.730)	0.017	(0.443)	(37.710)	0.006	(0.398)	(41.690)	0.014	(0.649)	(23.000)	0.012	(0.416)	(31.880)	0.007
Dummy for sewage access	(0.153)	(23.810)	0.012	(0.318)	(19.150)	0.015	(0.030)	(3.490)	0.001	(0.019)	(2.480)	0.001	(0.671)	(33.000)	0.029	(0.059)	(5.900)	0.002
Dummy women head households	0.006	0.640	0.000	0.172	7.450	0.001	0.028	2.160	0.000	(0.048)	(3.990)	0.001	0.125	4.350	0.001	(0.242)	(16.170)	0.004
Dummy for the head household marital status	(0.221)	(8.380)	0.000	(0.338)	(5.760)	0.000	(0.087)	(2.570)	0.000	0.070	2.220	0.000	2.546	32.540	0.010	0.907	22.530	0.002
Constant	1.741	124.530		4.244	118.690		2.121	113.580		1.719	105.160		5.306	126.280		2.643	125.390	
R2			0.218			0.287			0.253			0.131			0.239			0.169
Sum of Factor Inequality Weights			0.217			0.286			0.253			0.131			0.238			0.169
Social Mobility Index			0.903			0.931			0.930			0.934			0.882			0.922

Source: Own elaboration with data of National Institute of Statistic

Annex 7
Econometric Estimation for Ethnic

Schooling Gap	Estimation for Indigenous All									Estimation for Non-Indigenous All								
	12 to 18 years old			19 to 25 years old			12 to 25 years old			12 to 18 years old			19 to 25 years old			12 to 25 years old		
	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.
Mother's years of education	(0.015)	(5.980)	0.006	(0.098)	(20.230)	0.029	(0.072)	(23.780)	0.019	(0.033)	(66.440)	0.034	(0.098)	(72.730)	0.063	(0.065)	(97.870)	0.038
Father's years of education	(0.125)	(59.470)	0.094	(0.168)	(37.660)	0.065	(0.138)	(52.710)	0.055	(0.025)	(46.930)	0.027	(0.023)	(15.230)	0.012	(0.032)	(44.740)	0.020
Number of household members	0.043	12.090	0.002	(0.005)	(0.730)	0.000	0.020	4.780	0.001	0.086	83.090	0.022	0.199	83.860	0.041	0.118	90.590	0.020
Dummy for the La Paz City	(0.204)	(12.150)	0.003	0.051	1.320	0.001	0.382	17.860	0.004	(0.255)	(43.320)	0.007	(0.545)	(33.990)	0.012	(0.410)	(51.730)	0.008
Dummy for Cochabamba City	(0.152)	(7.040)	0.001	0.025	0.540	0.000	0.146	5.420	0.001	(0.130)	(17.400)	0.002	(0.462)	(22.650)	0.006	(0.317)	(31.420)	0.003
Dummy for Santa Cruz City	0.616	15.190	0.006	1.682	17.880	0.009	1.344	25.600	0.007	0.136	21.670	0.006	(0.000)	(0.020)	0.000	0.075	8.850	0.002
Dummy for employment condition (Employed=1)	0.874	54.820	0.053	1.321	42.770	0.048	1.955	106.940	0.101	0.310	51.670	0.015	1.209	103.060	0.063	1.563	235.030	0.105
Number of rooms available in the house	(0.218)	(37.590)	0.030	(0.232)	(19.970)	0.022	(0.053)	(7.710)	0.003	(0.104)	(61.250)	0.021	(0.263)	(59.290)	0.029	0.028	12.730	0.001
Dummy for water access	(0.150)	(9.490)	0.005	(0.892)	(24.510)	0.025	(0.293)	(14.410)	0.005	(0.205)	(29.690)	0.004	(0.150)	(6.590)	0.001	(0.174)	(17.670)	0.001
Dummy for sewage access	(0.264)	(15.030)	0.010	(1.113)	(31.880)	0.042	(0.216)	(10.280)	0.004	(0.031)	(6.400)	0.002	(0.379)	(27.970)	0.016	0.033	5.060	0.001
Dummy women head households	0.381	15.590	0.006	0.337	7.030	0.003	0.120	4.110	0.002	(0.193)	(24.920)	0.005	(0.117)	(6.100)	0.001	(0.311)	(31.050)	0.006
Dummy for the head household marital status	0.421	5.740	0.001	3.112	23.470	0.018	2.228	26.520	0.009	(0.260)	(12.990)	0.000	0.056	1.140	0.000	(0.147)	(5.670)	0.000
Constant	2.219	67.730		6.461	92.660		3.153	78.350		1.363	122.300		3.702	122.170		1.841	124.320	
R2			0.201			0.255			0.202			0.144			0.244			0.199
Sum of Factor Inequality Weights			0.200			0.255			0.201			0.144			0.243			0.198
Social Mobility Index			0.900			0.905			0.926			0.940			0.925			0.943

Source: Own elaboration with data of National Institute of Statistic

Annex 8
Econometric Estimation for Males and Ethnic

Schooling Gap	Estimation for Indigenous Men									Estimation for Non-Indigenous Men								
	12 to 18 years old			19 to 25 years old			12 to 25 years old			12 to 18 years old			19 to 25 years old			12 to 25 years old		
	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.
Mother's years of education	(0.064)	(17.140)	0.031	(0.129)	(19.310)	0.042	(0.100)	(23.980)	0.031	(0.032)	(47.220)	0.039	(0.066)	(36.140)	0.038	(0.056)	(58.910)	0.031
Father's years of education	(0.083)	(29.710)	0.063	(0.083)	(15.080)	0.029	(0.068)	(20.790)	0.024	(0.033)	(44.800)	0.043	(0.031)	(15.680)	0.016	(0.045)	(43.920)	0.028
Number of household members	0.002	0.350	0.000	(0.163)	(19.490)	0.012	(0.076)	(13.860)	0.006	0.076	58.530	0.025	0.232	74.670	0.052	0.103	59.410	0.018
Dummy for the La Paz City	(0.379)	(16.600)	0.004	(0.575)	(13.440)	0.003	(0.030)	(1.150)	0.000	(0.292)	(39.320)	0.011	(0.494)	(22.930)	0.013	(0.353)	(32.720)	0.008
Dummy for Cochabamba City	(0.163)	(5.620)	0.003	0.320	5.690	0.001	(0.009)	(0.280)	0.000	(0.182)	(18.570)	0.004	(0.113)	(4.250)	0.001	(0.130)	(9.360)	0.001
Dummy for Santa Cruz City	0.544	10.480	0.009	(2.249)	(19.600)	0.014	(0.693)	(11.160)	0.000	0.018	2.250	0.001	0.315	13.540	0.011	0.095	8.050	0.003
Dummy for employment condition (Employed=1)	0.855	40.420	0.067	1.657	42.850	0.103	2.121	94.960	0.153	0.530	72.360	0.045	1.531	96.300	0.106	1.922	217.330	0.164
Number of rooms available in the house	(0.154)	(19.470)	0.024	(0.190)	(13.260)	0.021	(0.010)	(1.150)	0.001	(0.083)	(37.540)	0.018	(0.349)	(56.070)	0.043	0.062	20.380	0.002
Dummy for water access	(0.278)	(12.750)	0.012	(0.829)	(18.530)	0.034	(0.285)	(11.070)	0.006	(0.108)	(11.810)	0.002	(0.470)	(15.420)	0.005	(0.300)	(21.720)	0.001
Dummy for sewage access	(0.293)	(12.270)	0.012	(0.874)	(20.310)	0.038	(0.180)	(6.890)	0.003	(0.133)	(21.190)	0.011	(0.283)	(15.870)	0.013	0.013	1.430	0.000
Dummy women head households	0.455	14.570	0.004	1.386	23.740	0.001	0.799	22.340	0.003	(0.179)	(17.980)	0.006	(0.192)	(7.660)	0.001	(0.191)	(13.960)	0.003
Dummy for the head household marital status	0.888	12.350	0.005	4.773	20.070	0.019	1.430	15.150	0.004	(0.775)	(27.770)	0.003	(0.770)	(13.000)	0.001	(0.404)	(11.390)	0.000
Constant	2.231	49.630		5.708	70.480		2.696	54.370		1.399	95.720		3.663	88.790		1.792	86.350	
R2			0.225			0.311			0.224			0.206			0.300			0.256
Sum of Factor Inequality Weights			0.225			0.311			0.224			0.206			0.299			0.255
Social Mobility Index			0.906			0.930			0.945			0.919			0.945			0.941

Source: Own elaboration with data of National Institute of Statistic

Annex 9
Econometric Estimation for Females and Ethnic

Schooling Gap	Estimation for Indigenous Women									Estimation for Non-Indigenous Women								
	12 to 18 years old			19 to 25 years old			12 to 25 years old			12 to 18 years old			19 to 25 years old			12 to 25 years old		
	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.
Mother's years of education	0.014	3.850	0.005	(0.092)	(14.150)	0.029	(0.061)	(14.350)	0.015	(0.034)	(46.890)	0.030	(0.123)	(62.590)	0.087	(0.073)	(78.350)	0.043
Father's years of education	(0.162)	(51.440)	0.124	(0.204)	(30.590)	0.083	(0.189)	(48.060)	0.082	(0.021)	(27.150)	0.018	(0.014)	(6.270)	0.007	(0.021)	(20.430)	0.012
Number of household members	0.066	13.520	0.001	0.093	8.990	0.003	0.074	11.870	0.002	0.095	57.660	0.019	0.161	44.560	0.030	0.132	68.060	0.020
Dummy for the La Paz City	(0.109)	(4.470)	0.002	0.568	9.210	0.013	0.640	19.460	0.006	(0.206)	(22.540)	0.004	(0.590)	(25.200)	0.010	(0.458)	(39.730)	0.006
Dummy for Cochabamba City	(0.143)	(4.450)	0.001	(0.525)	(7.400)	0.016	0.216	5.320	0.002	(0.074)	(6.610)	0.001	(0.892)	(28.810)	0.014	(0.530)	(36.490)	0.007
Dummy for Santa Cruz City	0.630	9.890	0.003	5.866	41.780	0.070	3.405	41.220	0.028	0.214	22.450	0.007	(0.391)	(15.630)	0.008	(0.006)	(0.510)	0.000
Dummy for employment condition (Employed = 1)	0.899	37.100	0.043	0.864	18.650	0.021	1.844	64.930	0.075	(0.018)	(1.790)	0.000	0.706	40.190	0.020	1.081	105.500	0.048
Number of rooms available in the house	(0.295)	(33.970)	0.036	(0.177)	(10.400)	0.016	(0.100)	(9.640)	0.005	(0.116)	(45.370)	0.023	(0.217)	(34.530)	0.022	0.001	0.250	0.000
Dummy for water access	(0.118)	(5.090)	0.003	(1.090)	(20.190)	0.023	(0.454)	(14.970)	0.007	(0.334)	(32.240)	0.008	0.218	6.490	0.001	(0.087)	(6.180)	0.000
Dummy for sewage access	(0.256)	(9.890)	0.009	(1.326)	(25.910)	0.045	(0.229)	(7.280)	0.004	0.068	9.150	0.003	(0.422)	(20.720)	0.017	0.064	6.700	0.002
Dummy women head households	0.307	8.110	0.007	(0.482)	(6.880)	0.007	(0.384)	(8.670)	0.008	(0.176)	(14.850)	0.003	(0.079)	(2.680)	0.001	(0.439)	(30.070)	0.008
Dummy for the head household marital status				0.647	3.920	0.004	3.727	26.120	0.019	0.200	7.040	0.001	1.423	16.420	0.004	0.159	4.210	0.000
Constant	2.449	51.400		7.247	69.000		3.820	62.820		1.351	80.800		3.834	87.030		1.919	91.360	
R2			0.209			0.323			0.244			0.109			0.203			0.143
Sum of Factor Inequality Weights			0.209			0.323			0.244			0.109			0.203			0.143
Social Mobility Index			0.881			0.888			0.903			0.952			0.906			0.945

Source: Own elaboration with data of National Institute of Statistic

Annex 10
Econometric Estimation
Estimation from MECOVI of 2003 - 2004

Estimation for All									
Schooling Gap	12 to 18 years old			19 to 25 years old			12 to 25 years old		
	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.
Mother's years of education	(0.049)	(114.490)	0.042	(0.106)	(96.800)	0.062	(0.082)	(147.350)	0.042
Father's years of education	(0.020)	(38.400)	0.016	(0.084)	(62.170)	0.036	(0.033)	(48.750)	0.014
Number of household members	0.110	125.020	0.027	0.217	94.290	0.034	0.106	92.580	0.015
Dummy for the La Paz City	(0.122)	(25.350)	0.002	0.064	4.720	0.000	0.125	19.280	0.000
Dummy for Cochabamba City	(0.044)	(7.630)	(0.000)	(0.547)	(33.100)	0.003	(0.284)	(36.270)	0.001
Dummy for Santa Cruz City	0.044	8.350	0.000	0.019	1.250	0.000	0.074	10.290	0.000
Dummy for employment condition (Employed=1)	0.636	142.340	0.038	1.301	134.320	0.058	1.841	360.210	0.121
Number of rooms available in the house	(0.104)	(66.190)	0.009	(0.233)	(59.410)	0.013	0.057	28.970	0.000
Dummy for water access	(0.149)	(25.280)	0.002	(0.915)	(47.890)	0.010	(0.289)	(34.990)	0.002
Dummy for sewage access	(0.158)	(40.400)	0.008	(0.681)	(59.190)	0.025	(0.264)	(49.470)	0.006
Dummy women head households	(0.246)	(39.130)	0.006	0.286	16.950	(0.000)	(0.223)	(26.810)	0.002
Dummy for the head household marital status	(0.074)	(6.970)	(0.000)	0.309	9.500	0.000	(0.046)	(3.130)	0.000
Constant	1.385	154.480		4.698	183.000		1.966	163.250	
R2			0.150			0.240			0.204
Sum of Factor Inequality Weights			0.150			0.240			0.203
Social Mobility Index			0.942			0.902			0.944

Source: Own elaboration with data of National Institute of Statistic

Annex 11
Econometric Estimation for Gender

Schooling Gap	Estimation for Males									Estimation for Females								
	12 to 18 years old			19 to 25 years old			12 to 25 years old			12 to 18 years old			19 to 25 years old			12 to 25 years old		
	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.
Mother's years of education	(0.062)	(103.900)	0.060	(0.106)	(72.220)	0.057	(0.089)	(111.440)	0.045	(0.039)	(62.520)	0.029	(0.104)	(64.220)	0.066	(0.074)	(96.320)	0.039
Father's years of education	(0.014)	(18.960)	0.011	(0.065)	(35.160)	0.026	(0.021)	(21.550)	0.008	(0.026)	(35.670)	0.021	(0.100)	(52.140)	0.048	(0.042)	(46.270)	0.021
Number of household members	0.076	59.830	0.013	0.176	57.930	0.026	0.081	48.250	0.009	0.143	117.550	0.047	0.267	75.810	0.048	0.141	90.450	0.026
Dummy for the La Paz City	(0.146)	(21.880)	0.004	(0.017)	(0.930)	(0.000)	0.192	20.660	0.001	(0.104)	(14.940)	0.001	0.147	7.390	0.001	0.059	6.610	0.000
Dummy for Cochabamba City	0.102	12.770	0.001	(0.421)	(18.890)	0.000	(0.098)	(8.660)	(0.000)	(0.165)	(19.730)	0.001	(0.743)	(30.820)	0.011	(0.452)	(42.080)	0.004
Dummy for Santa Cruz City	0.222	30.970	0.004	(0.504)	(24.540)	0.003	0.060	5.860	(0.000)	(0.159)	(20.250)	0.001	0.735	32.310	0.009	0.084	8.310	0.000
Dummy for employment condition (Employed=1)	0.630	105.730	0.044	1.519	115.010	0.076	2.105	298.640	0.156	0.594	88.100	0.029	0.922	63.340	0.028	1.384	184.270	0.070
Number of rooms available in the house	(0.135)	(62.700)	0.015	(0.258)	(46.360)	0.014	0.030	10.500	0.000	(0.067)	(29.100)	0.005	(0.204)	(37.030)	0.012	0.079	29.210	0.000
Dummy for water access	(0.223)	(27.640)	0.005	(0.030)	(1.230)	0.000	(0.081)	(6.950)	0.001	(0.042)	(4.920)	0.000	(1.996)	(66.440)	0.028	(0.435)	(37.610)	0.003
Dummy for sewage access	(0.138)	(25.300)	0.008	(1.059)	(68.380)	0.040	(0.356)	(46.080)	0.009	(0.178)	(32.230)	0.007	(0.154)	(9.080)	0.005	(0.162)	(22.440)	0.004
Dummy women head households	(0.230)	(26.160)	0.004	0.393	17.230	0.001	(0.175)	(14.560)	0.001	(0.257)	(28.850)	0.007	0.078	3.180	(0.000)	(0.322)	(28.490)	0.005
Dummy for the head household marital status	(0.193)	(13.270)	0.000	0.472	11.020	0.000	0.022	1.040	0.000	0.056	3.670	0.000	0.034	0.690	0.000	(0.117)	(5.760)	(0.000)
Constant	1.704	139.620		4.406	131.460		1.964	116.470		1.040	79.330		5.013	125.100		1.881	110.550	
R2			0.169			0.243			0.229			0.147			0.255			0.171
Sum of Factor Inequality Weights			0.168			0.243			0.228			0.147			0.254			0.171
Social Mobility Index			930			0.917			0.947			0.949			0.886			0.940

Source: Own elaboration with data of National Institute of Statistic

Annex 12
Econometric Estimation for Ethnic

Schooling Gap	Estimation for Indigenous All									Estimation for Non-Indigenous All								
	12 to 18 years old			19 to 25 years old			12 to 25 years old			12 to 18 years old			19 to 25 years old			12 to 25 years old		
	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.
Mother's years of education	(0.060)	(23.130)	0.015	0.195	18.890	(0.010)	(0.149)	(42.160)	0.028	(0.050)	(118.520)	0.046	(0.109)	(99.660)	0.065	(0.079)	(141.710)	0.041
Father's years of education	(0.170)	(52.920)	0.076	(0.364)	(45.840)	0.057	(0.051)	(12.890)	0.009	(0.014)	(27.600)	0.012	(0.068)	(50.160)	0.029	(0.034)	(49.190)	0.015
Number of household members	0.182	59.180	0.062	0.227	21.880	0.007	0.097	24.270	0.006	0.098	107.940	0.022	0.235	99.860	0.041	0.114	95.720	0.017
Dummy for the La Paz City	(0.169)	(7.950)	(0.001)	(0.717)	(11.670)	0.007	0.151	5.460	0.001	(0.048)	(9.880)	0.001	0.131	9.370	0.001	0.161	24.180	0.001
Dummy for Cochabamba City	(0.436)	(21.060)	0.020	(0.525)	(9.160)	0.004	(0.807)	(29.530)	0.013	0.099	16.300	0.000	(0.512)	(29.520)	0.005	(0.161)	(19.400)	0.001
Dummy for Santa Cruz City	(0.684)	(23.400)	0.001	0.823	8.700	0.005	(0.891)	(22.310)	0.002	0.110	20.710	0.001	0.078	5.000	0.000	0.143	19.530	0.000
Dummy for employment condition (Employed=1)	0.836	51.260	0.052	2.706	54.540	0.097	2.428	122.130	0.143	0.588	127.680	0.033	1.215	124.130	0.054	1.799	342.990	0.119
Number of rooms available in the house	(0.201)	(28.650)	0.004	(0.878)	(48.770)	0.046	(0.146)	(16.480)	(0.000)	(0.097)	(60.960)	0.010	(0.195)	(48.820)	0.010	0.072	35.540	0.000
Dummy for water access	(0.496)	(27.050)	0.003	(2.049)	(37.260)	0.025	(0.570)	(22.840)	0.002	(0.098)	(15.880)	0.001	(0.811)	(39.180)	0.007	(0.228)	(25.690)	0.001
Dummy for sewage access	0.103	5.730	0.001	(0.834)	(16.360)	0.022	(0.833)	(35.600)	0.012	(0.164)	(41.730)	0.008	(0.663)	(56.010)	0.023	(0.231)	(42.400)	0.005
Dummy women head households	0.102	4.120	(0.002)	2.292	34.710	0.021	(0.502)	(16.470)	0.004	(0.250)	(38.810)	0.006	0.064	3.690	(0.000)	(0.195)	(22.610)	0.002
Dummy for the head household marital status	(0.661)	(11.850)	0.001	2.213	9.530	0.005	(1.163)	(14.620)	0.001	(0.019)	(1.850)	0.000	0.295	9.130	0.000	0.023	1.560	0.000
Constant	1.941	61.960		5.639	60.980		3.433	86.610		1.280	137.160		4.415	162.540		1.715	134.670	
R2			0.231			0.287			0.220			0.140			0.235			0.202
Sum of Factor Inequality Weights			0.231			0.287			0.220			0.139			0.234			0.201
Social Mobility Index			0.910			0.952			0.963			0.943			0.906			0.944

Source: Own elaboration with data of National Institute of Statistic

Annex 13
Econometric Estimation for Males and Ethnic

Schooling Gap	Estimation for Indigenous Men									Estimation for Non-Indigenous Men								
	12 to 18 years old			19 to 25 years old			12 to 25 years old			12 to 18 years old			19 to 25 years old			12 to 25 years old		
	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.
Mother's years of education	(0.053)	(17.390)	0.020	0.240	16.370	0.004	(0.099)	(18.750)	0.017	(0.064)	(107.150)	0.067	(0.111)	(75.690)	0.062	(0.087)	(107.640)	0.045
Father's years of education	(0.045)	(11.410)	0.019	0.051	4.300	0.007	0.036	5.820	(0.003)	(0.010)	(13.980)	0.008	(0.061)	(32.920)	0.025	(0.029)	(29.320)	0.012
Number of household members	(0.008)	(1.530)	(0.001)	0.355	27.570	0.044	0.016	2.180	0.000	0.083	65.420	0.014	0.166	53.370	0.025	0.090	52.870	0.011
Dummy for the La Paz City	(0.611)	(22.620)	0.018	(1.446)	(18.000)	0.037	0.098	2.420	0.000	(0.069)	(10.140)	0.002	0.118	6.260	0.001	0.225	23.540	0.001
Dummy for Cochabamba City	(0.980)	(35.580)	0.041	0.276	3.490	0.003	(0.877)	(21.170)	(0.002)	0.260	31.070	0.003	(0.348)	(14.660)	0.002	0.050	4.220	0.000
Dummy for Santa Cruz City	(0.860)	(23.240)	(0.007)	(1.140)	(7.160)	0.001	(1.674)	(26.490)	0.015	0.281	39.100	0.006	(0.445)	(21.330)	0.001	0.128	12.410	(0.000)
Dummy for employment condition (Employed = 1)	1.106	54.540	0.103	1.987	29.710	0.055	2.667	89.050	0.151	0.610	99.010	0.041	1.491	112.090	0.075	2.097	291.560	0.157
Number of rooms available in the house	(0.002)	(0.260)	0.000	(0.942)	(42.790)	0.039	(0.052)	(3.960)	(0.001)	(0.144)	(66.460)	0.019	(0.222)	(38.520)	0.012	0.039	13.180	0.000
Dummy for water access	0.080	3.540	0.001	(2.216)	(33.560)	0.084	(0.415)	(11.620)	0.003	(0.293)	(34.260)	0.007	0.566	20.990	(0.002)	0.040	3.190	(0.000)
Dummy for sewage access	(0.544)	(23.110)	0.012	(0.828)	(12.580)	0.026	(0.961)	(26.630)	0.016	(0.089)	(16.210)	0.005	(1.133)	(70.450)	0.040	(0.327)	(41.200)	0.007
Dummy women head households	0.067	2.130	0.000	0.337	3.990	0.008	(0.358)	(7.540)	0.001	(0.240)	(26.620)	0.006	0.289	12.240	0.000	(0.092)	(7.380)	0.001
Dummy for the head household marital status	(1.743)	(8.120)	0.001	2.892	12.590	0.010	3.341	17.430	0.008	(0.164)	(11.730)	(0.000)	0.349	8.130	0.000	(0.036)	(1.730)	0.000
Constant	2.120	51.690		5.826	50.320		3.032	51.720		1.630	127.130		3.853	108.300		1.680	93.780	
R2			0.207			0.318			0.204			0.177			0.241			0.234
Sum of Factor Inequality Weights			0.206			0.318			0.204			0.176			0.240			0.233
Social Mobility Index			0.962			0.989			0.986			0.925			0.913			0.943

Source: Own elaboration with data of National Institute of Statistic

Annex 14
Econometric Estimation for Females and Ethnic

Schooling Gap	Estimation for Indigenous Women									Estimation for Non-Indigenous Women								
	12 to 18 years old			19 to 25 years old			12 to 25 years old			12 to 18 years old			19 to 25 years old			12 to 25 years old		
	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.	Coeficient	t	F.I.W.
Mother's years of education	(0.035)	(7.860)	0.006	(0.141)	(10.170)	0.024	(0.173)	(35.090)	0.038	(0.038)	(63.480)	0.030	(0.104)	(65.050)	0.067	(0.069)	(90.650)	0.036
Father's years of education	(0.269)	(54.150)	0.122	(0.726)	(65.770)	0.383	(0.137)	(27.130)	0.042	(0.017)	(23.870)	0.014	(0.074)	(39.320)	0.035	(0.037)	(40.050)	0.018
Number of household members	0.233	54.950	0.112	0.327	18.490	(0.033)	0.129	27.950	0.018	0.122	94.080	0.034	0.323	91.770	0.069	0.152	91.720	0.028
Dummy for the La Paz City	(0.099)	(2.980)	(0.003)	0.679	7.390	0.006	0.199	5.200	0.003	(0.030)	(4.260)	0.000	0.144	7.270	0.001	0.106	11.660	0.000
Dummy for Cochabamba City	(0.169)	(5.410)	0.009	(0.356)	(4.420)	0.015	(0.668)	(18.520)	0.027	(0.059)	(6.750)	0.000	(0.566)	(22.990)	0.008	(0.341)	(30.090)	0.003
Dummy for Santa Cruz City	(0.774)	(17.200)	0.004	0.870	8.410	0.019	(0.341)	(6.730)	(0.003)	(0.084)	(10.910)	(0.000)	0.790	35.110	0.010	0.150	14.750	0.001
Dummy for employment condition (Employed=1)	0.596	21.550	0.030	4.085	42.680	0.165	2.254	80.290	0.125	0.504	73.210	0.023	0.725	50.200	0.022	1.290	167.100	0.065
Number of rooms available in the house	(0.330)	(28.980)	0.013	(1.142)	(44.410)	0.097	(0.293)	(24.010)	0.010	(0.053)	(22.990)	0.004	(0.176)	(32.570)	0.009	0.103	37.650	0.001
Dummy for water access	(1.029)	(35.350)	0.018	(3.891)	(34.230)	(0.098)	(0.663)	(19.140)	(0.001)	0.132	14.740	(0.000)	(2.645)	(82.860)	0.043	(0.428)	(34.540)	0.003
Dummy for sewage access	0.386	14.200	0.008	(1.715)	(22.850)	0.038	(0.882)	(29.020)	0.007	(0.233)	(42.010)	0.011	(0.069)	(4.050)	0.002	(0.148)	(20.120)	0.003
Dummy women head households	0.403	10.650	(0.011)	4.049	42.170	(0.057)	(0.471)	(12.010)	0.009	(0.276)	(30.290)	0.007	(0.192)	(7.760)	0.001	(0.348)	(29.740)	0.005
Dummy for the head household marital status	(0.751)	(11.270)	0.002				(2.366)	(28.250)	0.008	0.155	10.090	0.001	0.240	5.070	0.000	0.039	1.900	0.000
Constant	2.289	44.780		6.876	50.700		3.966	71.960		0.871	64.560		5.181	124.430		1.633	91.180	
R2			0.311			-			0.284			0.122			0.268			0.163
Sum of Factor Inequality Weights			0.311			-			0.284			0.121			0.267			0.163
Social Mobility Index			0.872			0.593			0.921			0.957			0.898			0.946

Source: Own elaboration with data of National Institute of Statistic

Appendix A

Methodology

We provide a theoretical derivation of the Fields' Decomposition and thereafter we exemplify the calculus of the Social Mobility Index [1]

A.1 The Fields' Decomposition

Let's define an income generating function of the form

$$Y = \sum_j a_j Z_j$$

Where:

Y logarithmic vector of individual's income within the sample

Z. defined as a matrix with j explicative variables, including the constant, education years, experience, squared experience, gender, etc., for each individual in the sample

The income's log-variance is a simple inequality measure Therefore, the variance is taken from both sides of the income function The right-hand side can be modified with the following theorem

Theorem (Mood, Graybill and Boes, 1974): Let $Z_1,\ldots,Z_j$: and $Y_1,\ldots,Y_M$; two sets of random variables, and $a_1,\ldots,a_j$ and $b_1,\ldots,b_M$ two sets of constant variables Then

$$\operatorname{cov}\left[\sum_{j=1}^{J} a_j Z_j ; \sum_{m=1}^{M} b_m Y_m\right] = \sum_{j=1}^{J}\sum_{m=1}^{M} a_j b_m \operatorname{cov}\left[Z_j Y_m\right]$$

Under the assumption of one random variable, we get the following

$$Y = \sum_j a_j Z_j$$

$$\operatorname{cov}\left[\sum_{j=1}^{J} a_j Z_j ; Y\right] = \sum_{j=1}^{J} \operatorname{cov}\left[a_j Z; Y\right]$$

1 Appendix A follows the appendix provided in Andersen (2003)

The left-hand side is the covariance between Y and itself, and represents the variance of Y. Then

$$\sigma^2(Y) = \sum_{j=1}^{J} \text{cov}[a_j Z; Y]$$

Dividing by: $\sigma^2(Y)$

$$1 = \frac{\sum_{j=1}^{J} \text{cov}[a_j Z; Y]}{\sigma^2(y)} = \sum_{j=1}^{J} s_j$$

Where, each s_j is given by:

$$s_j = \frac{\text{cov}[a_j Z; Y]}{\sigma^2(Y)} = \frac{a_j \sigma(Z_j) cor[Z; Y]}{\sigma(Y)}$$

Sj's represents the weighted factorial inequality (FIW) and the lump-sum of all of these explanatory factors equals 1. Every s_j can be decomposed as follows

The years of education greater explains the income inequality:

- As higher is the regression coefficient to Education
- As higher is the standard deviation of the years of education
- As higher is the correlation between education and income (covariance)

Fields explain that this decomposition applies to other commonly used inequality measures; such as the Gini Coefficient, the Atkinson Index, the generalized entropy family indexes, also the log-variance ones.

A.2 Building the Social Mobility Index

The Fields Decomposition allows us to judge the importance of each explanatory variable through the weighted factorial inequality (FIW). For example, if the FIW accounts for 0.07 means that 7 per cent of the total variation is explained by this particular variable. Therefore, if we account for the maximum years of education of the parents (Emax) and the per capita household income (Ipc), controlled by adult equivalences; these variables account for the family initial conditions. If the family initial conditions are important, then the social mobility index is low; the opposite applies. Thus, Andersen (1993) defines de SMI as:

$$SMI = 1 - (E_{max} + I_{pc})$$