

**Defining and measuring multidimensional poverty.
Exploring poverty in Ecuador 2006-2010¹**

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Abstract

This paper provides new insights for the understanding, measurement and analysis of multidimensional poverty in Ecuador, and generates empirical evidence for the period 2006-2010. Multidimensional poverty is defined using a rights-based approach, but its scope is limited to individual information about the rights of good-living. The level of multidimensional poverty decreased between 2006 and 2010; however the level of inequality remains unchanged, with higher levels of poverty for rural inhabitants, women and among indigenous and Afroecuadorian populations. Enhanced social protection (i.e. health, pensions, unemployment, injuries and disabilities, family support and social assistance), and better work conditions and public services are the priorities for abolishing poverty in Ecuador, but this requires political will and social commitment.

Key words: multidimensional poverty, poverty governance, poverty measurement, rights-based approach, Ecuador.

JEL Classification: I32, D31, D63, O21, O54

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Introduction

Poverty is at the top of the development agenda. Proof of this comes in the form of the United Nations' Millennium Development Goals. But why is poverty alleviation important and what does poverty mean? These are questions which are still without a final answer. The first question can be solved by referring to Adam Smith's words when he says that "no society can surely be flourishing and happy, of which the far greater part of the members are poor and miserable" (Smith, cited in Easterly, 2007: 756). In this sense, poverty represents a lack of well-being, and is therefore an issue that must be solved by any coherent development policy. This perspective has been accepted by the majority of scholars and policy makers. But the second question is a more complex one. There is a broad range of literature that tries to define and measure poverty, and there are a great range of anti-poverty policies, some of them contradictory (e.g. economic growth and social assistance).

This paper presents some elements that have to be considered in order to define poverty. Poverty as a political concept has at least three issues to deal with. Firstly, the ideological discussion to define who cares about the subject of poverty, and how they should approach it; secondly, the choice between an absolute and a relative approach (i.e. the relationship between poverty and inequality); and thirdly, the choice of a methodological approach. In any case, these three issues cannot be isolated from the prevailing economic, social, cultural and political structures. Furthermore, the definition of poverty and the design of poverty alleviation policies are conducted through an interactive and iterative process amongst several actors in a given society. In this paper, poverty governance is presented as the values, norms, processes and institutions needed to define poverty, the goals of antipoverty policies, the willingness to pay for the required actions, and the choice of policies for poverty alleviation (i.e. the desire for redistribution and the division between public and private provision of goods and services). Regarding the methodological approach, despite the fact that a multidimensional understanding of poverty is agreed upon, poverty is often still being measured unidimensionally in most parts of the world. This means that further research and empirical analysis is needed to capture the multidimensional nature of poverty.

Latin America is the most unequal region in the world (Machinea and Hopenhayn, 2005; Ferreira and Walton, 2006; Lopez and Perry, 2008; Gasparini *et al.*, 2009). All the Latin American countries have a Gini coefficient for household per capita income higher than 0.45. Ecuador and Brazil (0.56) are the third most unequal countries in the region, Haiti (0.59) is the second and Bolivia (0.60) the first (UNDP, 2010a). However, it is not true that Latin America has always been unequal; it is a process that began in the 1920s, and is related to political inequality and low public participation

(Williamson, 2009). Other reasons that explain inequality in Latin America are the unequal distribution of land ownership, regressive tax systems, and the political failure to pursue equity and redistribution (Reynolds, 1996; Ferreira and Walton, 2006). The high levels of inequality partially explain the acceptance of leftist political regimes during the 2000s, especially in South America. Data from the *Latinobarómetro*² shows that between 80% and 90% of the population consider the level of income inequality as unfair (Ferreira and Walton, 2006). Poverty and inequality fell in Latin America during the 2000s, but this reduction was less than what was expected by the new left-wing regimes and it has occurred without changes in the aforementioned structural inequalities (Gasparini *et al.*, 2009).

In the case of Ecuador, a leftist government took office in 2007, and in 2008 a new Constitution was approved by referendum. The headcount of monetary deprivation (the official poverty measure) decreased from 36.6% in 2006 to 32.8% in 2010, while the income Gini coefficient decreased from 0.54 to 0.50 over the same period (INEC, 2010b). During the period 2006-2010, social public expenditure increased from 4.7% to 8.1%, (as a percentage of GDP), while the economic tax pressure rose from 11.7% to 13.7% (as a percentage of GDP). These figures reflect the new political priority of reducing poverty and inequality through higher social expenditure, but this has not been accompanied by the social willingness to contribute to the financial sustainability of these policies. The expansion of social expenditure is related to a larger public sector in general, but also with reallocation from administrative expenses (i.e. bureaucracy), defence and external debt. The new Constitution (2008) introduces the concept of good-living as the information base for national development. It is mainly defined by economical, social and cultural rights, and the rights of nature, but it also covers civil and political rights. In this paper, multidimensional poverty in Ecuador is analysed in six dimensions related to the rights of good-living established in the Constitution. Because of a lack of information at the individual level, some of the rights of good-living, the rights of nature and political and civil rights are not included in the analysis, and represent issues for future research.

This paper attempts to provide new insights into the understanding, measurement and analysis of multidimensional poverty in Ecuador, and to generate empirical evidence for the period 2006-2010. The rest of this paper is organized as follows. Section One introduces the context of Ecuador, its development framework, the concept of good living, and the current discussion about poverty. Section Two discusses what constitutes an understanding of poverty in a development framework, and relates the theory with the context of Ecuador. Section Three presents the methodology and data used for the

² Latinobarómetro is a non-for-profits private corporation, which measure public opinion in Latin America.

measurement of multidimensional poverty. Section Four presents the results and an exploration of poverty in Ecuador between 2006 and 2010, and Section Five concludes with some final remarks to guide anti-poverty policy and future research.

1. Ecuador: Development framework for good-living

Ecuador is a Constitutional State. The Constitution defines the nature of rights and justice, and establishes Ecuador as a social, democratic, sovereign, independent, unitary, intercultural³, plurinational⁴ and secular nation. It is organized as a Republic and the government is decentralized⁵ (Constitución, 2008: Article 1). Ecuador is located in North-West South America, between Colombia and Peru, and bordering the Pacific Ocean at the equator. Ecuador has a territory of 256,370 Km², including the Galapagos Islands. Preliminary data from the census of 2010 indicates a population of 14.3 million people. During the census of 2001, 78% of the population recognized themselves as *mestizo*, 7% as indigenous, 5% as Afroecuadorian and 10% as white.

Ecuador is a middle-income⁶ country with a current GNI per-capita (PPP) of USD 3,970 in 2009 (World Bank, n.d.). The main sectors of the economy (as a percentage of GDP in 2010) are services (16%), commerce (15%), industry (14%) and mines (12%). In 2010, oil exports represented 16% of GDP, and 4% of GDP (BCE, 2011) came from remittances from Ecuadorian emigrants. In December 2010, unemployment was 6.1% and underemployment 47.1%⁷ (INEC, 2010a). Poverty by income is 32.8%⁸ (June 2010) and inequality is represented by a Gini coefficient of 0.50 (INEC, 2010b). Ecuador has a human development index (HDI) score of 0.695 (rank 77 of 169), and an inequality-adjusted HDI score of 0.554 (rank 74 of 169). Life expectancy at birth is 75.4 years and the

³ It includes indigenous, afroecuadorian and montubios cultures.

⁴ There are 14 indigenous nationalities in Ecuador: Andoa, Awá, Siona, Epera, Chachi, Secoya, Shiwiar, Achuar, Waorani, Zápara, T'sachila, Shuar, Kichwa y Cofán. Also 16 native *pueblos* are recognized: Huancavilca, Manta, Palta, Saraguro, Kañari, Pastos, Puruhá, Waranka, Kitu Kara, Salasaka, Panzaleo, Kisapincha, Chibuleo, Kayambi y Otavalo.

⁵ The decentralized level includes: regional, provincial, municipal and parish government (Constitución, 2008: Articles 242 to 274). They have specific competences for the provision of public goods and services and for regulation established in the Constitution and the Law of Decentralization (i.e. Código Orgánico de Ordenamiento Territorial, Autonomía y Descentralización, COOTAD).

⁶ In 2009 The World Bank classified economies by income group (current GNI per-capita, PPP) as follows: low income (USD 995 or less), lower middle income (USD 996 to USD 3,945), upper middle income (USD 3,946 to USD 12,195) and high income (USD 12,196 or higher) (World Bank, n.d.).

⁷ Unemployed are the persons over 10 years old who did not work but were looking for a job, or did not look for a job because they are waiting to start a new job or they believe that will not find a job. Underemployed are the persons who worked but were ready and disposable to change to a new (better) job (INEC, 2010a).

⁸ The official per-capita poverty line is USD 56.64 per month (extreme poverty per-capita line is USD 31.92 per month) at the second quarter of 2006 (Life conditions survey, fifth round), it is adjusted using the CPI.

average years of schooling is 7.6⁹ (UNDP, 2010b). Corruption, delinquency and weak institutions are some of the main problems in the country. Ecuador has a corruption sub-index¹⁰ of 4.32, which represents a worse situation than the regional average (4.86) and the global average (4.97) (DataGov, 2011). Delinquency and insecurity have increased during the last few years (for example, the rate of homicides per 100,000 inhabitants has increased from 10.3 to 18.8¹¹ over the last 20 years, and there are believed to be around 700 criminal bands operating in the country (Carrión, 2011)). Finally, the weakness of the institutions¹² can be explained by the recent change in Constitution. However, there are no concrete policies to enhance the institutional framework, with the executive branch controlling and influencing most national institutions.

Ecuador was ruled as a dictatorship during the periods 1963-1966 and 1972-1979. Following this, thirteen presidents representing centrist to right-wing regimes governed the country between 1979 and 2006, apart from between 1988 and 1992 when a social democratic party (Izquierda Democrática) was in power. Socio-political crisis exploded in 1997 after many years of social protests; as a result the President was declared mentally insane by the Congress and was replaced not by the Vice-President, but by the President of the Congress. In the years that followed, two further elected Presidents could not finish their terms because of political and social unrest, and were replaced by their Vice-Presidents (2000 and 2005). Among the main factors for this instability were a lack of confidence in ‘traditional’ political parties and institutions, and dissatisfaction with the pattern of development and high social and political inequality (Lara, 2003). Moreover, over the period 1979 to 2006 the former National Congress displayed high political pluralism, with 12.9 parties represented on average (Pachano, 2008: 9). However, this pluralism generated opportunities for corruption and made it impossible to generate long-term policies. In 1999, a financial crisis hit the economy, increasing social unrest. Since 2000, as a response to the financial crisis, the legal currency has been the US dollar. In 2007, a group of left-wing social, academic and political movements, under the name of Alianza País, won the presidential elections with no candidates in the Congress. After a referendum, however, a Constitutional Assembly was established, and Alianza País achieved an unbeatable majority. The Assembly promotes rights, guarantees and protection, and aims to increase the role of the State to promote equity. Finally, the

⁹ There are ten years of basic education, and three of middle education. Tertiary education demands, in average, between four and five years at universities.

¹⁰ The corruption subindex is measured by the use of briberies for import-export permits, public utilities and tax payments (DataGov, 2011).

¹¹ Ecuador has the fifth higher rate of intentional homicide in South America. Colombia has the first (61.1), Venezuela the second (37.0), Brazil the third (30.8) and Guyana the fourth (19.2) (United Nations, 2009).

¹² The Justice and Electoral branches have to be reformed according to the new Constitution. Besides a new branch (Social Control) has to be institutionalized.

Constitution was approved by referendum (28 September 2008) with a 64% vote in favour at the national level.

The new Constitution (*La Constitución de Montecristi - 2008*) introduces the concept of *buen vivir* or *sumak kawsay* (good-living) as the information base for social justice. The strengthening of freedom, capabilities, opportunities and potential is not just seen at the individual level, but for communities and society as a whole. The focus is on needs satisfaction, quality of life and harmony with the environment, and the abolition of poverty, inequality, discrimination and exclusion for all (Senplades, 2009; Ramirez, 2010). The Constitution sees development as the dynamic interrelation between the economic, political, socio-cultural and environmental systems (Constitución, 2008: Article 275). The human being is the centre of development and good-living is the final objective. A key factor which defines the new Constitution is the role of the State in providing public goods and services and protecting rights. However, this needs the enhancement of a new institutional framework, which has yet to be fully implemented.

Good-living

The debate about development includes different theories which have historical roots. The theories of development that influence Latin America include: modernity (1950s), dependency (1960s), economic growth (1980s) and human and sustainable development (1990s). However, all of them have been measured using GDP or indices that include it, with economic growth and utilitarianism as common factors (Larrea, 2010; Houtart, 2010). The development framework was central to the debate around the new Constitution in Ecuador. In the end, the concept of good-living was accepted as an option to foster a peaceful society in harmony with the environment. Good-living has been included in both the Constitutions of Ecuador and Bolivia. This development framework is based on human rights (political, civil, economic, social and cultural) as well as on the rights of nature (Larrea, 2010; Acosta, 2009 and 2010).

Acosta (2009 and 2010) presents good-living as a construct from an indigenous worldview, where development is not a linear process and is not characterised by a state of 'underdevelopment', but is a permanent and dynamic process. Development is constantly constructed and reproduced, and it includes social and cultural recognition as well as ethical and spiritual behaviour concerning society and the environment (Acosta, 2009 and 2010). The Andean indigenous vision is not the only vision that promotes good-living. It is also constructed by those who have proposed alternatives and have argued that the actual development patterns which are based on market-oriented economic growth are socially,

politically, economically and environmentally unsustainable (Georgescu-Roegen, 1975; Max-Neef, 1991; Schuldt, 1994; Daly, 1997, 1999, 2002, 2007 and 2008; Martínez-Allier, 1998; Czech and Daly, 2004; Sousa-Santos, 2004; Coraggio, 2008; Ramirez, 2008 and 2010; Acosta, 2010; Gudynas and Acosta, 2010).

Good-living is also linked with the economic system, and it promotes an social and solidarity economic model (*economía social y solidaria*) to achieve sufficiency and quality, instead of efficiency, to satisfy ‘legitimate’ needs and wishes¹³. Labour is recognized as the economic base, and different forms of labour are included: employed, self-employed, self-sustaining, and home care. In addition, the social/solidarity economy includes various economic relations and processes (i.e. private, public, cooperative, associative and communitarian, amongst others), and promotes democratic access to resources and means (Coraggio, 2008; Acosta, 2009 and 2010). Finally, good-living recognizes the environment as having rights and through this promotes the human right to exist (Ramirez, 2010; Acosta, 2010). The Constitution establishes the following rights as the basis of the concept of good-living (Constitución, 2008: Articles 12 to 34):

1. Permanent access to safe, sufficient and nutritious food and water, preferably locally-produced;
2. To live in a healthy environment;
3. Access to free communication and information;
4. To build and maintain cultural identity, enjoy free time and benefit from scientific progress;
5. Universal access to free education until the third level, inclusive of all;
6. To live in safe, decent and adequate housing, and to access public spaces;
7. A healthy life and permanent access to medical care; and,
8. To work and to receive social protection.

Moreover, as transversal issues, specific rights are established for priority groups: those of old age, the young, mobile populations (i.e. emigrants, immigrants, refugees, victims of human trafficking, and their families) pregnant women, children and teenagers, the disabled, those suffering serious illnesses, imprison persons and ‘consumers’ (Constitución, 2008: Articles 35 to 55). These rights are complemented by the rights of communities and nationalities, rights of participation, rights of freedom, rights of nature, rights of protection and citizenship responsibilities (Constitución, 2008: Articles 56 to 83).

¹³ Governance must legitimize needs and wishes, and then it is a societal process. They are not defined by the market, neither by the government.

Rights may represent a guarantee for society as a whole, as they are universal and access is free. From the good-living perspective misery is not tolerated, and opulence must be controlled. Therefore a new pattern of consumption is needed (Max-Neef, 1993). Besides power, wealth and income, primary distribution and redistribution (secondary distribution) are issues of special importance in this framework. Inequality infringes human rights, democracy and ecological sustainability (Acosta, 2010).

Good-living as a new form of societal organization involves the expansion of individual and collective capabilities, which have to be discovered and encouraged. There is no need to develop people, people must develop themselves. To achieve this, as a prerequisite, any person must have the same options, even if they do not have the same means. The State must correct market failure and act as an agent of change. This new form of societal organization, or good-living, requires equity and freedom, as objectives and as means (Acosta, 2010: 34)¹⁴.

Equity is the basis of development, as it is the means and the outcome of the exercise of rights. Equity guarantees freedom, strengthens democracy, reduces social unrest, and stimulates a sustainable economy. The Constitution establishes that the State has to protect rights, ensure equity and prevent discrimination (Constitución, 2008: Article 341). In this way, public policies are the means to guarantee rights (Senplades, 2009: 44). The National Councils of Equity guarantee that rights are enforced and exercised (Constitución, 2008: Article 156). Finally, redistribution is promoted by fiscal policy and the tax regime (Constitución, 2008: Articles 285 and 300).

National Development Plan and Social Policy

The Constitution establishes the National Development Plan as the basis of public policies, public budgeting and the competencies of different levels of government (Constitución, 2008: Article, 280). Public policies have to be oriented to achieve good-living and to guarantee rights (Constitución, 2008: Article, 85). The process of planning includes public participation, and citizens' councils are supposed to guide the long-term development strategy (Constitución, 2008: Article, 279). The Development regime has the following objectives (Constitución, 2008: Article, 276):

1. Improve quality of life and life expectancy, and increase capabilities and the potential of the people;
2. Promote a fair, democratic, productive and sustainable economic system which enhances solidarity;
3. Promote public participation and social control, with equitable representation in the public sector;
4. Recover and conserve the environment and guarantee equitable, permanent and quality access to natural resources;

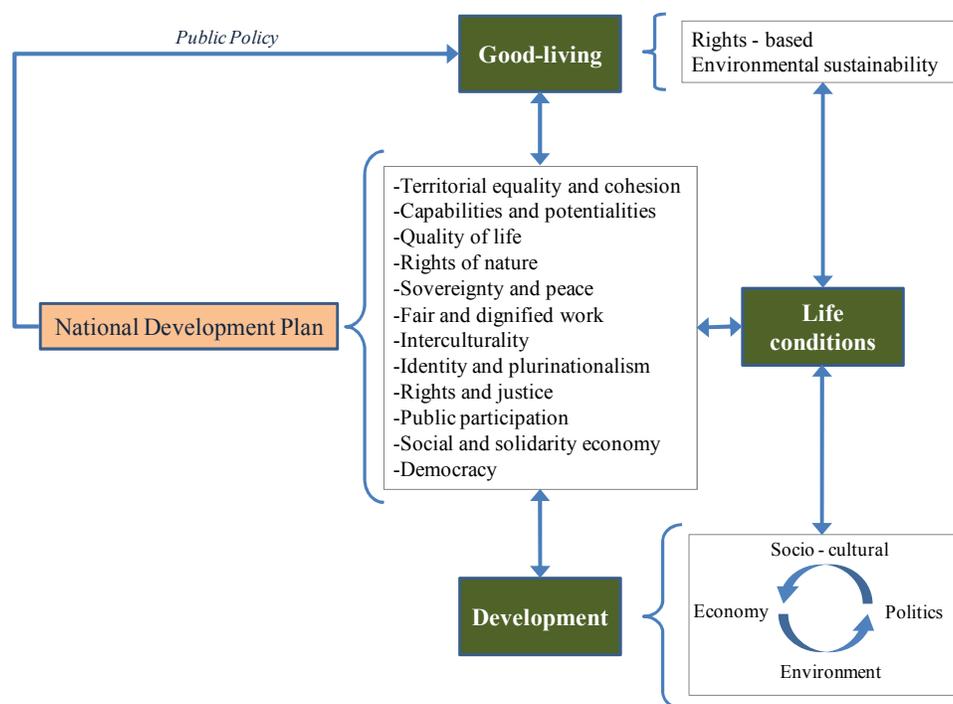
¹⁴ Author's translation.

5. Guarantee national sovereignty, promote Latin American integration and strategic insertion into the global context, promoting peace, democracy and equity;
6. Promote territorial equilibrium and equity; and,
7. Promote and protect cultural diversity.

The National Development Plan 2009-2013, called *Plan Nacional para el Buen Vivir*, establishes twelve development objectives¹⁵ (Senplades, 2009), which complete the development framework in Ecuador (Figure 1). This framework indicates that public policy is a tool, based on the National Development Plan, to generate and reproduce the conditions for good-living, as part of a dynamic and interrelated process of development. Finally, under this framework the Agenda of Social Development 2009-2011 is based on the guarantee of rights and the reduction of inequalities, with social policies as universal but positive action also promoted in favour of the disadvantaged. The principles of the Agenda are: Social protection against contingencies, improving people's capacities and opportunities through education and health, housing and basic infrastructure and work and employment (MCDS, 2010 and 2011).

¹⁵ The objectives of the National Development Plan are the following. Objective 1: To foster social and territorial equality, cohesion, and integration with diversity. The first policy for this objective is to guarantee the rights of good-living to overcome all inequalities. Objective 2: To improve the citizens' capabilities and potentialities. Objective 3: To improve the quality of life of the population. Objective 4: To guarantee the rights of nature and promote a healthy and sustainable environment. Objective 5: To guarantee sovereignty and peace; to promote Ecuador's strategic insertion in the world, and Latin American integration. Objective 6: To guarantee stable, fair and dignified work in its diverse form. Objective 7: To build and strengthen public and intercultural spaces for social interactions. Objective 8: To affirm and strengthen national identity, diverse identities, plurinationalism and interculturalism. Objective 9: To guarantee rights and justice. Objective 10: To guarantee access to public and political participation. Objective 11: To establish a sustainable socio-economic system based on solidarity. Objective 12: To build a democratic State for good-living (Senplades, 2009).

Figure 1: Ecuadorian development framework for good-living



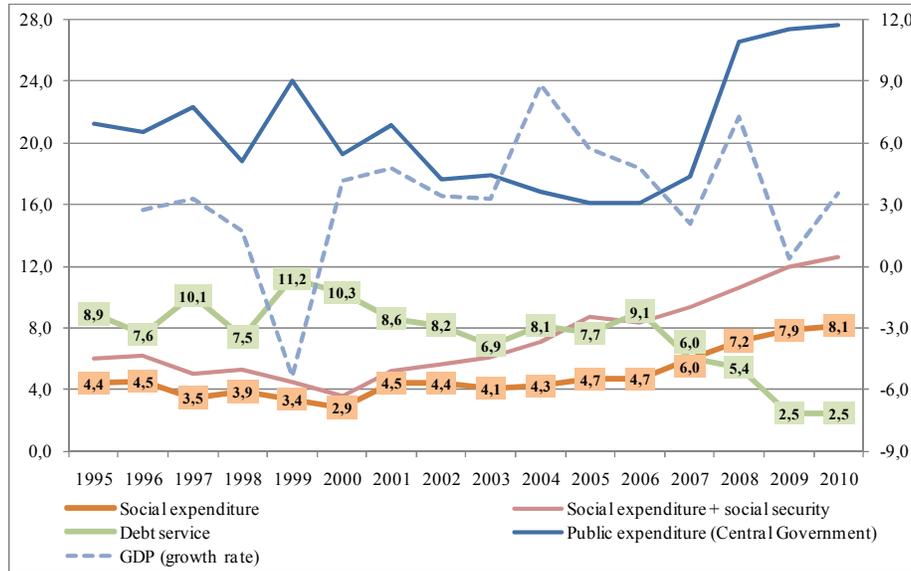
Source: Author's interpretation of *Constitución* (2008) and *Senplades* (2009).

Social expenditure and economic growth

Central government social expenditure, as a percentage of GDP, increased from 4.7% to 8.1% between 2006 and 2010 (Figure 2), reaching its highest level for 15 years. This means that the total amount of resources allocated each year for the social sector has almost doubled during the last four years. Including social security transfers, the level of social expenditure represented 12.6% of GDP in 2010. However, Ecuador remains under the 2007-2008 weighted average for Latin America (18%) (CEPAL, 2010). The sectors with higher public expenditure as a percentage of GDP in 2010 were education (3.8%), health (2.0%) and social inclusion¹⁶ (1.9%). Between 2006 and 2010, these sectors grew at an average annual rate of 16.8%, 11.4% and 42.7% respectively. The others two sectors that compose the social sector in the central government's budget are housing and urban development, and labour. Expenditure on these two sectors in 2010 represented 0.4% and 0.1% of GDP respectively. These sectors grew at an average annual rate of 22.0% and 40.4% respectively between 2006 and 2010.

¹⁶ The main component of the social inclusion budget is the conditional cash transfer called *Bono de Desarrollo Humano*. In 2009 this program represents 63% of the Ministry of Social Inclusion's budget. This Ministry also implement program in favor of priority protection groups.

Figure 2: Social expenditure as a percentage of GDP (1995-2010)



Sources: Author's calculations using BCE (2000, 2010; 2011 and 2011b); MEF (2011).

From a political economy perspective, there were three milestones for social expenditure between 1995 and 2010, which can be related to the different types of government (Table 1). The first milestone occurred in 1997, just after the National Congress replaced the president. Between 1997 and 1999 the level of social expenditure was lower than in the rest of the period. During these years, Christian democratic parties had direct power (1998-1999) or were a direct influence on the President (1997-1998). The lowest levels were seen in 1999 and 2000, which shows that the social sector was not a priority during the financial crisis. The second sub-period was between the years 2001 and 2006, just after the President was replaced by his Vice-President. In 2001, the government doubled the level of social expenditure to address the effects of the financial crisis and to respond to social demands. However, this period only saw social expenditure return to the levels of 1995-1996. The third milestone was in 2007, when a left-wing government won the presidential elections. From the beginning of the 2000s, more and more left-wing governments have been democratic elected in South America, firstly in Venezuela (2000), followed by Chile (2001), Brazil and Argentina (2003), Uruguay (2005), Bolivia (2006), Ecuador (2007) and Paraguay (2008). All of them have promoted redistributive policies (McLeod and Lustig, 2010).

Table 1: Central government's social expenditure by President (1995-2010)

Period	President	Political Party	Tendency	Social Expenditure (% of GDP)
1995-1996	Sixto Durán Ballén	Unidad Republicana (PUR)	Conservative	4.5
1996	Abdalá Bucaram	Roldosista Ecuatoriano (PRE)	Populism	4.5
1997-1998	Fabián Alarcón***	Independent	n.a.	3.7
1998-1999	Jamil Mahuad	Democracia Popular (DP)**	Christian democracy	3.6
2000-2002	Gustavo Noboa****	Independent	Right wing	3.9 - 4.4*
2003-2005	Lucio Gutierrez	Sociedad Patriótica (PSP)	Right wing	4.3
2005-2006	Alfredo Palacio****	Independent	n.a.	4.7
2007-2010	Rafael Correa	Alianza País (AP)	Left wing	7.3

* 2001-2002

** The DP changes its name in the 2000s to Unión Demócrata Cristiana (UDC)

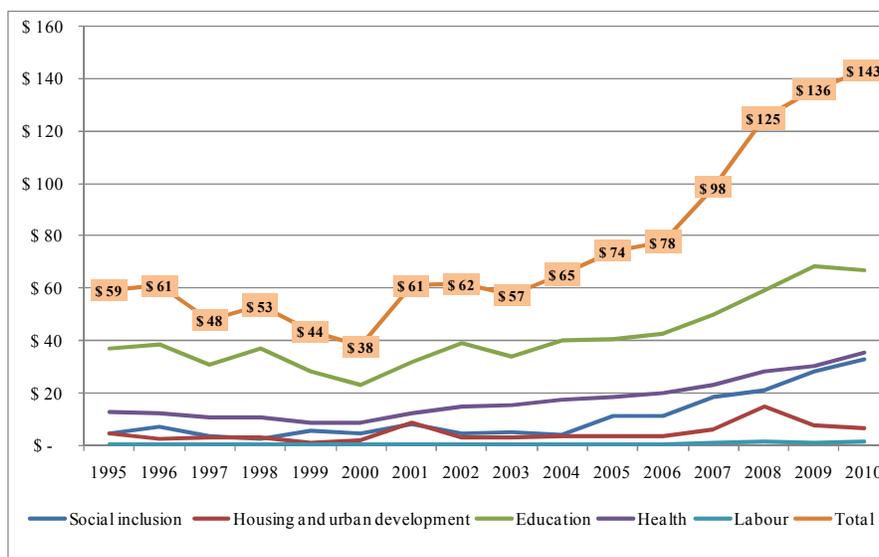
*** Designated by the National Congress

**** Vice-president of the former president

An important determinant of social expenditure is the relationship with international actors, especially with the International Monetary Fund (IMF). During the 1980s, the main concern was to control the debt crisis, and then to generate resources to pay dividends accordingly, with the first letter of intention signed between Ecuador and the IMF in 1983. After this, Ecuador and Latin America followed international recommendations of structural adjustment, reducing public expenditure, privatizing public entities, promoting a flexible labour market and promoting open markets (CAIC, 2008). However, at the beginning of the 90s Ecuador accelerated the implementation of so-called “Washington Consensus” policies due to the influence of international financial agencies such as the IMF and the World Bank (CAIC, 2008; Correa, 2009). Figure 2 shows that social expenditure and debt servicing are negative correlated. Between 1983 and 2003, Ecuador signed 11 letters of intention with the IMF (the last one in 2003) which determine the country's economic policies and imply a reduction in public expenditure (CAIC, 2008).

In real terms (USD at 2000 levels), the level of social expenditure per capita increased from USD 78 in 2006 to USD 143 in 2010. 46.7% of this amount (USD 67) corresponds to education. However, in 2008 Ecuador showed the second lowest rates of public education expenditure per student at primary and secondary levels in Latin America (CEPAL, 2010). Social expenditure increased between 2006 and 2010 at an average annual rate of 21.1%.

Figure 3: Central government's per capita social expenditure (USD of 2000)

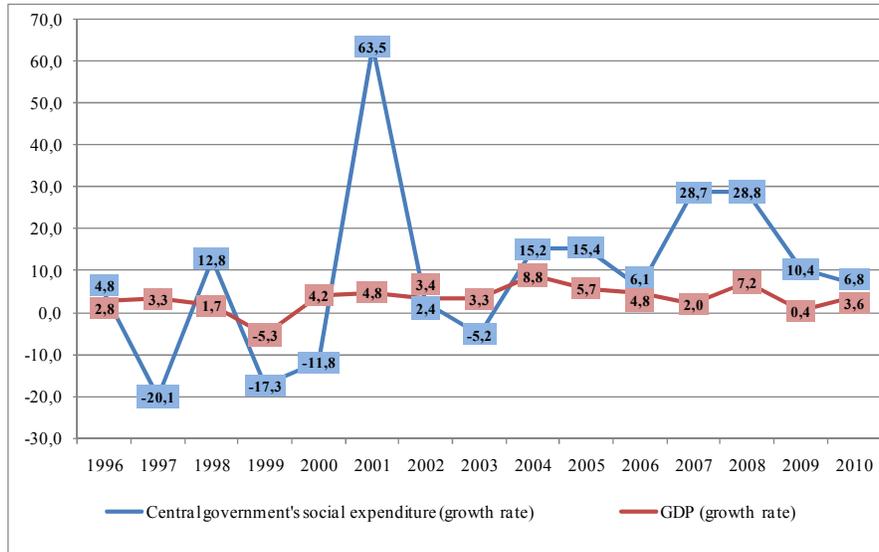


Sources: Author's calculations using BCE (2000, 2010; 2011 and 2011b); MEF (2011).

The level of social expenditure increased 63.5% between 2000 and 2001, but this only corresponds to a return to pre-crisis levels. Nevertheless, the years with higher rates of social expenditure growth are 2007 and 2008 (29%) (Figure 4), which reflects the new relevance of public expenditure. The level of social expenditure does not relate to the level of economic growth, making it clear that each Government establishes the social budget in accordance with their own political views¹⁷. Besides this, between 2003 and 2007 the regions with lower development and a strong presence of ethnic minorities received less social investment per capita (Mideros *et al.*, 2008b). Nevertheless, further analysis is needed about the regional distribution of social expenditure.

¹⁷ In this case political views mean both the level of public expenditure and the public budget priorities.

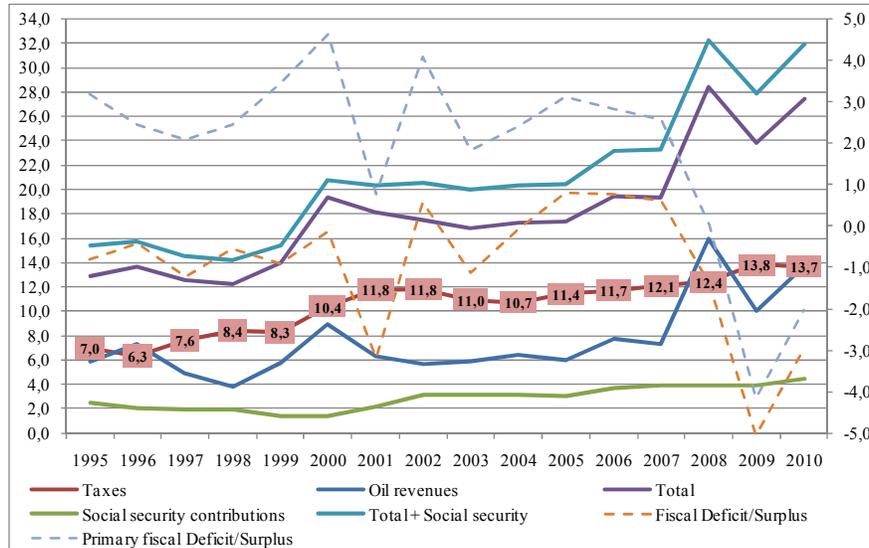
Figure 4: Economic and social expenditure annual growth rate (1995-2010)



Sources: Author's calculations using BCE (2000, 2010; 2011 and 2011b); MEF (2011).

On the revenue side of the budget, oil revenues rose from 7.8% (as percentage of GDP) in 2006 to 13.8% in 2010 (Figure 5) due to the higher international price of oil during that period, but also because the government changed the terms of contracts with the private companies to allow more revenue for the State (BCE, 2011c). However, dependency on oil revenue generates fiscal vulnerability in relation to fluctuations in oil prices and the productivity of the oil sector. Tax revenues as a percentage of GDP increased from 11.7% to 13.7% between 2006 and 2010. The tax pressure (tax revenues as percentage of GDP) in Ecuador is similar to the Latin American average, but lower than in countries such as Brazil and Chile (CEPAL, 2011). Moreover, the average tax pressure in Latin America is lower than the rate in the OECD countries (34.8% in 2008) (OECD, 2011). In this sense, the region still has some space to redistribute resources in order to prevent and reduce poverty.

Figure 5: Public sector revenue as percentage of GDP (1995-2010)



Sources: Author's calculations using BCE (2000, 2010; 2011 and 2011b); MEF (2011).

However, increased public expenditure in Ecuador between 2006 and 2010 generated primary fiscal deficits of 4.2% and 2.0% (as a percentage of GDP) in 2009 and 2010 (Figure 5) respectively. After the international crisis of 2009, the economy grew at 3.6% in 2010 and at 8.6% in the first quarter of 2011 (BCE, 2011). However, for sustainable public expenditure, new financing options must be identified in order to maintain the healthy financial position of the public sector. This represents one of the main challenges of economic policy at the present time, and is an important issue for sustainable social policy.

Poverty in Ecuador

In order to provide new insights and approaches for the study of poverty in Ecuador, it is important to present the main studies and publications that have been conducted in recent years. Poverty in Ecuador is measured by two official headcount ratios. The first index measures consumption deprivation (i.e. an indirect method), and the second is an index of unsatisfied basic needs¹⁸ (i.e. a direct method). The National Development Plan sets as objectives the reduction of poverty by 20%-25% in urban areas and 50% in rural areas in terms of unsatisfied basic needs by 2013 (Senplades, 2009). The indices and

¹⁸ A persons is considered poor if at least one of the next conditions is satisfied at the household level: i) house with bad quality of walls or floor; ii) house with no connexion to public sewerage; iii) household dependency ratio (members per employed person) higher than 3 and head of house with less than 3 years of primary education; iv) at least one child (between 6 and 12 years old) not studying; or, v) household with more than 3 persons per bedroom in average. A person is considered to be in extreme poverty if the household satisfies two or more of the aforementioned conditions (INEC, 2010c).

thresholds are calculated by using the Life Conditions Surveys (ECV)¹⁹. However, the Urban and Rural National Surveys of Employment and Underemployment (ENEMDUR) are used to measure poverty each year, approximating the measure of consumption deprivation by using income deprivation. Finally, a multidimensional index is used to focus social assistance. This index is calculated using the method of non-linear multivariate analysis over a set of variables. The measure includes variables regarding household characteristics, head of house, housing, living conditions, assets and territory (Fabara, 2009). The variables are chosen on the basis of their correlation with consumption (from the ECV) and not as determinants of well-being. However this index is not reported periodically and is not used to analyse poverty. A main problem with these measures of poverty is that they are based on a headcount ratio meaning that they are not sensitive to either the level or the distribution of poverty. They are also not related to ideas of good-living. Finally, all these measures are unidimensional and do not consider the multidimensionality of poverty. Even though some are multi-variable or multi-criteria, they lose important aspects of information in an aggregated index.

There is agreement among scholars that some of the structural determinants of poverty in Ecuador are: high levels of inequality, low human capital, low institutionalisation, political unrest, the low productivity of the economy, and irresponsible rent-seeking behaviour. Seen in this context, 1998-2000 were years of extreme poverty in Ecuador. The main poverty milestone was the financial crisis of 1999. Because of this crisis, the level of employment decreased dramatically, with real wages falling 40% between 1998 and 2000, access to credit limited, and the level of wealth reduced due to the implementation of the dollar as legal currency in January 2000. After 2001, the period of economic recuperation has generated new dynamics. A substantial part of the population emigrated to Europe and the United States, with consequent reductions in the level of unemployment, but generating social disintegration. Besides this, international remittances increased the national income, and rises in the international price of oil and external investments in infrastructure stimulated economic growth and promoted a fiscal balance. In this scenario, the Sierra region (especially the cities of Quito and Cuenca) recuperated more quickly. However, it was more difficult in the Coastal region because this region also suffered severe floods (i.e. *El niño*) in 1998 (Larrea and Sánchez, 2003; Larrea, 2004). Although the crisis of 1999 affected the whole country, the middle class and rural coastal areas were most affected. However, dollarization stabilized the economy. In 2001, the absolute number of people in poverty in urban areas outnumbered rural areas. This phenomenon was called the ‘urbanization of poverty’ and is

¹⁹ Ecuador has done five rounds of the ECV: 1R (1994), 2R (1995), 3R (1998), 4R (1999) and 5R (2006). (INEC, n.d.)

explained by immigration from rural areas and the negative effect of the financial crisis on the urban middle class. It affected the labour market in the cities, increasing underemployment and pushing down real wages (World Bank, 2005)

In the 2000s, urban poverty was mostly related to unemployment and underemployment, with low productivity and low wages. Rural poverty was related to limited access to land and the low productivity of agriculture (Sánchez-Paramo, 2005; World Bank, 2005). However, these determinants are focused on monetary deprivation. Farrow *et al.* (2005) studied food deprivation, finding that it is concentrated in the central Sierra. The concentration of land, lack of transportation facilities, low access to markets and low productivity of agriculture are the main determinants of food deprivation and under-nutrition (Farrow *et al.*, 2005). Additionally, the conditions of the poor in rural areas are related to temporary migration to work in the urban informal sector, child labour and consumption restrictions on food, clothing and medicines (Henstchel, 2002).

The official poverty measures are presented by the National Institute of Statistics and Census (INEC). The ECVs show that the headcount of consumption deprivation increased from 39.3% in 1995 to 52.2% in 1999, and then decreased to 38.3% in 2006 (i.e. ECVs in the last year available), while the headcount of people with basic needs deprivation over the same years fell from 53.6% to 50.6% and then to 45.8%. In 2006, 31.3% of the population suffered chronic deprivation (i.e both basic needs and consumption deprivation). Inequality of consumption increased between 1995 and 2006. The Gini coefficient of consumption rose from 0.43 (1995) to 0.45 (1999) and to 0.46 (2006) (INEC, n.d.). In the case of income deprivation (measured by the ENEMDUR), the headcount ratio decreased from 37.6% in 2006 to 32.8% in 2010. Over the same period, poverty in urban areas decreased from 25.9% to 22.5%, while in rural areas poverty decreased from 60.6% to 52.9% (INEC, 2010b). These figures show that one third of the population has income below the official poverty line (USD 57.29 per capita per month in 2006, and USD 69.05 per capita per month in 2010), and half of the population in rural areas suffer from monetary deprivation. In the case of basic needs deprivation, the headcount ratio decreased from 46.9% in 2008 to 41.8% in 2010 (INEC, 2010c). The trends of the different measures are similar (they are also similar to the multidimensional measure used in this paper), however each measure provides different information for policy design. The main limitations of the official poverty measures are that they cannot be disaggregated to understand different dimensions of poverty, they measure the number of poor people and not the level of poverty, and the headcount ratio fails to satisfy monotonicity and transfer axioms.

Ponce and Acosta (2010) analyse poverty (using the official measures) by ethnic group between 2006 and 2009. In the case of extreme monetary deprivation, they found that it decreased for *mestizos* (from 15.0% to 12.7% between 2006 and 2009) and Afroecuadorians (from 23.0% to 21.8% between 2006 and 2009), while it increased for indigenous people (from 36.8% to 45.8% between 2006 and 2009). In conclusion, they note that despite the reduction in deprivation headcount ratios, there are no signs of changes in patterns of wealth and income inequality (Ponce and Acosta, 2010). Moreover, Mideros (2010) shows that while the income growth of the richest 20% of the population between 2000 and 2007 is highly correlated (0.98) with national average income growth, the income of the poorest 20% is not correlated at all. This means that economic growth in Ecuador is pro-rich, and that economic growth without redistribution may increase inequality. The level of relative income inequality in urban areas rose from 2.06 that of rural areas to 2.56 times between 2000 and 2007 (Mideros, 2010). This shows that structural inequalities (i.e. relating to gender, ethnicity, territory and income) have not been reduced.

Complementary poverty analyses are those related to inequality and perceptions. An inequality base line, using the ECV (2006), shows that the per capita income of the richest 10% of the population was 25 times that of the poorest 10% in 2006. Income inequality is also directly related to inequality of opportunities. For example, in 2006 just 11% of the poorest 10% had access to safe water at home, but this figure was 88% for the richest 10%. Similar relationships are found for access to general services and assets, and financial services (Mideros *et al.*, 2008). In addition, 56.0% of the richest 20% of households own a business but only 31.4% of the poorest 20%. And of those businesses, just 19.9% of the richest 20% had access to credit, only 9.0% of the poorest 20%. Finally, while 71.9% of the businesses owned by the richest 20% of the population had access to formal financial services, this percentage was just 29.1% for the poorest 20% (Mideros, 2010). Ramírez (2010) analyses perceptions of the level of satisfaction with different aspects of people's lives. On average, the perceived level of satisfaction with life in Ecuador increased from 6.05 to 7.24 between 2006 and 2010 (on a scale from 0 to 10). The central Sierra, the Amazon and the border regions (i.e. the North and South borders) have the lowest levels of happiness (Ramírez, 2010). Finally, Brborich *et al.* (2007), using the ECV (2006) calculated that 67% of the population cannot achieve the life they want. This level of perceived dissatisfaction is called subjective poverty, as it reflects the individual consideration of poverty (Brborich *et al.*, 2007).

For regional comparisons, the Economic Commission for Latin America and the Caribbean (CEPAL) shows that poverty (monetary deprivation) in Latin America decreased from 44.0% (221

million persons) in 2002 to 32.1% (180 million persons) in 2010. Poverty decreased in all the countries of the region during this period. However, a distinction is made between countries where poverty decreased due to economic growth (e.g. Argentina, Chile, Peru, Dominican Republic and Uruguay), and those where poverty decreased because of redistribution (e.g. Brazil, Colombia, Ecuador, Panamá and Paraguay). According to this study, Ecuador, Colombia, El Salvador and Costa Rica are the countries with lower poverty reduction between 2008 and 2009, which is mainly explained by low labour income growth (CEPAL, 2010). However, this study is criticized by the Ministry of Social Development (MCDS), because the CEPAL for Ecuador includes just urban areas. The MCDS also affirms that poverty is a multidimensional phenomenon which needs further analysis (MCDS, 2010b).

The broadest analysis of poverty is the II Millennium Development Goals Report, which uses the ECVs. However, a new ECV is needed for further comparison. In the case of extreme consumption poverty, the deprivation headcount ratio was 13.6% in 1995 and 12.86% in 2006. Moreover, the Gini coefficient for consumption increased from 0.36 to 0.40 over the same period. This report suggest policies for poverty alleviation should include social protection and social security, economic inclusion (i.e. access to markets), education and health. In the case of education, the net rate of primary education (children between 5 and 14 years old) increased from 83.2% in 1995 to 90.9% in 2006, and illiteracy decreased from 10.5% to 9.1% over the same period. Concerning gender inequality, the report found that women earned 14% less than men for the same work. The infant mortality rate decreased from 43.1 in 1990 to 21.8 in 2004, however it was still higher than the goal (14.4) (Ponce, 2007).

There are two partial approaches to multidimensional poverty in Ecuador. The first is an analysis applying a totally fuzzed and relative approach to the ECV (2006) in order to measure multidimensional poverty. Using six dimensions (housing, wealth, education, health, income and a subjective appreciation of poverty), Cuesta found that urban poverty is higher than rural poverty, and that indigenous persons, Afroecuatorians and those of old age are the poorest (Cuesta, 2008). However, this study does not analyse each dimension, and the dimensions are not clearly related to the development framework of Ecuador. The second is a poverty index based on unsatisfied basic needs, which is usually presented as a measure of multidimensional poverty in Ecuador and other Latin American countries. But this index is defined as a set of conditions rather than by measurements of deprivation in different dimensions, meaning it is a multivariate index but not a multidimensional approach.

A more comprehensive measure of multidimensional poverty is that of the Ethos foundation. It defines poverty as the incapacity to satisfy household and context needs. The index uses six dimensions

at the household level (i.e. income, education, safe water, housing, cooking and electricity) and seven dimensions of context (i.e. public health care, institutions, economy, democracy, security, gender and the environment). The index was measured for eight countries: Chile, Brazil, México, Colombia, Peru, Venezuela, Ecuador and Bolivia. Ecuador has the second worst results (just above Bolivia). Ecuador has higher poverty measures related to the context than at the household level. At the household level the main deprivations are in terms of safe water, sewage systems and income. Measured by context, Ecuador scores worst for government effectiveness and second worst for corruption (just above Venezuela). Besides these results, Ecuador is below average in employment, economic competitiveness and the investment environment. This shows that the main factors of contextual poverty in Ecuador are institutions, democracy, economy and security (ETHOS, 2011). This study is a good source of information, however the data is from different sources and for different years. Moreover, the weights and cut-offs are defined without any consideration of the specificities of each country.

To conclude this section, it can be said that poverty analysis in Ecuador is mainly based on unidimensional measures, but that some specific studies are available to complement the analysis (e.g. food deprivation (Maldonado and Samaniego, 2010), rural poverty (FAO, 2008), the Millennium Development Goals (Ponce, 2007) and happiness or subjective poverty (Brborich *et al.*, 2007; Ramírez, 2008b and 2010b)). In addition, Ecuador has not defined poverty as the basis of the new development framework, and a multidimensional approach based on available statistics (for permanent monitoring) is of high relevance for enhancing public policies for poverty alleviation and to promote good-living. However, the evidence is clear about the relationship between poverty and inequality in Ecuador, the importance of strong pro-poor economic growth, and the importance of both individual and contextual analysis.

2. Understanding poverty

Poverty and development

Poverty can be seen as a lack of well-being, and its alleviation is the prime objective of any meaningful development strategy. In words of Andre Beteille: “it becomes more and more apparent that development and growth are not the same thing. Where growth leads to an increase of poverty and inequality, it could hardly be called development in any meaningful sense of the term” (Beteille, 2003: 4458). The most influential theory of development in recent decades is that of Amartya Sen. In his perspective:

Development can be seen [...] as a process of expanding the real freedoms that people enjoy. [...] [It] requires the removal of major sources of unfreedom: poverty as well as tyranny, poor economic opportunities as well as systematic social deprivation, neglect of public facilities as well as intolerance or overactivity of repressive states” (Sen, 1999: 3).

Sen mentions five types of freedoms: political freedoms, economical facilities, social opportunities, transparency guarantees and protective security. All of them are rights, opportunities and/or entitlements that enhance people’s ‘capabilities’ to achieve a life they value, and they are simultaneously the ends and the means of development. In this perspective, people are directly involved in the development process, using their freedom (reflected in available ‘capability’ set) to choose (achieve) a combination of ‘functionings’ (i.e. lifestyle). However, everybody’s freedoms are determined by their individual, social and environmental conditions. Social support is needed to enhance people’s ‘capabilities’, and to generate individual responsibility once a person is really capable of doing or not doing something. In this framework, social justice is analysed through individual advantages in terms of capabilities, and poverty is understood as a deprivation of capabilities (Sen, 1999).

This new paradigm undoubtedly represents a change in how to analyse, explain and promote development. The capabilities approach constitutes the basis of a definition of human development and aims to overcome the narrow conception of development as economic growth. However, the relationship between economic growth and poverty depends on distributional issues (Bourguignon and Morrison, 1998; Ravallion, 2005; Deaton, 2006; Easterly, 2007). Francois Bourguignon presents a clear elaboration of the relationship between economic growth and distribution, and provides insights for a development strategy focused on poverty reduction. He shows that “[the headcount absolute income] poverty reduction in a given country and at a given point of time is fully determined by [both] the rate of growth of the mean income of the population [(growth effect)] and the change in the distribution of income [(distributional effect)]” (Bourguignon, 2004: 2). Under this framework, poverty variation is a function of growth, distribution and the change in distribution (Bourguignon, 2004; Ravallion, 2005).

Optimal growth-distribution strategies aiming at poverty reduction in a given time frame should therefore differ depending on initial conditions. For instance, it is likely that changing the distribution is probably more important for middle-income and inegalitarian countries, while growth is probably more important, in relative terms, for low-income and egalitarian countries. Also, [...] effective redistributive policies may in fact yield a double dividend: they reduce poverty today and accelerate poverty reduction in the future. (Bourguignon, 2004: 10).

In this sense, economic growth may reduce absolute income poverty if the distribution of income does not get worse. But in order to reduce relative income poverty the distribution must improve (i.e.

become more egalitarian). Finally, poverty may be reduced, even without economic growth, by just implementing re-distribution at a certain level of development.

An important concern for poverty alleviation policies (based on economic growth and distribution) is the debate over whether economic growth is always positive and possible, and if there are limits to growth. This discussion has been mainly proposed by scholars in the field of ecological economics (Georgescu-Roegen, 1975; Daly, 1997, 1999, 2002, 2007 and 2008; Martínez-Allier, 1998 and Czech and Daly, 2004). Stiglitz (1974) introduced technical change as a possibility to offset natural limitations to economic growth, but Daly (1997) refuted this argument based on the laws of thermodynamics, and discussed substitutability between natural resources and capital, and the capability of the environment to deal with the waste generated in the economic growth process. In any case, there are strong reasons to doubt the potential of unlimited growth, but the limits of growth are still not clear.

Another important discussion concerns the relationship between economic growth and inequality. This relationship has been studied on the basis of the Kuznet's curve, which displayed an inverted-U shape. However, empirical evidence is contradictory, showing the relevance of country specificities and of then establishing a space for policy intervention (governance issue). The effect of equity on economic growth could be argued to be positive through the following hypotheses. Firstly, decreasing inequality may reduce credit market imperfections; secondly, a more egalitarian society promotes less redistribution (low tax pressure); and thirdly, social conflict and political instability is higher in a more unequal society. However, hypotheses in favour of a negative relationship are also found in the literature (e.g. redistribution reduces savings and expected returns, decreasing investment), leaving space for country-specific policies (Bourguignon, 2004; Ravallion, 2005).

Poverty began to be seen as a concern at the end of the nineteenth century with the seminal works of Charles Booth and Seebohm Rowntree in Britain. Their studies focused on industrialised urban areas, which were considered the natural habitat of poverty (Beteille, 2003). Poverty was related to a lack of earnings, and was conditional on employment. In this vision, poverty appears as a result of a labour market economy, and promotes commitment to participation in this economy due to fear of poverty. This commitment results in pressure for lower wages and social security kept at minimum levels because people are willing to accept low salaries to avoid poverty (Alcock, 1997). Linking poverty with a wage labour economy defines as poor those who are unemployed, but as a secondary effect it generates poverty for those on low salaries, and then generates 'classes' (Alcock, 1997;

Beteille, 2003). In this initial perspective, anti-poverty policies were related to unemployment, wages, pensions and public expenditure (Alcock, 1997).

Following this approach, much research has been conducted, and different visions about poverty have been developed. Poverty is seen in all cases as a deprivation in well-being (Alcock, 1997 and Haughton and Khandker, 2009), however to define poverty it is important to deal with the fact that “[...] there is no correct, scientific, agreed definition because poverty is inevitable a political concept.” (Alcock, 1997: 3). Poverty as a lack of well-being has an intrinsically political connotation (i.e. the definition of well-being). In this way, poverty can be seen as “the result of political failure, or failure of political will” (Alcock, 1997: 40). Juan Somavia, the Director-General of the International Labour Organization, said that “the world does not lack the resources to abolish poverty; it only lacks the right priorities”. In any case, priorities are socially defined (at least in a democracy), and poverty is also produced and reproduced by socio-economic forces and structures as well as by political processes (Alcock, 1997).

Poverty definitions are linked with political power and with ideological perspectives, which generate different policies for poverty reduction. From a neoliberal perspective, the policies look for self-sufficiency of the poor, meaning assistance is kept at minimum levels to avoid dependency and labour market efficiency losses. Conservatism recognises the need to counteract the problems of a market economy and promotes focused policies to relieve poverty, but not to prevent it. Social democracy promotes universal benefits and market interventions to prevent poverty. Finally, socialism promotes societal transformations and the elimination of a punitive labour market, where redistribution is important irrespective of the labour market perspective (Alcock, 1997).

A definition of poverty has to accommodate the relationship between poverty and inequality. An absolute approach to poverty will immediately delink these concepts, while a relative approach establishes an indubitable and direct relationship (Beteille, 2003). An absolute approach is defined by a fixed poverty line²⁰ based on the notion of subsistence, assuming fixed conditions and life standards. From a policy perspective, in this approach it does not matter if development benefits the better off more as long as the worse off can achieve a minimum fixed level of well-being. This perspective is proposed by those who believe in a utilitarian perspective, which accepts redistribution and tax progressivity under the assumption that social marginal utility declines as income rises. But caring

²⁰ Absolute poverty lines are adjusted by purchasing power (Ravallion, 2005). However, if the poverty line is also adjusted across countries and among time, the relative approach may be seen as the continuous extreme of the absolute one (Bourguignon, 2004).

about inequality means that social marginal utility becomes negative for those on high incomes, which is not accepted from this perspective (Feldstein, 1998). However, there may be negative social marginal utility if welfare depends on the relative position of an individual in the society, meaning that inequality is relevant for well-being (Reynolds, 1996; Haughton and Khandker, 2009). Moreover, in the long-run, unlimited economic growth and accumulation may produce environmental damage and social unrest which may generate negative social marginal utility. Finally, a poverty analysis without consideration of inequality can be seen as limited as it does not consider social justice, and because it denies the role of inequality as a limitation of poverty alleviation (Cuesta, 2006).

On the other hand, a relative approach considers poverty as the unacceptable level of inequality, viewing it as a structural social consequence. The sense of equality is based on the exercise of civil, political, economic, social and cultural rights. However, the promotion of equality may conflict with ‘economic freedom’ (Alcock, 1997). Peter Townsend is considered one of the most prominent advocates of a relative approach. In his seminal work of 1979, he said that “poverty is relative cross-nationally, then it is also relative historically. It is relative to time as well as to place” (Townsend, 1979: 52). He also discussed the role of institutions, norms, legislation and cultural conventions in the sense of relative deprivation. For this approach, “poverty is the unacceptable face of broader inequalities [...], policies to combat poverty must also seek to change the wider patterns of inequalities. [...] policies that aim to combat poverty must also aim to challenge the structures and processes that accompany it.” (Alcock, 1997: 252).

Although it is clear that an absolute approach is too narrow, a relative one may be too vague as everyone may have a relative sense of deprivation (Beteille, 2003). However, there is an increasing consensus about the importance of relative deprivation and also about the importance of guaranteeing minimum levels of absolute standards of living (Bourguignon, 2004). In both approaches an arbitrary threshold to identify the poor is needed, but in a relative approach it is possible to reflect socially-defined thresholds of well-being. In the absolute approach a poverty line is established as a fixed minimum, while in the relative approach it is defined as a proportion of a norm or standard (e.g. a proportion of the mean) (Bouguignon, 2003). In any case, to make the definition democratic, a threshold may be established by the society as it reflects the need for actions to eliminate poverty and the social willingness to pay for those actions (Alcock, 1997). However, there is an intrinsic problem with the use of a poverty line as it assumes some kind of welfare discontinuity where poor and non-poor can be identified, but that is not the case in reality (Deaton, 2006).

In the discussion about absolute or relative approaches it is also important to understand the relationship between poverty and inequality. Relative inequality is defined by a function of an individual's wealth relative to the mean²¹, while absolute inequality is the absolute difference in levels of living. It may be argued that there exists a poverty-inequality trade off if both positive effects of growth on poverty reduction and of inequality on economic growth (i.e. equity-efficiency trade off) are accepted. Nevertheless, as mentioned before, empirical evidence does not support this, with the effect of economic growth on poverty depending on the level of inequality (Ravallion, 2005). Finally, Martin Ravallion (2005) presents evidence that denies the existence of a trade off between poverty and relative inequality, but one may exist in relation to absolute inequality, as economic growth can be observed with no changes in relative inequality.

As well as the ideological and absolute/relative discussions, there remain different approaches that are used to define and analyse poverty²². In this paper, a rights-based approach is proposed to link poverty analysis with the development framework in Ecuador. In this approach, poverty is defined and measured based on the exercise of legally (socially) defined rights (i.e. political and civil rights and economic, social and cultural rights)²³. The use of rights as dimensions of well-being see rules, institutions and rights as means and ends for the common-good²⁴ of a community (Finnis, 1980). This approach can be related to the capabilities approach in the sense that both promote the freedom-

²¹ In relative inequality, if all individual's wealth level is multiplied by a constant inequality does not change (scale independence axiom) (Ravallion, 2005).

²² First, a monetary approach is used under the assumption of utility maximizing behaviour, where income/expenditure represents marginal utility. This approach is commonly justified invoking consumption as a proxy of welfare. Understanding poverty from a simplified utilitarian perspective usually generates anti-poverty policies based on economic growth, but hiding structural causes of poverty (Ruggeri *et al.*, 2003). Besides, this approach assumes that all goods and services can be found in a market, and that everybody has access to markets. Second, poverty can be seen as social exclusion and then defined as marginalization from the society. In this approach exclusion is produced by the actions of agents. Besides, future prospects are as important as actual circumstances, and then it is relative to each society. Poverty in a social exclusion approach focuses on redistribution because deprivation is related to an internal norm, and marginalization relates to discrimination, class barriers and citizenship restrictions (Ruggeri *et al.*, 2003). In this sense poverty is created and recreated by social relations, and then it is a process instead of a state of affairs, which exclude some people or group/s from the enjoyment of free time, means of communication, financial services, security and political participation (Alcock, 1997). Third, a participatory approach emerges from the critic about an "external" analysis of poverty (i.e. it is done by non-poor people). This approach focuses on participatory mechanisms to define poverty and its characteristics. However, it has to deal with heterogeneity, the selection of participants and the interpretation of peoples' perceptions (Ruggeri *et al.*, 2003). Fourth, a basic needs approach has been promoted by development economists, where different characteristics or conditions are analyzed. This approach perceives development as an improvement in human needs and not as income growth (Tsui, 2002; Bourguignon and Chakravarty, 2003). Fifth, in the capability approach, based on Sen's view of development (Sen, 1999), poverty is defined as deprivation in the space of capabilities. This approach focuses on the outcomes rather than on means (i.e. different persons may need different resources to obtain the same achievements). The means to enhance people's capabilities include the issues of externalities and social goods. For the capabilities approach poverty is the absence of capabilities to function in the society, and the set of capabilities are relative to each society (Deaton, 2006).

²³ An example of the use of a rights-based approach is that presented by Yousefzadeh *et al.* (2011) analysing child poverty in the base of the Convention on the Rights of the Child for child poverty.

²⁴ The perspective of common-good comes from the influence of Christian social traditions on law theories.

capabilities-conditions of individuals to achieve a life they value. Moreover, as the measure of the capability approach in terms of ‘capabilities’ is not really straightforward, analysis is commonly conducted in terms of ‘functionings’, which can be related to both basic needs and rights.

Poverty governance is the set of values, norms, processes and institutions to deal with different concerns around poverty. It defines poverty and its dimensions, takes a position about the relationship between poverty and inequality and determines thresholds and priorities. However, it is also about identifying responsibilities and the agents that should be involved in poverty alleviation. Besides this, poverty governance must establish goals, select a set of policies, and decide upon costs and financing mechanisms for poverty reduction. In this paper, the Constitution is used as the information base to define dimensions, thresholds and priorities. In this way, the assumption is that the rights established in the Constitution reflect the social priorities of Ecuador. The study is limited to individual information, and a contextual analysis is left for future research.

Measuring multidimensional poverty

There is a broad range of literature about poverty measures, most of which follow Amartya Sen’s approach, who established that to measure poverty the poor should be identified, and an index constructed using information about the poor. From a unidimensional perspective of poverty (e.g. monetary), Sen elaborated an index which is the weighted sum of the poverty gaps (Sen, 1976)²⁵. Following Sen’s proposal, Anthony Shorrocks modified the index, adjusting the normalization condition in order to satisfy the transfer axiom and to provide continuity (Shorrocks, 1995)²⁶. However, the most common measures of poverty (i.e. the poverty headcount and the poverty gap) are calculated following the FGT parametric family of indices. Foster, Greer and Thorbecke (1984) proposed an additively decomposable index based on Sen’s index, but in the FGT indices poverty is aggregated using the household shortfalls as weights (relative deprivation), instead of a rank order (Foster, Greer

²⁵ Sen uses an ordinal approach to welfare comparison for his income-poverty index (P), which equals $H[I + (1 - I)G]$, where $H = (q/n)$ is the poverty headcount, $I = \sum_{i=1}^q g_i/qz$ is the aggregate income-gap ratio, n is the total population, q is the number of persons below the poverty line, $g_i = z - y_i$, y_i is the income-gap of person i , z is the poverty line, and G is the Gini coefficient of the income distribution among the poor. $(1 - I)$ is interpreted as the ratio of the mean income of the poor to the poverty line (Sen, 1976).

²⁶ Shorrocks’ modified Sen’s poverty index is $P = \mu(x)[1 + G(x)]$, where $x_i = \max\{(z - y_i)/z, 0\}$, $\mu(x)$ is the mean and $G(x)$ the Gini coefficient for the distribution of x . This index allows a geometrical interpretation using a Lorenz curve with the following modification $P = 2 \int_0^1 D(x;p)dp$, where the poverty gap profile $D(x;p) = \mu(x)[1 - L(x; 1 - p)]$, $p \in [0,1]$ and $L(x;\cdot)$ is the Lorenz curve of x . For a direct comparison with Sen’s index it can be written as $P = H[(2 - H)I + H(1 - I)G]$ (Shorrocks, 1995). This index is called the Sen-Shorrocks-Thon index, as it is identical to the limit of Thon’s modified Sen’s index (Osberg and Xu, 2000).

and Thorbecke, 1984)²⁷. In any case it is important to note that the most common poverty index (i.e. the poverty headcount) fails to satisfy the monotonicity and transfer axioms, while the poverty gap index does not satisfy the transfer axiom (Sen, 1976)²⁸. These axioms are important because poverty is a matter of degree or intensity, and not a simplified poor/non-poor dichotomy (Betti *et al.*, 2008), meaning that a true measure of poverty must take into account the distribution among the poor or the severity of poverty.

Recent efforts have aimed at capturing welfare multidimensionality for poverty analysis (Atkinson, 2003). Some of the reasons to care about multidimensionality rather than simplified monetary measures are that “(1) people value things besides material well-being; (2) material well-being is only imperfectly correlated with other aspects of well-being; (3) policy choices depend on which dimensions are prioritised; and, (4) the different dimensions of poverty reinforce one another” (White *et al.*, 2002: 3). But it is important to include in this list the fact that markets do not exist for all valuable goods and services (e.g. public goods) and that some markets are mostly imperfect (i.e. there is neither perfect information nor free access, and externalities are not considered) (Bourguignon and Chakravarty, 2003; Ferro Luzzy, 2008). A multidimensional measure of poverty follows three basic steps: choose and measure well-being indicators, set deprivation thresholds, and define an aggregation function (Maasoumi and Lugo, 2008).

Final aggregation is important, especially for policy makers, to give a clear idea of the problem. However, aggregation presents at least two basic problems: the criteria by which to aggregate and weight different dimensions, and the inevitable loss of information, with the analysis of each dimension important for a better understanding of poverty (Chiappero, 2000). There are two ways of aggregating well-being/deprivation dimensions. The first is to combine all the different dimensions at the individual level and then generate a decomposable index for the country/region, the second is to measure a total indicator for all individuals in each dimension and then combines those indicators. An example of the last is the Human Development Index (Atkinson, 2003).

²⁷ The FGT index is $P(Y; Z) = (1/nz^2) \sum_{i=1}^q g_i^2$. Using a different representation this index is equal to $H[I^2 + (1 - I)^2 C_p^2]$, where $C_p^2 = \sum_{i=1}^q (\bar{y}_p - y_i)^2 / q \bar{y}_p^2$ is the square coefficient of variation, and $\bar{y}_p = \sum_{i=1}^q y_i / q$. However, a generalization is also possible with the following formula: $P_\alpha(Y; Z) = (1/n) \sum_{i=1}^q (g_i/z)^\alpha$, where α is a measure of poverty aversion. Finally for a subgroup decomposition the index may be presented as $P_\alpha(Y; Z) = \sum_{j=1}^m (n_j/n) P_\alpha(Y^j; Z)$, for subgroups $j = \{1, \dots, m\}$. (Foster, Greer and Thorbecke, 1984).

²⁸ Amartya Sen explains the monotonicity and transfer axioms as follows: “Monotonicity Axiom: Given other things, a reduction in income of a person below the poverty line must increase the poverty measure. Transfer Axiom: Given other things, a pure transfer of income from a person below the poverty line to anyone who is richer must increase the poverty measure” (Sen, 1976: 219).

The most common measures of multidimensional poverty follow the first alternative, where different methods can be used. One option is to construct a single cardinal index and then define poverty in terms of it. In this way poverty is, at the end, measured through unidimensional indices. Two examples of this approach are the unsatisfied basic needs index and the multivariate index in Ecuador. However, the more recent literature accepts as a basic point for any multidimensional measure of poverty that it must be defined “as a shortfall from a threshold on each dimension of an individual’s well-being” (Bourguignon and Chakravarty, 2003: 27). In this sense, a multidimensional poverty index is an aggregation of individual shortfalls, and poverty is defined by a vector of individual characteristics (Tsui, 2002). In general terms, a multidimensional poverty index can be presented as a function $P(X, z): M \times Z \rightarrow R_+^1$, where $X \in M$ is the $(n \times m)$ attributes’ matrix for $i = \{1, 2, \dots, n\}$ individuals and $k = \{1, 2, \dots, m\}$ dimensions; and $z \in Z$ is the vector of thresholds (Bourguignon and Chakravarty, 2003). An index can be constructed following at least three different methodological approaches: axiomatic²⁹, fuzzy sets theory³⁰ and information theory³¹ (Maasoumi and Lugo, 2008). Following Bourguignon and Chakravarty (2003), a general decomposable multidimensional index that satisfies the necessary axioms can be defined as:

$$P(X, z) = \frac{1}{n} \sum_{i=1}^n f \left(\max \left\{ 0; \left(1 - \frac{x_{i,1}}{z_1} \right) \right\}, \dots, \max \left\{ 0; \left(1 - \frac{x_{i,k}}{z_k} \right) \right\} \right) \quad (1)$$

But there are also different approaches to define the function $f(\cdot)$. Bourguignon and Chakravarty (2003) proposed to consider a person as poor if he/she falls below the poverty line in at least one dimension. This approach is called the union approach, but it has been criticized as it produces higher poverty measures than those obtained by other approaches, and may identify as poor some persons that are not truly poor (Alkire and Foster, 2009). An alternative to the union approach is an intersection approach, where a person is defined as poor if he/she falls below the poverty threshold in all dimensions, but this may fail to identify individuals suffering from extensive deprivation in certain dimensions (Alkire and Foster, 2009). Alkire and Foster (2009) propose a “dual cut-off” methodology, where a person is identified as poor when he/she falls below the poverty line in at least a predefined number of dimensions. But the number of dimensions stills remains an arbitrary decision.

²⁹ A presentation of indices and the discussion of the different axioms are found in Sen (1976), Tsui (2002), Bourguignon and Chakravarty (2002 and 2003), Maasoumi and Lugo (2008), Chakravarty and Silver (2008) and Alkire and Foster (2009).

³⁰ Different applications of the fuzzy set theories for multidimensional poverty can be seen in Chiappero (2002) and Betti *et al.* (2008).

³¹ A discussion of the information theory for multidimensional poverty is presented in Maasoumi and Lugo (2008) and Ramos (2008).

In this paper, from a rights-based perspective a union approach is used, as deprivation in one right is enough to consider a person as poor because rights are not substitutable. It is important to note that the criticism of the union approach applies only to a headcount ratio. The aim is to define the level of deprivation, meaning that the poverty gap must be used instead of a headcount ratio. Finally, to study distribution among the poor a transformation of the poverty gap to allow sensitivity about inequality (e.g. severity) is used to ensure a better measure of the poverty level.

3. Methodology

Data description

The data is collected from the Urban and Rural National Survey of Employment and Underemployment (ENEMDUR) data base, from the National Institute of Statistics and Census (INEC). The ENEMDUR is an annual survey which allows for permanent measure and monitoring of poverty. All the data is collected every December. Household and individual characteristics are derived during an interview, while work variables use the past week as a reference, and income comes from the previous month (November). The sample is a sub-sample of the Integrated System of Household Surveys (SIEH)'s master sample, and has ten geographic domains³². The Galapagos Islands are not included in the master sample. The population represented in the survey comprises 50.6% women and 49.4% men. Children represent 23.3% of the population, teenagers 13.3%, young people 19.2%, adults 35.9% and the elderly 8.3%³³. In 2010, the largest ethnic group was *mestizo*, comprising 79.6% of the population, followed by indigenous (6.8%), *montubios* (5.9%), Afroecuadorians (4.6%) and whites (3.1%). 66.3% of the population lives in urban areas³⁴, with 33.7% in rural areas. Table 2, shows the number of observations and the represented population for each year.

³² The ENEMDUR has ten domains: the cities of Quito, Guayaquil, Cuenca and Machala (32.1% of the population), and the amazon, coast and sierra regions (divided in urban and rural areas).

³³ Children are the persons with less than 12 years old, while teenagers are the persons between 12 and 17 years old (Código de la Niñez y Adolescencia, 2003: Article 4). Youngs are the persons between 18 and 29 years old (Ley de la Juventud, 2001: Article 1). Old-age persons are those with 65 years old or more (Constitución, 2008: Article 36).

³⁴ Urban areas are concentrated zones with more than 2,000 inhabitants (INEC, 2010b).

Table 2: ENEMDUR's number of observations

Year	Observations	Population
2006	77,964	13,483,988
2007	76,922	13,682,302
2008	78,742	13,878,704
2009	78,878	14,081,060
2010	82,774	14,279,685

A good-living perspective of poverty

As the concept of good-living is the objective of development in Ecuador, it is used as the information base for this study. The rights of good-living are used to define well-being dimensions, with poverty understood as deprivation in these dimensions. As mentioned before, the union approach is used, considering that deprivation in one dimension (i.e. right) is enough to define a person as poor. However, for a complete rights-based approach, political and civil rights as well as the rights of nature and institutions must be analysed. It is because of a lack of information at the individual level that this study concentrates solely on some of the rights of good-living, which can be understood as economic, social and cultural rights and as the functions needed for freedom. Annex 1 shows the variables and indicators ($X_{i,k}^l$) constructed for each dimension, for $i = \{1,2, \dots, n\}$ individuals, $j = \{1,2, \dots, h\}$ households and $k = \{1,2, \dots, m\}$ dimensions. It can be argued that different indicators could be used, but the list is limited to the data available at ENEMDUR, and the choice of indicators is opportunistic rather than ideal. As the dimensions (as rights and as welfare conditions) are conceptually interrelated, some indicators can be used in more than one dimension, however the proposed list tries to capture each dimension with at least one indicator. Six of the eight rights of good-living are used, but a healthy environment and cultural identity are excluded from the analysis due to lack of individual information. The indicators and thresholds are discussed in the next section, when the results of the dimensional level are presented. A more complete analysis could be done after the next Life Conditions Survey (ECV), and compared with the previous ECV (2006). But this is left for future research once a new ECV has been undertaken. However, the ENEMDUR allows for continuous measurement and monitoring.

In order to measure multidimensional poverty an aggregate index is constructed. All the indicators (Annex 1) have a maximum value of 1 (i.e. threshold achieved) and a minimum of 0 (i.e. total deprivation). In order to reduce discontinuity problems the indicators are as continuous as possible between 0 and 1, but are limited by available information. For categorical data, different levels are set

as equidistant to avoid subjectivity (i.e. the indicators are ordinal). This choice can also be criticized as arbitrary but it aims to reduce arbitrariness as much as possible. The aggregation at the level of dimensions follows the next general function: $X_{l,k} = g_k(X_{l,k}^1, \dots, X_{l,k}^p)$, for the variables $l = \{1, \dots, p\}$, where the function $g_k(\cdot)$ is specific for each dimension k .

To identify the level of deprivation for each dimension, a reformulation of the indices is conducted using the formula $\widehat{X}_{l,k} = 1 - X_{l,k}$, where the deprivation level $\widehat{X}_{l,k}$ is interpreted as the relative gap between the individual level of X_k and the deprivation threshold ($z_k = 1$), with a maximum value of 1 (i.e. total deprivation) and a minimum of 0 (i.e. no deprivation). The multidimensional poverty index is calculated as follows:

$$P(X, z) = \frac{1}{n} \sum_{i=1}^n f(\widehat{X}_{i,1}, \dots, \widehat{X}_{i,m}) \quad (1.1)$$

To define $f(\cdot)$ a union approach is used, because for a rights perspective a person is poor if he/she is below the threshold in at least one dimension. However, it is important to capture the severity of poverty and for this a modification is conducted using a variation of the FGT severity index.

$$P(X, z) = \frac{1}{n} \sum_{i=1}^n \left[\frac{1}{m} \sum_{k=1}^m \widehat{X}_{i,k}^2 \right] \quad (2)$$

In (2) multidimensional poverty is understood as the average of the squared shortfalls. The dimensions are assumed to not be substitutable but are interrelated for the aggregate level of poverty. At the individual level a higher weight is given to the dimensions with a higher deprivation gap, and a higher weight is assigned to those persons with higher deprivation. In this way, the index is sensitive to the poverty distribution. Poverty at the individual level is defined by $P_i = (1/m) \cdot \sum_{k=1}^m \widehat{X}_{i,k}^2$, with a maximum value of 1 (i.e. complete poverty) and a minimum of 0 (i.e. no poor).

4. Exploring multidimensional poverty in Ecuador

Good-living deprivations

In this section, deprivation in each dimension is presented. In order to be comprehensive, headcount ratios are presented at the indicator level as well as at the dimension level. Deprivation gaps (level of deprivation) are also presented at the dimension level for different regions and demographic groups, where applicable. For the headcount ratio, a person is considered deprived if he/she falls below the threshold in at least one variable (i.e. union approach) on the basis of the following rule:

$$deprived_i = \begin{cases} Yes; & \text{if } \widehat{X}_{l,k} > 0 \\ No; & \text{if } \widehat{X}_{l,k} = 0 \end{cases} \quad (3)$$

The deprivation gap for each individual in each indicator is directly measured by $\widehat{X}_{l,k}^l$, while the individual deprivation gap in each dimension is determined by the aggregation function $g_k(\cdot)$ as follows:

$$X_{i,k} = \frac{1}{p} \cdot \sum_{l=1}^p X_{i,k}^l \quad (4)$$

The deprivation level ($\widehat{X}_{l,k}$) is measured using (4) in each dimension, and is defined as the average deprivation level among the variables. Finally, the decomposable aggregate deprivation gap for each dimension is:

$$\widehat{X}_k = \frac{1}{n} \cdot \sum_{i=1}^n \widehat{X}_{l,k} \quad (5)$$

Using (5) it is possible to decompose the deprivation gap by region and by demographic group, as follows:

$$\widehat{X}_k = \sum_{s=1}^q \frac{n_s}{n} \cdot \widehat{X}_k^{(s)} \quad (6)$$

Where s is the set of groups $\{1, \dots, q\}$, and $\widehat{X}_k^{(s)} = (1/n_s) \cdot \sum_{i_s=1}^{n_s} \widehat{X}_{l_s,k}$.

Dimension 1: Food and water

This dimension is defined by two variables. The first one is measured at the household level and is defined as deprivation in the public water supply of the house ($\widehat{X}_{l,1}^1$). The threshold is defined according to the competence of the State (municipal governments) in providing a water supply (Constitución, 2008: Article 264). The second variable measures monetary deprivation (i.e. income), as an approximation for food deprivation ($\widehat{X}_{l,1}^2$). The threshold for monetary deprivation (as an approximation for food deprivation) is the official extreme poverty line, defined from the Life Conditions Survey (ECV) of 2006 for a basic nutritive diet (2,141 Kcal per-person per-day), and then adjusted by the CPI following the official methodology. In monetary value, this threshold is close to the parameter of USD 1 per capita per day.

Table 3 shows the headcount of deprived persons at the national level, for each of the variables and for the dimension level. The percentage of the population deprived of a public supply of water at

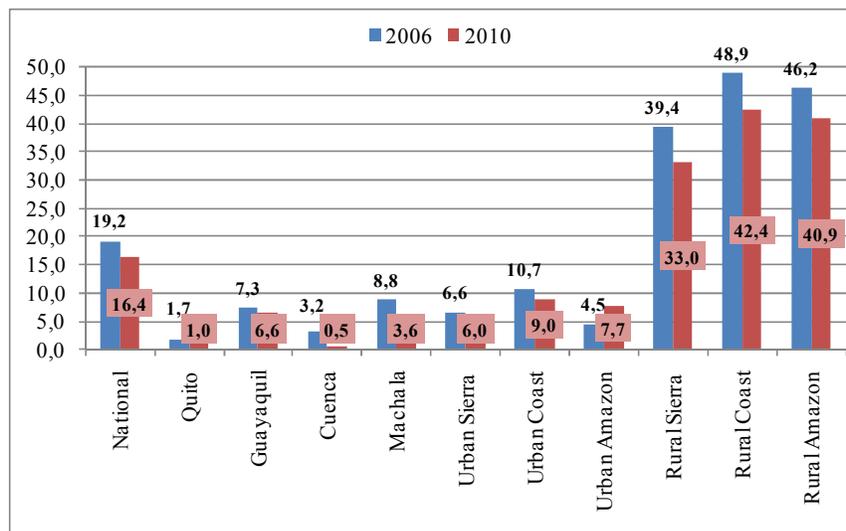
their home decreased from 32.1% in 2006 to 27.9% in 2010, while the percentage of the population with monetary deprivation fell from 16.9% to 13.5% over the same period. The two variables have a positive correlation of 0.22. At the dimension level, one third of the population is deprived in food and water; however it is important to note that, on average, 1% of the population overcomes this deprivation each year.

Table 3: Food and water deprivation headcount

	2006	2007	2008	2009	2010
Water at home	32.1	28.7	28.8	29.0	27.9
Monetary	16.9	16.5	16.2	15.8	13.5
Food and water	38.4	35.7	36.0	36.5	34.2

As established previously, poverty is a matter of level, so the deprivation gap is important to fully understand it. Figure 6 presents the deprivation gap at the dimension level ($\widehat{X}_{l,1}$). The figure shows the average gap for different regions and demographic groups. The deprivation gaps at the variable level and at the dimension level are presented in Annex 2. In Figure 6 is clear that deprivation in this dimension is particularly an issue in rural areas (especially in the rural Coast and rural Amazon areas), while a lower deprivation gap is found in the cities of Cuenca, Quito and Machala.

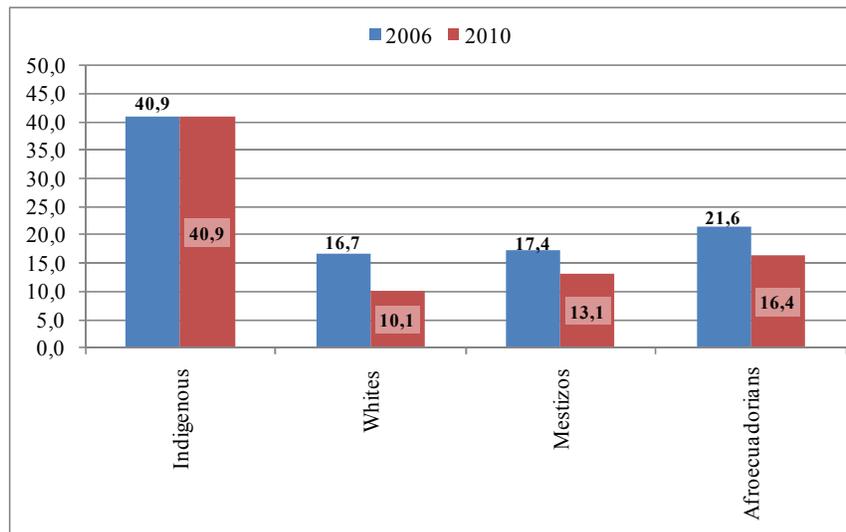
Figure 6: Food and water deprivation gap by region



The deprivation gap in food and water decreased between 2006 and 2010 in all regions and for all demographic groups, with the exception of the indigenous population where the deprivation gap has not changed (Figure 7). Because both variables are measured at the household level it is not possible to

disaggregate the deprivation gap by gender or age³⁵. In terms of relative deprivation, the difference in the deprivation gap for the indigenous demographic group rose from 2.1 times that of the national level to 2.5 between 2006 and 2010. Besides this relationship, there were increases in the rural Coast, the urban Sierra and the Amazon. The reduction in food and water deprivation between 2006 and 2010 has been primarily driven by the cities of Cuenca and Machala, and the urban Coast. Additionally, the monetary deprivation gap increased for indigenous people and the urban Sierra (including Quito) and Amazon regions during this period.

Figure 7: Food and water deprivation gap by demographic group



Dimension 2: Communication and information

Deprivation in the dimension of communication and information is measured by five variables at the household level: ownership of a radio, telephone, television and computer, and access to the internet. However, the possession of these means of communication does not reflect true access and use of them, does not indicate access to information or tell us about the quality of the information. Unfortunately, information for a more comprehensive analysis is not available at the individual level, and more research is needed in this area. For the aggregate measure computer and internet are not included because information is not available for 2006 and 2007. However, both are important to assess universal access to information and communication technologies (Constitución, 2008: Article 16). To

³⁵ Only the dimensions of education, health protection and work and social security have information at the individual level, and then those are decomposed by gender and age group.

measure deprivation in terms of ownership of a telephone, mobile phones are not considered because information is only available for 2010.

Table 4 shows the deprivation headcount for each variable and for the dimension. Deprivation declined between 2006 and 2010 for all the variables, except for radio. In 2010, a higher percentage of deprived people was found in relation to internet (88.2%), computer (71.8%) and telephone (63.0%), while lower deprivation ratios are for radio (32.4%) and television (13.0%). This shows that television is the main source of information in the country, indicating the importance of guaranteeing a free but responsible media. The internet is still a marginal source of information at home, however it is possible to access internet at educational entities and private locations. The aggregate headcount of means of communication and information deprivation is relatively high in comparison to other dimensions.

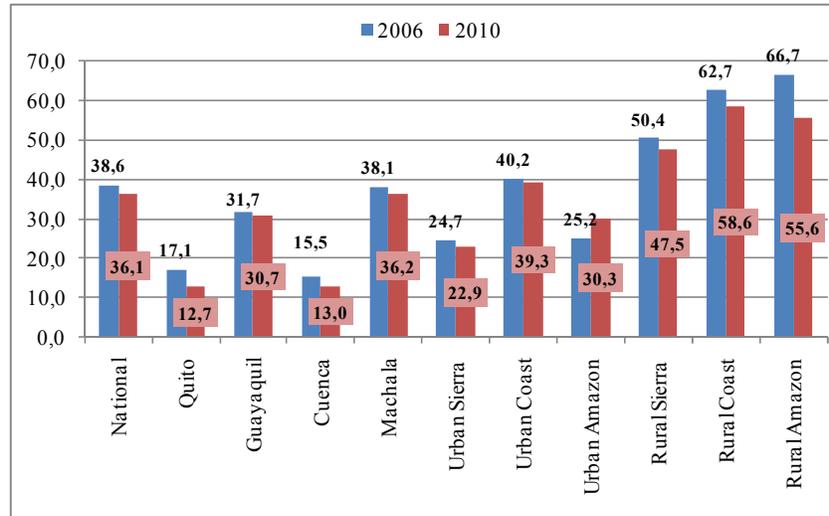
Table 4: Communication and information deprivation headcount

	2006	2007	2008	2009	2010
Radio	27.2	28.9	28.0	31.8	32.4
Telephone*	68.9	66.0	64.4	65.4	63.0
Television	19.7	17.5	15.5	15.5	13.0
Computer	80.4	79.6	76.8	75.9	71.8
Internet	n.d.	n.d.	93.2	92.4	88.2
Communication**	73.2	70.9	69.2	71.3	69.8

* Mobile phones are not considered; ** Computer and internet are not included.

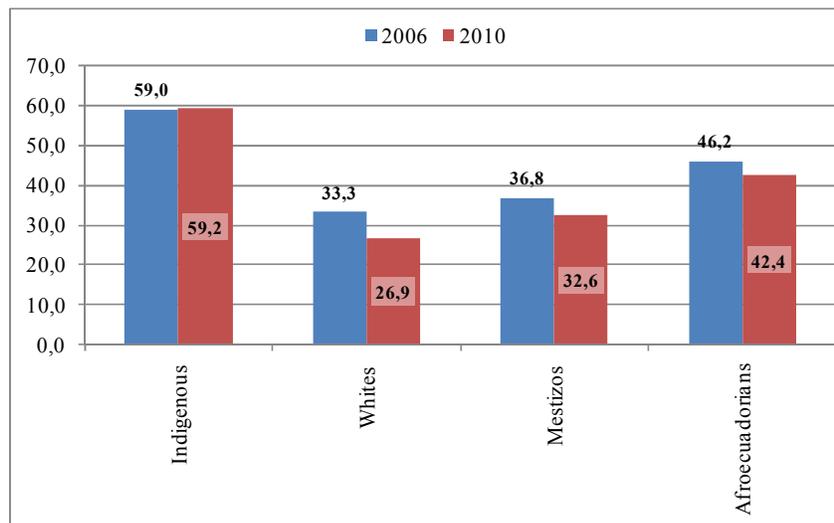
Figure 8 shows the deprivation gap at the dimension level by region. The deprivation gap decreased in all the domains between 2006 and 2010. Deprivation is higher in the rural Amazon and at the Coast, especially in rural areas. However, the relative deprivation gap between the rural Amazon and the national level decreased from 1.7 to 1.5 between 2006 and 2010. Only in Quito, Cuenca, Guayaquil, urban Sierra and urban Amazon was the average deprivation gap lower than 33% in 2010, which means that on average the population has at least one means of communication at home. At the country level, the deprivation gap was 36.1% in 2010, meaning that on average each household has one out of three means of communication (mainly a television, followed by a radio).

Figure 8: Communication and information deprivation gap by region



The deprivation gap by demographic group (Figure 9) shows similar differences as for the previous dimension. Indigenous persons have a higher deprivation gap. The relative deprivation gap for indigenous people increased from 1.5 times that of the national level to 1.6 between 2006 and 2010. This relationship is similar for Afroecuatorians (1.2) but less for *mestizos* (from 1.0 to 0.9) and whites (from 0.9 to 0.7) over the same period.

Figure 9: Communication and information deprivation gap by demographic group

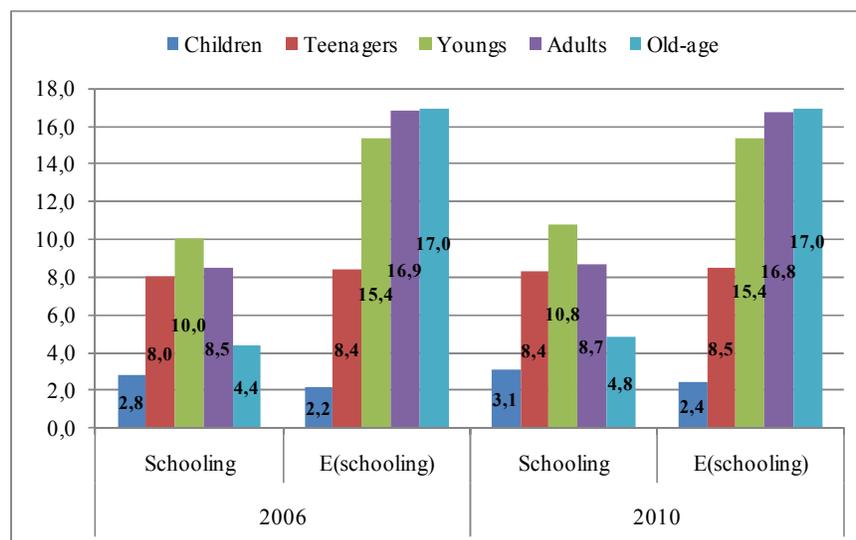


Dimension 3: Education

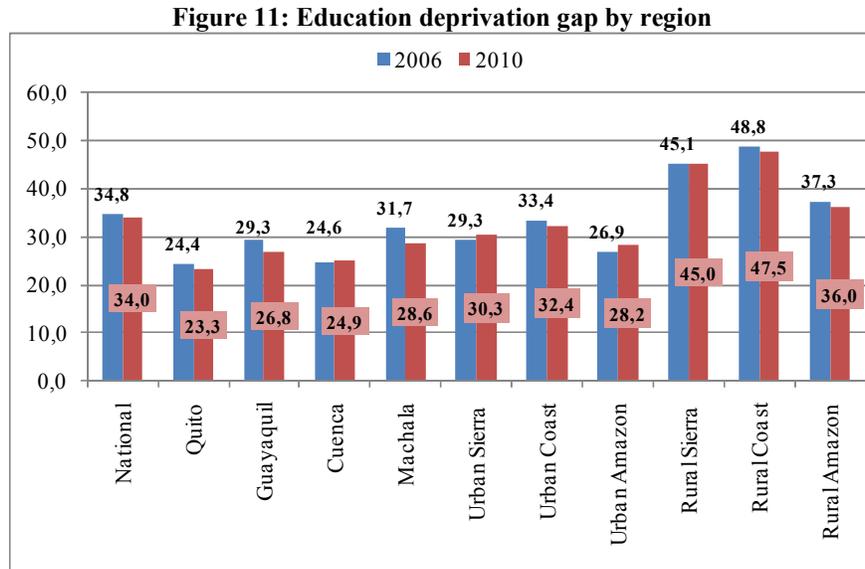
In order to identify education deprivation, an index of schooling achievement ($X_{i,5}$) is used. This index compares the years of schooling of a person with the desired years of schooling (i.e. threshold), according to an individual's age. Desirable or expected years of schooling is defined by Es_i (Annex 1), as a function of age. The years of desirable schooling is 0 for those who are less than 7 years old, and the maximum number of years of schooling is defined at 17 (complete primary, secondary and tertiary education). However, a person is defined as not deprived if he/she has more than 9 years of schooling (complete primary education) but do not want to study more.

The average years of schooling for the population over 5 years old increased from 7.4 in 2006 to 7.9 in 2010. Figure 10 shows the average years of schooling and the average expected years of schooling by age group. The average years of schooling increased between 2006 and 2010 for all the age groups. The group with higher average schooling growth rates is the old age group (2.8% per year), however this is the result of demographic transition. The percentage of old age persons with zero years of schooling decreased from 26.3% in 2006 to 24.17% in 2010, but 30% of the old age group with at least one year of schooling in 2010 are younger than 69, meaning they were not of old age in 2006. The age group with higher levels of expected years of schooling is children (95.2% in 2006 and 96.9% in 2010), followed by teenagers (90.1% in 2006 and 92.9% in 2010). However, the group with large improvements between 2006 and 2010 in the level of schooling achievement are the young, whose level of achievement of expected years of schooling increased from 65.9% in 2006 to 71.1% in 2010, reflecting an important improvement in access to tertiary education.

Figure 10: Schooling and expected schooling by age group

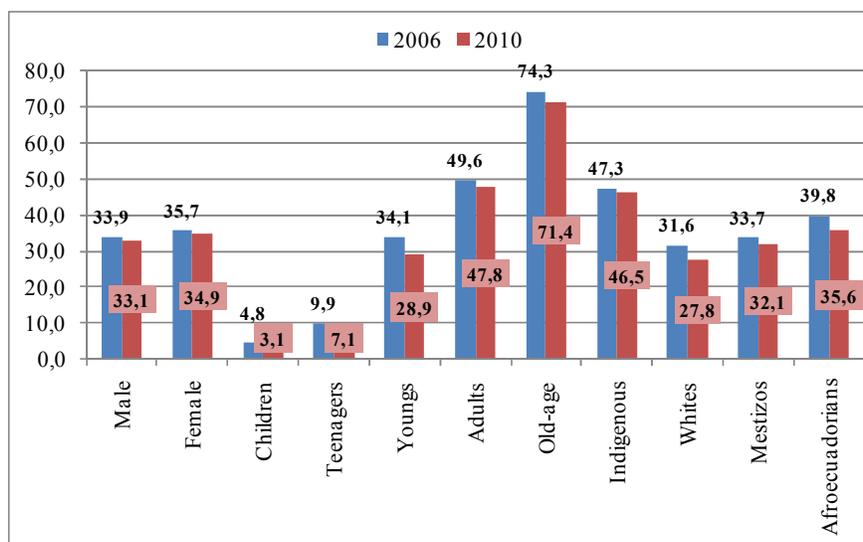


Despite the important improvements mentioned, the percentage of the population showing any level of education deprivation is still over 65.4% in 2010 (66.1% in 2006). The rural areas show higher deprivation gaps (Figure 11), while lower deprivation gaps are found in the cities of Quito, Cuenca and Guayaquil.



As mentioned, the population group with a higher deprivation gap in education is the old age group. The relative difference in gap between females and males shows that, on average, a woman has 1.1 times more deprivation in terms of education than a male. This relationship did not change between 2006 and 2010. In addition, the relationship between the deprivation gaps of indigenous people and rural areas and the national level did not change during this period.

Figure 12: Education deprivation gap by demographic group



Dimension 4: Housing

To measure housing deprivation six variables are considered. The first variable is related to the house, with an individual considered as not deprived if the household owns the house where they live, and as deprived if the household rents the house³⁶. A middle level of deprivation is considered if a household is provided with housing through a kind of courtesy or as labour compensation. The second variable identifies the quality of the floor, following the ENEMDUR³⁷. The third variable measures the number of persons per bedroom in the house. An individual is considered as not deprived if there are two or less persons per room, and as deprived if there are three or more persons per room. A middle level is designated as more than two but less than three persons per room, on average³⁸. Finally, access to electricity, a sewage system and rubbish disposal are measured at the household level. An individual is not deprived if the house receives the public service; a middle level of deprivation is designated if the house is connected to a private service, and deprivation is observed if the house does not have any service³⁹.

³⁶ The threshold is defined when a household own the house in coherence with the article 30 of the Constitution, which establishes that the right of housing is independent of the economic and social situation (Constitución, 2008: Article 30). In this sense a rented house is seen as dependent of the economic situation, because it affects the disposable income.

³⁷ The floor is considered adequate if it has been treated for its use.

³⁸ The threshold is defined at the same level than in the official index of unsatisfied basic needs.

³⁹ The threshold is defined in relation with the obligation of the State to provide these services (Constitución, 2008: Articles 264 and 314).

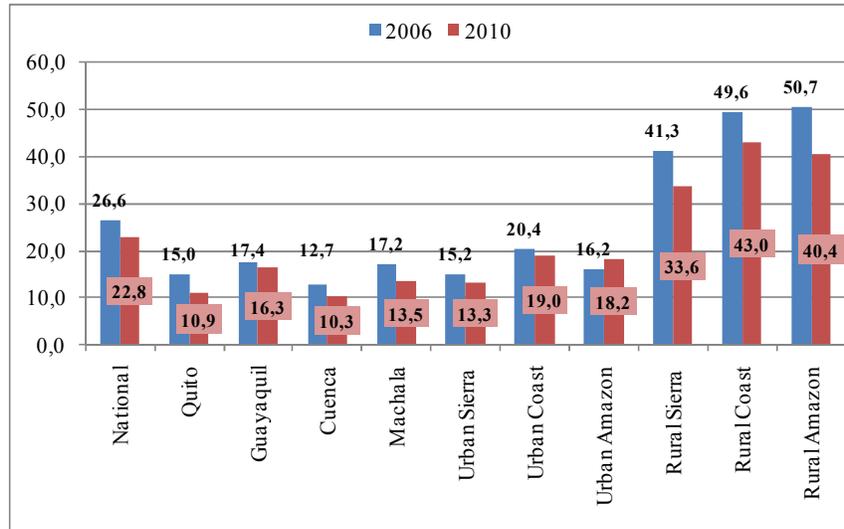
Table 5 shows the percentage of the population deprived in the housing dimension. One third of the population do not own a house. There is not a clear trend for this indicator during the period. In the case of floor quality, the deprivation headcount decreased from 30.1% in 2006 to 23.4% in 2010. Almost half of the population live in a house with more than two persons per bedroom. However, this indicator decreased from 50.1% to 43.6% during this period. Electricity provided for the public network covers almost all the population. In 2010 only 4.6% of the population is deprived in this variable. Meanwhile, public sewerage and public rubbish disposal services covered 56.5% and 74.6% of the population in 2010 respectively. Finally, at the dimension level, the percentage of deprived persons decreased from 81.2% in 2006 to 77.8% in 2010. Higher correlation among variables are observed between sewage systems and rubbish disposal (0.57), floor quality and rubbish disposal (0.43), and sewage systems and floor quality (0.41).

Table 5: Housing deprivation headcount

	2006	2007	2008	2009	2010
House	27.6	32.6	30.9	32.6	31.3
Floor	30.1	28.9	28.1	25.7	23.4
Bedrooms	50.1	50.2	48.5	46.7	43.6
Electricity	4.9	4.6	4.4	6.0	4.6
Sewerage	51.1	48.0	45.3	45.1	43.5
Rubbish disposal	31.3	29.8	28.7	29.1	25.4
Housing	81.2	81.8	80.5	79.7	77.8

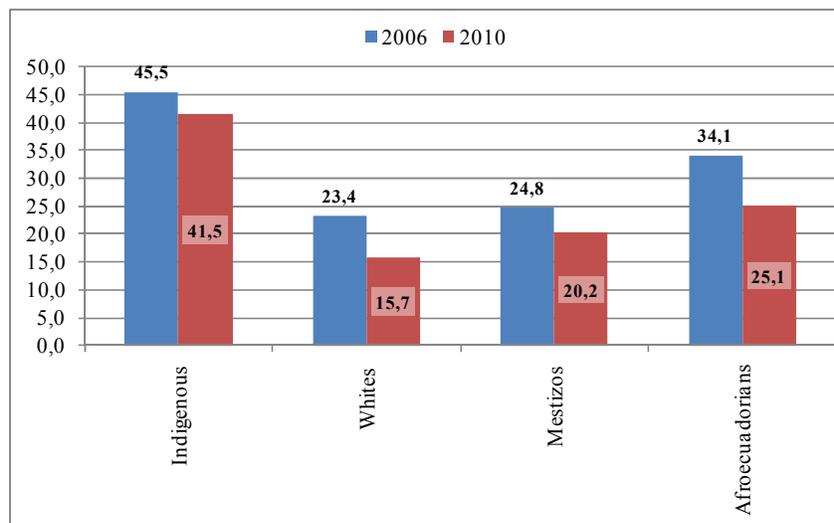
Deprivation gaps for each variable are presented in Annex 4. In 2010, the deprivation gap at the national level was 22.8%, meaning that on average each individual is deprived in more than one variable. Rural areas have a higher deprivation gap in housing. However, relative deprivation decreased from 1.6 times that of the national level to 1.5 in the rural Sierra between 2006 and 2010. In the case of rural Amazon, the ratio decreased from 1.9 to 1.8, while it did not change for rural Coast (1.9). Urban Amazon is the only region that showed higher deprivation in 2010 than in 2006. This can be explained by an increasing demand for housing which cannot be satisfied.

Figure 13: Housing deprivation gap by region



Indigenous and Afroecuadorian populations have higher deprivation gaps than other ethnic groups. In the case of indigenous people, the relative deprivation gap increased from 1.7 times that of the national level to 1.8 between 2006 and 2010, while this ratio decreased for the Afroecuadorian population from 1.3 to 1.1 over the same period.

Figure 14: Housing deprivation gap by demographic group



Dimension 5: Health protection

As mentioned previously, the ENEMDUR does not include variables about health status, so this dimension is measured by the level of protection (coverage) for risk of ill-health. The first variable

identifies if an individual as having health insurance, and a person is defined as deprived if he/she has none. The second variable is a measure of financial self-protection, according to the official basic basket of goods and services. A person is considered as not deprived if the per capita income of the household is equal or higher than the cost of the basic basket⁴⁰, so that he/she can afford to cover any type of uncertain expense. The deprivation level is determined by the relative gap between the household's per-capita income and the cost of the basic basket. It is important to mention that in Ecuador public health care is available for the whole population. However, waiting times and other uncovered expenses limit access and quality. Health status and health care needs specific analysis to identify a more comprehensive level of health deprivation and inequality.

The percentage of the population without health insurance was 69.2% in 2010. This percentage decreased more than 10 percentage points between 2006 and 2010. In the case of financial self-protection, 63.3% (2010) of the population cannot afford the basic basket of goods and services, meaning it is possible that they cannot afford unexpected expenses. At the dimension level, 84.9% of the population have some level of health protection deprivation. The main driver for these deprivation figures is the low coverage of the social security system. Deprivation gaps for each variable and for the dimensions are presented in Annex 5.

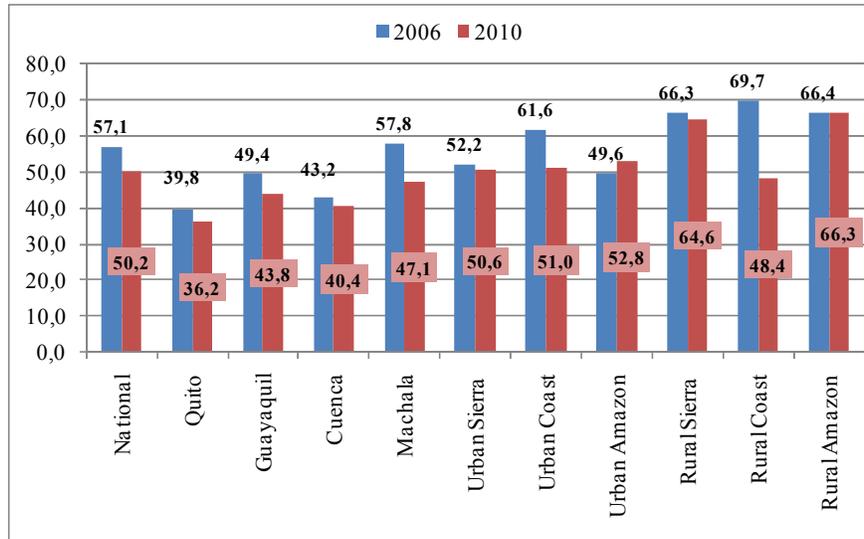
Table 6: Health protection deprivation headcount

	2006	2007	2008	2009	2010
Health insurance	79.7	79.7	78.1	77.2	69.2
Monetary	66.0	65.3	64.8	66.9	63.3
Health	88.5	88.2	87.6	87.5	84.9

The deprivation gap is lower than 50% only in the main cities (Quito, Cuenca, Guayaquil and Machala). The level of deprivation decreased in all the regions between 2006 and 2010, except in urban Amazon where it increased from 49.6% to 52.8%. Higher reductions occurred in the Coast region, especially the rural Coast where the deprivation gap decreased from 69.7% to 48.4%. This is related to access to public health insurance from the Ministry of Health.

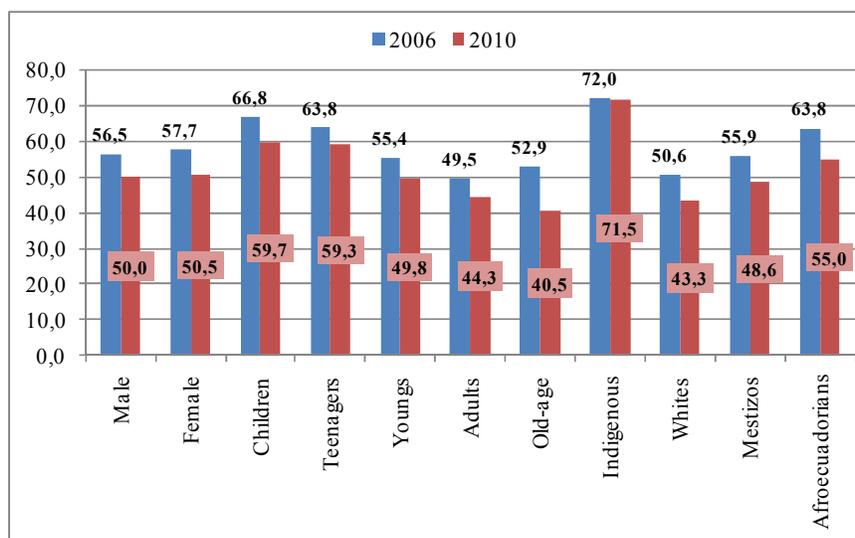
⁴⁰ The cost of the basic basket for a household of 4 persons with 1.6 income preceptors was USD 555.27 at April 2011 (INEC, 2011), and it is adjusted by the CPI.

Figure 15: Health protection deprivation gap by region



Indigenous and Afroecuadorian populations have higher deprivation gaps, generated by both lower access to health insurance and lower incomes. Children show higher levels of deprivation, however maternity and child care is provided free by the Ministry of Health. It is important to note that people in need of priority protection receive special and specific public health care. The highest deprivation reduction between 2006 and 2010 was in the old age group, declining more than 10 percentage points during the period. This effect can be explained by extended coverage of public health insurance, but also by raised income due to old age benefits.

Figure 16: Health protection deprivation gap by demographic group



Dimension 6: Work and social security

Work deprivation is measured by two variables. The first variable (work satisfaction) measures access to work and the level of satisfaction at work, identifying a person as deprived if he/she wants to work but does not have work⁴¹, and if a person is younger than 15 years old and he/she is working⁴². A person is considered as not deprived if he/she is working and satisfied⁴³ with the work, or if he/she does not want to work. Intermediate levels of deprivation are assigned for a working person according to their level of work satisfaction. The second variable identifies a person as deprived if he/she wants more work⁴⁴, and as not deprived in the opposite case. Social security deprivation is measured by one variable which identifies a person as deprived if he/she is not member of any social security scheme⁴⁵, and as not deprived in the opposite case.

Table 7 shows the deprivation headcount for each variable. One quarter of the population is deprived in terms of work satisfaction, meaning that they want to work but are not working or that they are not satisfied with their work. This indicator increased between 2006 (23.0%) and 2010 (24.7%), but decreased from 2007 (28.6%). The main reason for a lower deprivation headcount in 2006 was the higher level of self-reported satisfaction. The percentage of satisfied workers decreased from 71.3% in 2006 to 63.9% in 2007, rising to 68.9% in 2010. However, the work satisfaction deprivation gap (level of deprivation) decreased from 15.8% to 13.9% over the same period (Annex 6). The percentage of workers who want more work decreased from 42.0% in 2006 to 21.4% in 2010, and the aggregate work deprivation headcount decreased from 36.8% to 28.8% over the same period. In the case of social security, the deprivation headcount (percentage of population without social security) decreased from 84.5% in 2006 to 79.4% in 2010. The total deprivation headcount is higher for this dimension than for the previous one. The percentage of the population with any level of deprivation in work and social security was 84% in 2010, showing that this dimension demands special attention from the government and requires an increase in the coverage of the social security system.

⁴¹ There is no specific condition for old-age persons, because they have both retirement and work rights.

⁴² The minimum legal age for work is 15 years old (Código de la Niñez y Adolescencia, 2003: Article 82).

⁴³ Satisfaction is determined by the individual perception in a scale from satisfied to unsatisfied (Annex 1). In 2010, 31% of the employed population are unsatisfied with their income, 26% with low career opportunities and 20% with the instability of their jobs.

⁴⁴ This variable is measured by the individual response to the question: are you disposable to work additional hours per week?. In 2010, 86.5% of the people want more work in order to increase their income and 8.5% to complete a full-time job.

⁴⁵ Ecuador has three social security schemes: National Institute of Social Security (IESS), Army Force Social Security Institute (ISSFA) and Police Force Social Security Institute (ISSPOL). Besides, the IESS has three different regimes: general regime, voluntary regime and rural regime.

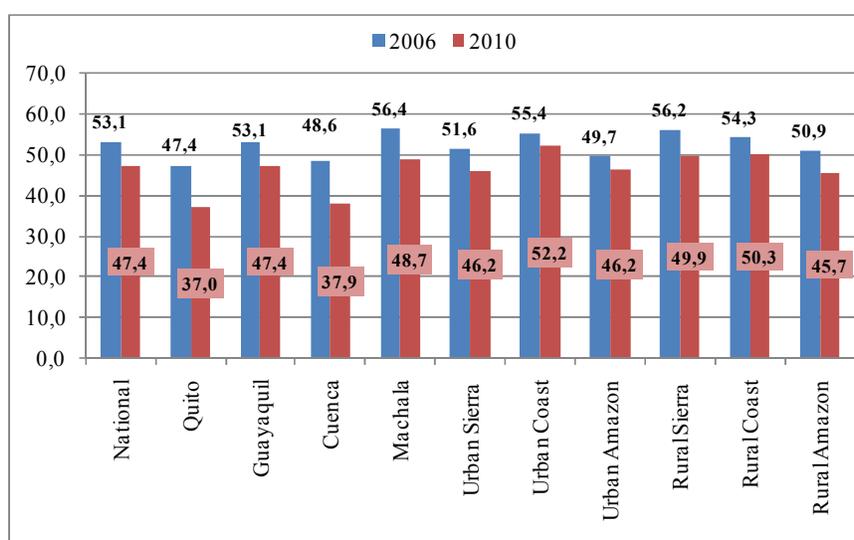
Table 7: Work and social security deprivation headcount

	2006	2007	2008	2009	2010
Work satisfaction	23.0	28.6	27.7	27.9	24.7
Want more work	42.0	31.9	26.6	26.8	21.4
Work*	36.8	35.3	32.5	33.1	28.8
Social security	84.5	83.2	82.2	80.7	79.4
Work & Social securit	90.3	88.7	87.2	86.0	84.0

* Includes work satisfaction and want more work.

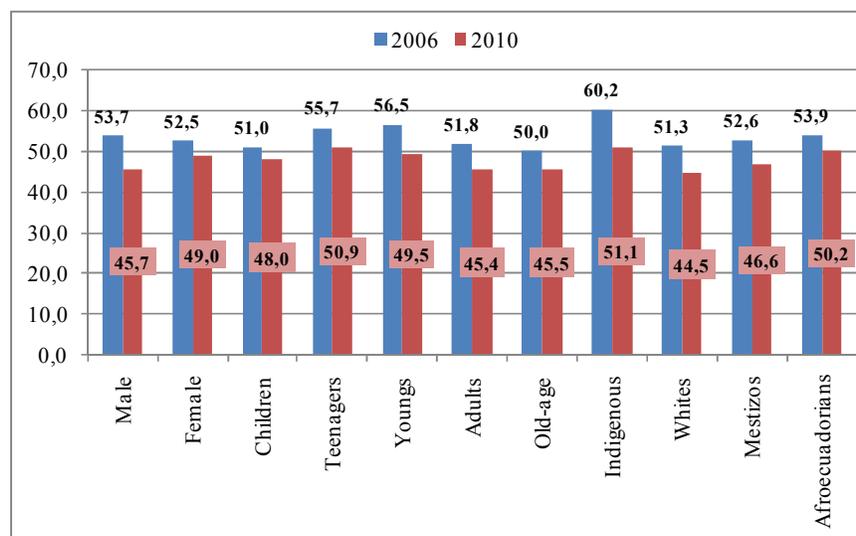
The deprivation gap is similar in all regions and decreased by 5.7 percentage points between 2006 and 2010. Only the cities of Quito and Cuenca have deprivation gaps below 40% in 2010.

Figure 17: Work and social security deprivation gap by region



The indigenous population has higher deprivation gaps (Figure 18). Deprivation relative to the national level remained 1.1 times higher for the indigenous between 2006 and 2010, but increased from 1.0 to 1.1 for Afroecuadorians over the same period. Children and teenagers have high deprivation gaps, which correspond to deprivation in social security but their level of work deprivation decreased from 7.9% (2006) to 1.7% (2010) for children and from 18.3% (2006) to 7.9% (2010) for teenagers. This reduction may be an indicator of the decrease in child labour, however specific research is needed to make a final conclusion. It is important to note that health insurance is mostly provided by the employers if a person works in the formal sector. Finally, the work deprivation gap for indigenous persons decreased from 32.7% in 2006 to 15.6% in 2010 (Annex 6).

Figure 18: Work and social security deprivation gap by demographic group

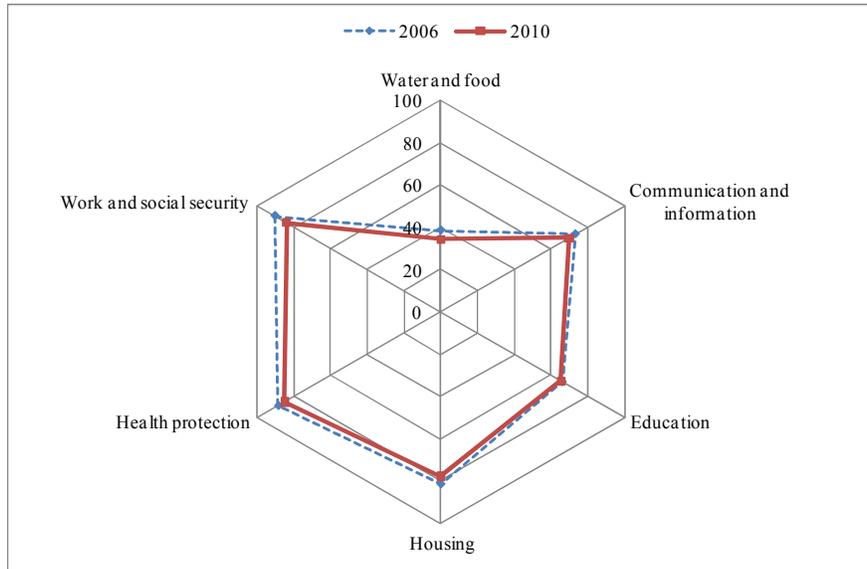


Multidimensional poverty 2006-2010

Multidimensional poverty is defined as deprivation in at least one dimension (i.e. union approach). However, poverty is understood not as an absolute condition but as a level of deprivation using a relative gap. Finally, the dimensions are aggregated at the individual level taking account of the distribution of deprivation, and the squared gap is used to provide higher weights to the dimensions where an individual has higher deprivation. The aggregated measure of multidimensional poverty is done by (2).

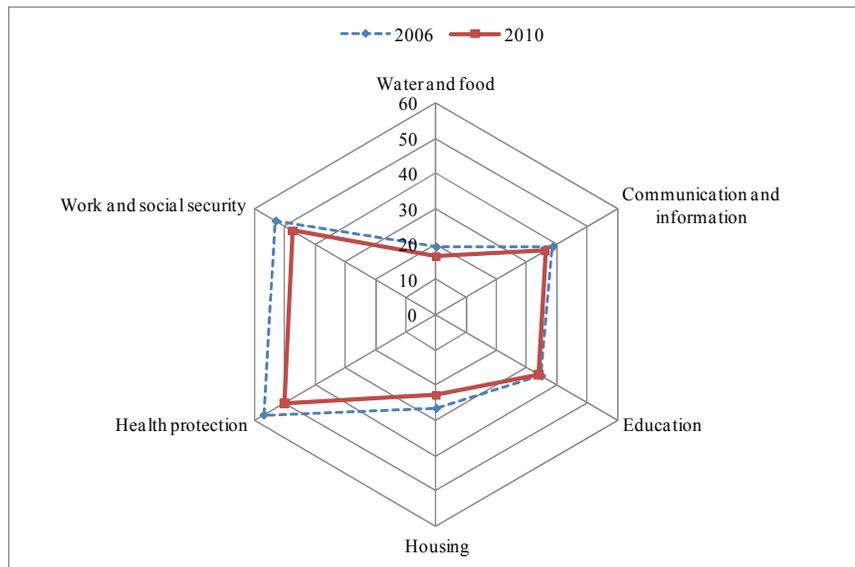
Figure 19 shows the deprivation headcount by dimension. From this figure it can be noted that the dimensions with higher deprivation headcount ratios are work and social security and health protection, both related to the provision of social protection in the country. The third dimension with higher deprivation headcount is housing, which is related to a lack of adequate sewage systems and more than three persons per bedroom. The major reductions in deprivation headcounts between 2006 and 2010 are in water and food (11.0%), and work and social security (7.0%) which are related to the provision of a public water supply, the decrease in extreme monetary deprivation, and the expansion of social security.

Figure 19: Deprivation headcount by dimension



The higher deprivation gaps are found in work and social security and health protection (Figure 20), meaning that the enhancement of social protection, employment and work conditions should be a priority for poverty alleviation. In the case of housing deprivation, policies should pay special attention to services and quality.

Figure 20: Deprivation gap by dimension

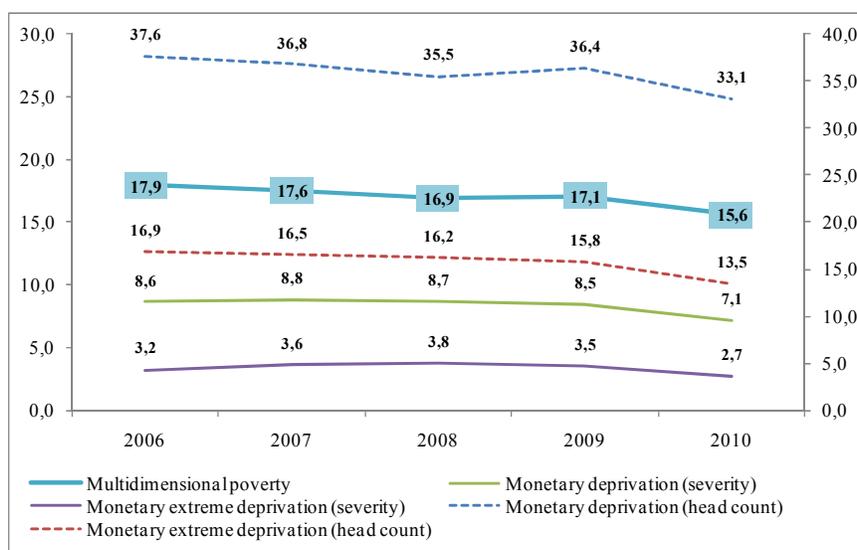


The dimensions with higher correlation in terms of the deprivation level (gap) are work and social security and health protection (0.61), followed by housing and water and food (0.58), communication and information and housing (0.55) and water and food and communication and information (0.44)

Before presenting the final measure of multidimensional poverty, it is important to observe the trends for the official measure of poverty in Ecuador (i.e. monetary deprivation). While the headcount for monetary deprivation decreased on average by 3.0% per year between 2006 and 2010, the severity index (measured by the FGT_2 index) decreased on average by 4.3% per year during the same period. This shows that both the headcount of monetarily-deprived people and the severity of monetary deprivation was reduced between 2006 and 2010. 4.5% of the national population left monetary deprivation in the last four years, while the severity of monetary deprivation decreased from 8.6 to 7.1 for those who remain monetarily-deprived. In other words, in 2010 there were less people with monetary deprivation than in 2006, and those persons who are monetarily-deprived in 2010 are less deprived than in 2006.

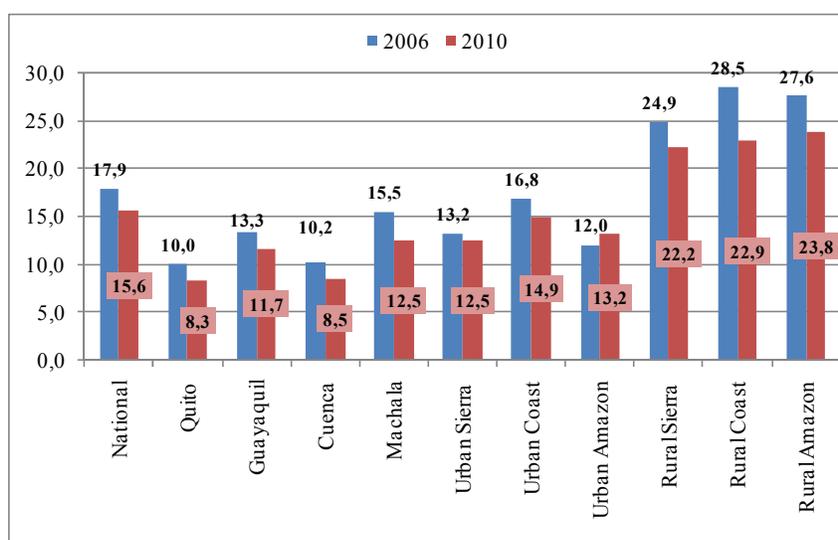
Multidimensional poverty in Ecuador (Figure 21) decreased from 17.9 in 2006 to 15.6 in 2010. This reduction cannot be interpreted as with a headcount ratio (i.e. reduction in the number of poor people), but most importantly it shows that the level (severity) of multidimensional poverty has been reduced in the country. Between 2006 and 2010, the level of multidimensional poverty decreased at an average rate of 3.2% per year.

Figure 21: Multidimensional poverty 2006-2010



The measure of multidimensional poverty between 2006 and 2010 by region and demographic group is presented in Annex 7. The regions with higher levels of multidimensional poverty are the rural areas. Despite the fact that multidimensional poverty decreased by 2.3 points (12.8%) between 2006 and 2010 in the rural areas, the relative level of poverty remains 1.4 times that of the national level for rural Sierra, 1.5 for rural Coast and 1.5 for rural Amazon. In urban areas, the Coast region shows higher levels of multidimensional poverty, while Quito and Cuenca have the lowest poverty. It is important to note that multidimensional poverty did not change⁴⁶ in the urban Amazon between 2006 and 2010, which is related to increasing levels (gaps) of deprivation in all the dimensions (except for work and social security).

Figure 22: Multidimensional poverty by region

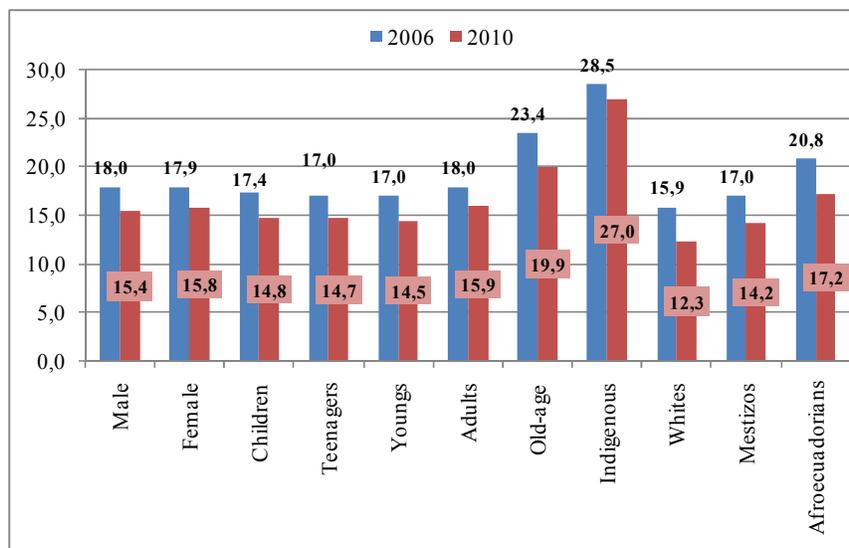


Indigenous and Afroecuadorian people have the highest levels of multidimensional poverty. While the relative level of poverty amongst Afroecuadorians decreased from 1.2 times that of the national level in 2006 to 1.1 in 2010, the relative level for indigenous persons increased from 1.6 times that of the national level in 2006 to 1.7 in 2010, meaning that despite the absolute reduction in the level of multidimensional poverty, the indigenous population were relatively worse off in 2010 than in 2006 in terms of equity. The differences in multidimensional poverty among age group can be explained by the different dimensions driving poverty. While an important driver of poverty amongst the old age, adults and young age groups is the level of education deprivation that accumulated during their lives, children

⁴⁶ The difference between 2006 and 2010 is not significant (t-value = 0.4594).

and teenager multidimensional poverty is mainly driven by a lack of public services (food and water and a healthy environment), lack of means of information, and household monetary deprivation.

Figure 23: Multidimensional poverty by demographic group



In terms of the relative contribution to the national level of multidimensional poverty (Annex 7), the Coast represents 50.6% of the national multidimensional poverty level in 2010, both by number of poor and poverty level. However, rural areas and especially the rural Amazon have the highest levels of poverty but a lower absolute number of poor. In the case of age group decomposition, children and adults together represent 57.9% of the level of multidimensional poverty in 2010 (20.2% and 37.7%, respectively) both by number of poor and level of poverty, while old age is the group with the highest level of multidimensional poverty. Finally, decomposition by ethnic group shows that the indigenous population represents 11.7% of the national level of multidimensional poverty in 2010 by the level of poverty, while the *mestizo* population represents 72.4% by absolute number of poor.

Using an OLS regression (Annex 8), we can see that multidimensional poverty in Ecuador is strongly related to ethnicity and rural areas. Controlling by household characteristics, region and year, indigenous persons show levels of multidimensional poverty 7.6 points higher than the national level while Afroecuadorians have a level of multidimensional poverty 1.9 points higher. In terms of gender, women have a 0.5 higher level of multidimensional poverty than men. This shows the existence of ethnic and gender inequalities, but on a different level. It is important to note that the coefficients do not change when the regression is not controlled by time effects, which means that despite the

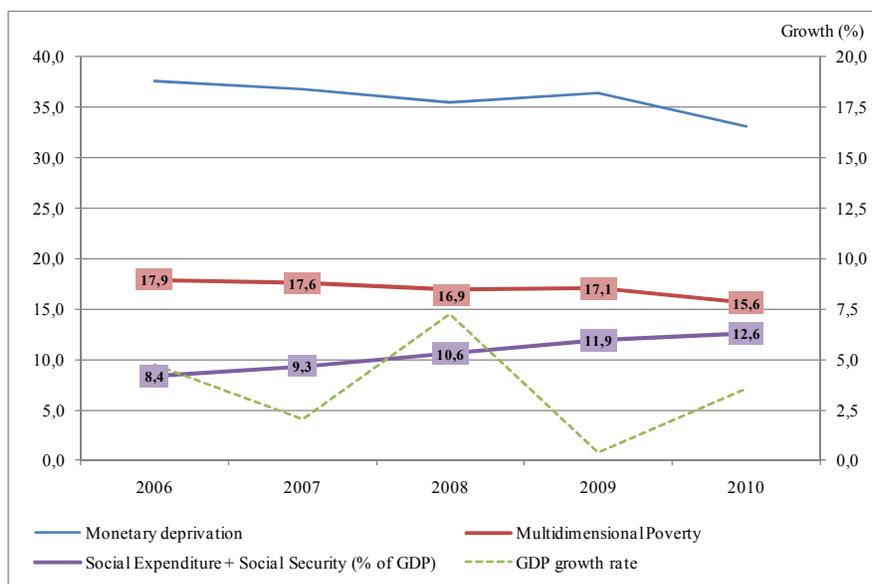
reduction in the level of multidimensional poverty, the level of inequality has not changed between 2006 and 2010.

The household characteristics that show higher relationships to the level of multidimensional poverty are the household dependency⁴⁷ ratio and single-headed households. One additional point on the household dependency ratio is related to a 0.6 higher level of multidimensional poverty. A single-headed household has, on average, a level of multidimensional poverty 0.7 points higher than a household with both parents. These relationships show the relevance of social protection policies for households with vulnerable populations. Finally, regional inequalities are the main drivers of multidimensional poverty as living in a rural area is related to a level of multidimensional poverty between 9.1 and 13.7 points higher than in Guayaquil. It is important to differentiate the contributions of urban and rural poverty to the national index. Urban poverty represents more than 50% of the total level of poverty because a higher absolute number of poor live in urban areas. But rural poverty shows higher levels of deprivation and is concentrated on the poorest of the poor. Policies to reduce a headcount index are more successful if they focus on urban areas, but to really alleviate poverty and its severity, rural poverty must be a national priority in order to change structural inequalities and promote a more egalitarian development pattern. However, rural poverty is more difficult to alleviate.

Figure 24 shows the relationship between multidimensional poverty, economic growth and social expenditure (including social security) between 2006 and 2010. It is clear that higher social expenditure (as a percentage of GDP) is related to lower multidimensional poverty. However, this relationship is also conditional on the level of economic growth.

⁴⁷ The household dependency ratio is defined as the number of children, teenagers and old-age persons over the number of young and adults.

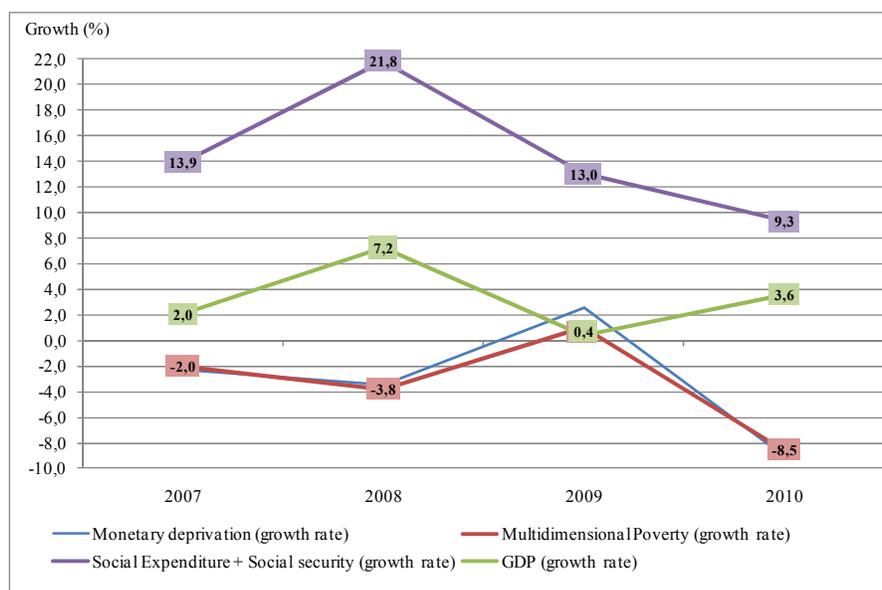
Figure 24: Multidimensional poverty, economic growth and social expenditure (2006-2010)



Sources: Author's calculations using BCE (2000, 2010; 2011 and 2011b); MEF (2011); INEC (2010b)

Figure 25 shows that higher rates of economic growth are related to higher rates of multidimensional poverty reduction. Multidimensional poverty decreased faster than monetary deprivation between 2007 and 2009, but in 2010 the multidimensional poverty reduction rate was lower than in the case of multidimensional deprivation. This change is related to the reduction on the social expenditure growth rate. In other words, economic growth does reduce poverty due to the effect on income, but a higher effect is seen when economic growth is complemented with higher social expenditure (i.e. social protection and redistribution). It is also consistent with the fact that in 2009 (the year with lower economic growth in this period), monetary deprivation increased more than multidimensional poverty due to social expenditure. In any case, primary distribution (i.e. initial income distribution before redistribution) and other structural conditions also affect the relationship between economic growth, social expenditure and poverty, and further research is necessary to fully identify and understand these relationships.

Figure 25: Multidimensional poverty, economy and social expenditure growth rates (2007-2010)



Sources: Author's calculations using BCE (2000, 2010; 2011 and 2011b); MEF (2011); INEC (2010b)

5. Conclusions

Poverty is the main concern of the global development agenda. However, there are no agreements about a definition of poverty, or on measures or policies. The most accepted theory of development is that of Amartya Sen, in which development is understood as the expansion of people's capabilities. In all cases, poverty is seen as lack of well-being, and can be seen as deprivation in terms of capabilities or as the lack of freedom to achieve the life a person values. There is also agreement about the multidimensionality of poverty. Furthermore, these discussions have to be conducted through governance processes. Poverty governance is understood as the values, norms, processes and institutions needed to define poverty, the goal for antipoverty policies, the willingness to pay for the required actions, and the choice of policies for poverty alleviation. Finally, for meaningful analysis of poverty the specificities of a society have to be taken into account.

Ecuador is a middle-income country, with high levels of inequality (e.g. the income Gini coefficient is 0.50 in 2010 (INEC, 2010b)) and with more than one third of the population monetarily-deprived (i.e. less than USD 69 per-person per month (INEC, 2010c)). Some of the factors that explain poverty and low development in Ecuador are: high levels of inequality, low access to and quality of education and health, weak institutionalism, social and political unrest, low economic productivity, irresponsible rent-seeking behaviour and low social protection mechanisms. Factors related to poverty

are different in urban and rural areas. In urban areas employment, underemployment and weak labour conditions can explain the levels of poverty, while in rural areas the main determinants are low access to land and markets, a lack of basic infrastructure and low productivity of agriculture. During the second half of the 1990s and the first half of the 2000s, Ecuador suffered from an economic crisis, with high political and social unrest. In line with the tendency in Latin America, a left-wing regime has been in place since 2007. The first priority was to change the Constitution, then to promote a new development framework. This framework is based on the guarantee of rights to promote the concept of good-living as the means and end of development. Between 2006 and 2010, social expenditure by the central government increased from 4.7% (as percentage of GDP) to 8.1%. However, including social security this percentage (12%) is still lower than the average in Latin America (18%). Besides this, financial details in Ecuador show that the relationship between taxes and GDP is 13.7%, which is around the average level for the region, but much lower than the level of the OECD countries (34.8%).

Between 2007 and 2010, important advances have been made in the sectors of education and health, and in the promotion of social and economic inclusion. The level of monetary deprivation reduced from 36.6% to 32.8% between 2006 and 2010. However, there are no studies which help understand multidimensional poverty based on the new development framework. In this way, this paper generates new insights to understand multidimensional poverty in Ecuador, presents an empirical exploration of poverty between 2006 and 2010, and proposes a method to monitor poverty using a permanent source of information. Multidimensional poverty is defined by six dimensions related to the right of good-living: food and water; communication and information; education; housing; health protection; and work and social security. The dimension with the highest levels of deprivation is work and social security and health protection. In this way, a priority to alleviate poverty in Ecuador is to reform the social protection system, increasing the level of coverage and the covered risks (i.e. health, pensions, unemployment, family support, disability, social assistance). Housing and education deprivation also affects an important number of Ecuadorians, however in the case of education is mainly related to old people who could not achieve the level of education that they desired. Housing deprivation problems are mainly related to quality, meaning that policies must be implemented through public provision of services and the generation of fair private mechanisms to improve housing conditions.

Despite the reduction in multidimensional poverty between 2006 and 2010, the level of inequality has not changed. Rural areas are still the poorest and the relationship with the national level has not improved. In addition, multidimensional poverty in the urban Amazon did not change between

2006 and 2010. There are also persistent inequalities amongst the indigenous and Afroecuadorians, and the level of poverty is still higher for women than for men, especially in terms of education and labour. Households with high dependency ratios show higher levels of multidimensional poverty. This is because worse household conditions are related to higher numbers of dependants, a sign that it is important to promote and increase family support as a mechanism of social protection. The distinction between urban and rural poverty is also important. While the number of poor may be reduced more easily by alleviating urban poverty, the severity of poverty is concentrated in rural areas where more resources are needed due to heterogeneity, dispersion and lack of basic infrastructure.

Finally, there are arguments to promote both social expenditure and economic growth as mechanisms to reduce multidimensional poverty. However, the final effect of economic growth, due to the level of inequality, is conditional on the level of redistribution. A significant amount of resources are required to alleviate multidimensional poverty, and better redistribution is needed. However, structural social and economical inequalities must also be changed in order to foster more equitable economic growth. Further research is needed to define these relationships and to suggest specific policies. In the same way, additional dimensions and a comprehensive context analysis is important to analyse civil and political rights, as well as institutions, corruption, democracy and civil security. Besides this, for a more comprehensive analysis of multidimensional poverty, new information has to be collected permanently in order to define better indicators to quantify each dimension.

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Annex 1: Dimensions and indicators

$(X_{i,k})$ Dimension	Variable	Indicator
$(X_{i,1})$ Food and water	Access to public water supply network at home	$X_{i,1}^1 = \begin{cases} 1; & \text{if yes} \\ 0; & \text{if no} \end{cases}$
	Food expenditure capacity	$X_{i,1}^2 = \min \left\{ 1; \frac{\text{income per capita}_{j,i \in j}}{\text{consumption poverty line}} \right\}$
$(X_{i,2})$ Communication and information	Radio at home	$X_{i,2}^1 = \begin{cases} 1; & \text{if yes} \\ 0; & \text{if no} \end{cases}$
	Telephone at home	$X_{i,2}^2 = \begin{cases} 1; & \text{if yes} \\ 0; & \text{if no} \end{cases}$
	Television at home	$X_{i,2}^3 = \begin{cases} 1; & \text{if yes} \\ 0; & \text{if no} \end{cases}$
	Computer at home	$X_{i,2}^4 = \begin{cases} 1; & \text{if yes} \\ 0; & \text{if no} \end{cases}$
	Internet at home	$X_{i,2}^5 = \begin{cases} 1; & \text{if yes} \\ 0; & \text{if no} \end{cases}$
$(X_{i,3})$ Education	Schooling achieving	$X_{i,3} = \min \left\{ 1; \frac{\text{schooling}_i}{Es_i} \right\}; \text{ if age} > 4$ $Es_i = \begin{cases} \max\{0; \text{age} - 6\}; & \text{or} \\ 17; & \text{if age} > 22; & \text{or} \\ \text{schooling}_i; & \text{if all } \begin{cases} \text{schooling}_i > 9; \\ \text{schooling}_i \leq 17; \text{ and} \\ \text{do not want to study} \end{cases} \end{cases}$
$(X_{i,4})$ Housing	Own house	$X_{i,4}^1 = \begin{cases} 1; & \text{if own house} \\ 0.5; & \text{if courtesy or labour compensation} \\ 0; & \text{if rented or other} \end{cases}$
	Floor quality of the house	$X_{i,4}^2 = \begin{cases} 1; & \text{if adequate} \\ 0; & \text{if non adequate} \end{cases}$
	Persons per room at the house	$X_{i,4}^3 = \begin{cases} 1; & \text{if } P_{room} \leq 2 \\ 3 - P_{room}; & \text{if } 2 < P_{room} < 3 \\ 0; & \text{if } P_{room} \geq 3 \end{cases}$ $P_{room} = \frac{\# \text{ of persons at the house}_{j,i \in j}}{\# \text{ of bedrooms at the house}_{j,i \in j}}$
	Electricity at the house	$X_{i,4}^4 = \begin{cases} 1; & \text{if public service} \\ 0.5; & \text{if private source} \\ 0; & \text{if none} \end{cases}$
	Access to sewerage at home	$X_{i,4}^5 = \begin{cases} 1; & \text{if sewerage} \\ 0.5; & \text{if other system} \\ 0; & \text{if none} \end{cases}$
	Access to rubbish disposal at home	$X_{i,4}^6 = \begin{cases} 1; & \text{if public service} \\ 0.5; & \text{if private service} \\ 0; & \text{if none} \end{cases}$

$(X_{i,k})$ Dimension	Variable	Indicator
$(X_{i,5})$ Health	Health insurance	$X_{i,5}^1 = \begin{cases} 1; & \text{if yes} \\ 0; & \text{if no} \end{cases}$
	Self-coverage capacity	$X_{i,5}^2 = \min \left\{ 1; \frac{\text{income per - capita}_{j,i \in j}}{\text{minimun standard budget}} \right\}$
$(X_{i,6})$ Work and social security	Work and work satisfaction	$X_{i,6}^{11} = \begin{cases} 1; & \text{if } \begin{cases} \text{working and satisfied; or} \\ \text{do not want to work} \end{cases} \\ 5/6; & \text{if working and low satisfied} \\ 2/3; & \text{if working but not satisfied} \\ 1/2; & \text{if working but unsatisfied} \\ 0; & \text{if not working} \\ 0; & \text{if both } \begin{cases} \text{working; and} \\ \text{age} < 15 \end{cases} \end{cases}$
	Want more work	$X_{i,6}^{12} = \begin{cases} 0; & \text{if yes} \\ 1; & \text{if no} \end{cases}$
	Social security	$X_{i,6}^2 = \begin{cases} 1; & \text{if yes} \\ 0; & \text{if no} \end{cases}$

Annex 2: Food and water deprivation gap by region and demographic group

	Water deprivation at home			Monetary proxy for food deprivation			Food and water deprivation		
	2006	2010	difference	2006	2010	difference	2006	2010	difference
National	32.1	27.9	-4.2	6.2	4.9	-1.2	19.2	16.4	-2.8
Quito	2.7	0.3	-2.5	0.7	1.9	1.1	1.7	1.0	-0.7
Guayaquil	12.6	11.8	-0.8	1.9	1.3	-0.6	7.3	6.6	-0.7
Cuenca	5.0	0.0	-5.0	1.5	1.0	-0.5	3.2	0.5	-2.7
Machala	15.2	5.6	-9.5	2.4	1.6	-0.8	8.8	3.6	-5.1
Urban Sierra	10.3	8.7	-1.6	2.8	3.4	0.6	6.6	6.0	-0.5
Urban Coast	16.5	14.3	-2.2	4.8	3.6	-1.2	10.7	9.0	-1.7
Urban Amazon	7.9	11.7	3.7	1.2	3.7	2.5	4.5	7.7	3.1
Rural Sierra	65.8	54.9	-10.9	12.3	10.9	-1.4	39.4	33.0	-6.4
Rural Coast	83.9	78.4	-5.5	13.3	6.4	-6.9	48.9	42.4	-6.4
Rural Amazon	76.9	65.4	-11.6	15.5	16.0	0.5	46.2	40.9	-5.4
Male	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Female	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Children	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Teenagers	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Youngs	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Adults	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Old-age	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Indigenous	65.9	62.9	-3.0	15.7	18.7	3.0	40.9	40.9	-0.1
Whites	28.5	16.0	-12.5	4.7	4.3	-0.4	16.7	10.1	-6.6
Mestizos	29.3	22.6	-6.7	5.3	3.6	-1.7	17.4	13.1	-4.3
Afroecuadorians	34.1	24.8	-9.3	9.0	7.7	-1.3	21.6	16.4	-5.2

Annex 3: Communication and information deprivation gap by region and demographic group

	Radio deprivation at home			Telephone deprivation at home*			Television environment deprivation		
	2006	2010	difference	2006	2010	difference	2006	2010	difference
National	27.2	32.4	5.2	68.9	63.0	-5.9	19.7	13.0	-6.7
Quito	11.2	10.9	-0.4	36.5	24.8	-11.8	3.7	2.5	-1.1
Guayaquil	25.5	31.0	5.6	62.8	58.1	-4.7	6.8	3.0	-3.9
Cuenca	11.1	12.9	1.8	29.8	21.0	-8.8	5.4	5.1	-0.4
Machala	27.9	34.5	6.6	77.1	70.8	-6.4	9.4	3.3	-6.1
Urban Sierra	15.4	21.6	6.2	47.9	41.5	-6.4	10.7	5.6	-5.2
Urban Coast	32.4	40.9	8.5	75.7	70.6	-5.1	12.4	6.5	-5.9
Urban Amazon	21.7	33.2	11.5	47.5	49.7	2.2	6.3	7.9	1.6
Rural Sierra	26.2	31.6	5.4	85.2	79.2	-6.0	39.6	31.7	-7.9
Rural Coast	48.0	52.7	4.7	98.6	97.4	-1.2	41.5	25.7	-15.8
Rural Amazon	50.2	48.4	-1.7	97.3	84.7	-12.6	52.5	33.6	-18.9
Male	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Female	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Children	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Teenagers	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Youngs	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Adults	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Old-age	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Indigenous	35.7	40.3	4.6	90.6	90.5	-0.1	50.7	46.8	-3.9
Whites	24.2	26.7	2.6	60.8	47.3	-13.6	15.1	6.7	-8.4
Mestizos	26.4	29.6	3.2	67.0	58.4	-8.5	17.2	9.7	-7.5
Afroecuadorians	33.8	42.4	8.6	82.8	72.9	-9.8	21.9	11.9	-9.9

	Computer deprivation at home			Internet deprivation at home			Communication and information deprivation**		
	2006	2010	difference	2006	2010	difference	2006	2010	difference
National	80.4	71.8	-8.7	n.d.	88.2	n.a	38.6	36.1	-2.5
Quito	52.7	37.3	-15.3	n.d.	59.1	n.a	17.1	12.7	-4.4
Guayaquil	78.6	69.4	-9.2	n.d.	88.4	n.a	31.7	30.7	-1.0
Cuenca	49.3	38.0	-11.4	n.d.	67.7	n.a	15.5	13.0	-2.4
Machala	82.6	66.0	-16.6	n.d.	87.3	n.a	38.1	36.2	-1.9
Urban Sierra	67.5	58.8	-8.8	n.d.	84.2	n.a	24.7	22.9	-1.8
Urban Coast	86.4	76.2	-10.3	n.d.	93.1	n.a	40.2	39.3	-0.8
Urban Amazon	68.6	67.0	-1.6	n.d.	88.0	n.a	25.2	30.3	5.1
Rural Sierra	93.7	87.4	-6.3	n.d.	97.8	n.a	50.4	47.5	-2.8
Rural Coast	98.6	96.1	-2.6	n.d.	99.7	n.a	62.7	58.6	-4.1
Rural Amazon	95.6	89.1	-6.5	n.d.	98.4	n.a	66.7	55.6	-11.1
Male	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Female	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Children	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Teenagers	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Youngs	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Adults	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Old-age	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Indigenous	96.0	92.4	-3.7	n.d.	98.5	n.a	59.0	59.2	0.2
Whites	75.1	57.2	-17.9	n.d.	75.2	n.a	33.3	26.9	-6.5
Mestizos	78.8	68.6	-10.2	n.d.	86.7	n.a	36.8	32.6	-4.3
Afroecuadorians	94.0	79.6	-14.4	n.d.	94.1	n.a	46.2	42.4	-3.7

* Mobile phones are not considered; ** Computer and internet are not included.

Annex 4: Housing deprivation gap by region and demographic group

	House deprivation			Floor deprivation			Bedrooms deprivation		
	2006	2010	difference	2006	2010	difference	2006	2010	difference
National	21.9	24.8	2.9	30.1	23.4	-6.7	43.3	36.7	-6.6
Quito	43.2	44.3	1.0	13.5	2.3	-11.2	24.3	16.6	-7.7
Guayaquil	19.1	24.2	5.1	14.2	8.9	-5.2	41.0	40.4	-0.5
Cuenca	42.1	35.9	-6.2	8.9	9.6	0.6	19.4	14.2	-5.2
Machala	24.6	27.1	2.5	11.9	7.7	-4.2	39.7	29.6	-10.1
Urban Sierra	29.0	31.4	2.4	14.3	13.0	-1.4	31.4	25.9	-5.5
Urban Coast	20.1	26.2	6.2	18.1	15.7	-2.3	46.6	39.2	-7.5
Urban Amazon	21.3	29.8	8.5	30.0	30.2	0.3	29.4	35.5	6.0
Rural Sierra	13.0	12.8	-0.1	52.9	37.4	-15.6	52.7	43.2	-9.6
Rural Coast	12.0	15.1	3.2	65.7	56.8	-8.8	62.5	51.1	-11.4
Rural Amazon	10.1	11.8	1.7	72.9	68.6	-4.2	56.4	52.0	-4.4
Male	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Female	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Children	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Teenagers	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Youngs	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Adults	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Old-age	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Indigenous	12.8	10.5	-2.3	59.9	53.1	-6.7	64.6	57.3	-7.4
Whites	24.5	26.2	1.7	25.9	16.5	-9.5	33.7	25.5	-8.3
Mestizos	22.4	26.1	3.7	27.3	19.0	-8.3	41.3	33.7	-7.6
Afroecuadorians	23.7	32.8	9.1	42.4	26.4	-15.9	60.5	43.8	-16.7

	Electricity deprivation			Sewerage deprivation			Rubbish disposal deprivation		
	2006	2010	difference	2006	2010	difference	2006	2010	difference
National	4.4	3.6	-0.7	29.6	24.2	-5.4	30.3	24.2	-6.1
Quito	1.0	0.5	-0.5	2.9	0.5	-2.4	5.1	1.6	-3.5
Guayaquil	0.5	2.1	1.6	24.1	16.0	-8.0	5.9	6.4	0.5
Cuenca	0.6	0.6	0.1	2.4	1.1	-1.3	3.1	0.5	-2.6
Machala	0.7	2.6	1.8	14.7	7.6	-7.2	11.7	6.4	-5.3
Urban Sierra	1.4	0.9	-0.5	8.0	4.6	-3.4	6.8	4.2	-2.5
Urban Coast	1.0	1.9	0.9	29.9	25.0	-4.9	6.9	5.9	-1.0
Urban Amazon	1.1	0.9	-0.1	9.8	8.2	-1.6	5.4	4.7	-0.7
Rural Sierra	4.5	4.9	0.4	50.1	43.7	-6.4	74.6	59.6	-15.1
Rural Coast	15.3	10.5	-4.8	57.6	52.6	-5.0	84.6	71.7	-12.9
Rural Amazon	29.1	13.3	-15.8	61.7	48.0	-13.8	73.8	48.5	-25.3
Male	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Female	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Children	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Teenagers	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Youngs	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Adults	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Old-age	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Indigenous	12.1	12.5	0.4	53.0	52.7	-0.3	70.6	62.7	-7.9
Whites	5.9	1.0	-4.9	24.8	12.6	-12.2	25.5	12.5	-13.1
Mestizos	3.4	2.7	-0.7	27.4	20.4	-7.0	27.0	18.9	-8.1
Afroecuadorians	7.4	2.8	-4.6	39.3	25.3	-14.0	31.4	19.1	-12.3

	Housing deprivation		
	2006	2010	difference
National	26.6	22.8	-3.8
Quito	15.0	10.9	-4.1
Guayaquil	17.4	16.3	-1.1
Cuenca	12.7	10.3	-2.4
Machala	17.2	13.5	-3.7
Urban Sierra	15.2	13.3	-1.8
Urban Coast	20.4	19.0	-1.4
Urban Amazon	16.2	18.2	2.1
Rural Sierra	41.3	33.6	-7.7
Rural Coast	49.6	43.0	-6.6
Rural Amazon	50.7	40.4	-10.3
Male	n.a.	n.a.	n.a.
Female	n.a.	n.a.	n.a.
Children	n.a.	n.a.	n.a.
Teenagers	n.a.	n.a.	n.a.
Youngs	n.a.	n.a.	n.a.
Adults	n.a.	n.a.	n.a.
Old-age	n.a.	n.a.	n.a.
Indigenous	45.5	41.5	-4.0
Whites	23.4	15.7	-7.7
Mestizos	24.8	20.2	-4.7
Afroecuadorians	34.1	25.1	-9.1

Annex 5: Health protection deprivation gap by region and demographic group

	Health insurance deprivation			Monetary proxy for financial self-protection deprivation			Health protection deprivation		
	2006	2010	difference	2006	2010	difference	2006	2010	difference
National	79.7	69.2	-10.4	34.1	31.0	-3.1	57.1	50.2	-6.8
Quito	65.2	58.3	-6.8	14.1	12.9	-1.2	39.8	36.2	-3.6
Guayaquil	74.8	65.0	-9.8	23.5	22.2	-1.3	49.4	43.8	-5.7
Cuenca	71.7	68.4	-3.3	14.3	12.4	-1.9	43.2	40.4	-2.8
Machala	88.0	72.2	-15.8	27.4	22.0	-5.4	57.8	47.1	-10.7
Urban Sierra	79.8	76.5	-3.3	24.1	23.9	-0.2	52.2	50.6	-1.7
Urban Coast	87.1	71.0	-16.0	35.8	30.9	-4.9	61.6	51.0	-10.6
Urban Amazon	80.4	81.3	1.0	18.3	24.3	5.9	49.6	52.8	3.2
Rural Sierra	83.4	82.6	-0.8	48.9	46.5	-2.4	66.3	64.6	-1.7
Rural Coast	82.9	51.6	-31.3	56.2	45.3	-10.9	69.7	48.4	-21.2
Rural Amazon	80.6	80.5	-0.1	52.1	51.9	-0.2	66.4	66.3	-0.1
Male	78.8	69.1	-9.7	33.8	30.7	-3.1	56.5	50.0	-6.4
Female	80.5	69.4	-11.1	34.4	31.3	-3.2	57.7	50.5	-7.2
Children	89.9	79.1	-10.8	43.4	40.1	-3.3	66.8	59.7	-7.0
Teenagers	88.9	80.3	-8.6	38.4	38.0	-0.5	63.8	59.3	-4.5
Youngs	81.1	73.6	-7.6	29.1	25.8	-3.3	55.4	49.8	-5.5
Adults	69.7	61.6	-8.1	29.0	26.7	-2.3	49.5	44.3	-5.2
Old-age	72.0	53.1	-19.0	32.6	27.7	-4.8	52.9	40.5	-12.5
Indigenous	88.2	86.2	-2.0	55.6	56.5	0.9	72.0	71.5	-0.5
Whites	73.6	63.6	-10.0	26.4	22.6	-3.8	50.6	43.3	-7.2
Mestizos	79.2	69.1	-10.1	32.2	27.9	-4.3	55.9	48.6	-7.3
Afroecuadorians	82.4	73.0	-9.5	44.9	36.8	-8.1	63.8	55.0	-8.8

Annex 6: Work and social security deprivation gap by region and demographic group

	Work satisfaction deprivation			Want more work			Work deprivation*		
	2006	2010	difference	2006	2010	difference	2006	2010	difference
National	15.8	13.9	-1.9	41.9	21.4	-20.5	22.8	16.7	-6.1
Quito	14.2	8.8	-5.4	38.7	14.2	-24.5	20.8	11.4	-9.4
Guayaquil	14.0	11.8	-2.2	42.7	22.9	-19.8	20.6	15.2	-5.4
Cuenca	12.8	6.6	-6.2	37.8	12.3	-25.5	19.6	8.5	-11.1
Machala	16.4	12.4	-4.1	46.0	21.3	-24.7	23.6	15.4	-8.2
Urban Sierra	14.4	13.3	-1.1	40.7	22.4	-18.3	21.2	16.5	-4.7
Urban Coast	15.3	16.6	1.4	44.4	27.2	-17.2	21.9	20.0	-1.9
Urban Amazon	12.3	10.4	-1.9	33.6	16.3	-17.3	18.1	11.9	-6.2
Rural Sierra	21.4	16.0	-5.4	38.6	16.9	-21.7	29.1	17.7	-11.4
Rural Coast	15.6	18.2	2.6	51.1	30.5	-20.6	23.7	21.5	-2.2
Rural Amazon	15.9	11.0	-4.8	37.2	15.6	-21.7	22.2	12.2	-10.0
Male	17.1	12.3	-4.8	43.5	22.8	-20.7	26.0	16.1	-9.9
Female	14.5	15.5	1.0	39.6	19.2	-20.3	19.7	17.4	-2.3
Children	8.9	2.6	-6.3	20.4	3.2	-17.2	7.9	1.7	-6.2
Teenagers	17.2	8.7	-8.5	37.6	16.5	-21.1	18.3	7.9	-10.3
Youngs	17.4	16.4	-1.0	45.1	22.2	-22.9	27.8	20.5	-7.3
Adults	16.3	16.5	0.2	44.0	23.0	-21.0	28.0	21.8	-6.2
Old-age	21.3	22.3	1.0	26.1	9.3	-16.7	24.7	22.8	-1.9
Indigenous	24.9	14.9	-10.0	37.9	13.1	-24.8	32.7	15.6	-17.2
Whites	16.1	13.5	-2.5	38.1	20.2	-17.9	22.0	16.4	-5.6
Mestizos	15.0	13.2	-1.8	42.7	21.2	-21.5	22.1	16.0	-6.0
Afroecuadorians	17.3	18.1	0.8	41.2	25.4	-15.8	22.5	20.7	-1.8

* Includes work satisfaction deprivation and want more work.

	Social security deprivation			Work & Social security deprivation		
	2006	2010	difference	2006	2010	difference
National	84.5	79.4	-5.1	53.1	47.4	-5.7
Quito	75.7	64.7	-11.0	47.4	37.0	-10.4
Guayaquil	86.8	81.3	-5.4	53.1	47.4	-5.7
Cuenca	78.8	69.2	-9.6	48.6	37.9	-10.8
Machala	90.1	82.6	-7.5	56.4	48.7	-7.7
Urban Sierra	83.3	77.4	-5.9	51.6	46.2	-5.4
Urban Coast	89.8	85.4	-4.4	55.4	52.2	-3.1
Urban Amazon	82.4	81.9	-0.5	49.7	46.2	-3.5
Rural Sierra	84.1	82.9	-1.2	56.2	49.9	-6.3
Rural Coast	85.4	79.8	-5.6	54.3	50.3	-4.0
Rural Amazon	80.9	80.9	-0.1	50.9	45.7	-5.2
Male	82.8	76.9	-5.8	53.7	45.7	-8.0
Female	86.2	81.8	-4.4	52.5	49.0	-3.5
Children	94.6	94.5	-0.1	51.0	48.0	-3.0
Teenagers	93.2	93.8	0.6	55.7	50.9	-4.9
Youngs	85.3	78.5	-6.8	56.5	49.5	-7.0
Adults	75.6	69.0	-6.6	51.8	45.4	-6.4
Old-age	75.4	68.2	-7.2	50.0	45.5	-4.6
Indigenous	88.6	87.5	-1.1	60.2	51.1	-9.2
Whites	81.6	73.9	-7.7	51.3	44.5	-6.7
Mestizos	84.3	78.6	-5.7	52.6	46.6	-6.0
Afroecuadorians	86.3	81.0	-5.3	53.9	50.2	-3.7

Annex 7: Multidimensional poverty by region and demographic group (2006-2010)

	Multidimensional poverty					Absolute contribution					Relative contribution (%)				
	2006	2007	2008	2009	2010	2006	2007	2008	2009	2010	2006	2007	2008	2009	2010
National	17.9	17.6	16.9	17.1	15.6	17.9	17.6	16.9	17.1	15.6	100.0	100.0	100.0	100.0	100.0
Quito	10.0	9.5	9.1	9.3	8.3	1.2	1.1	1.0	1.1	0.9	6.5	6.2	6.1	6.2	6.1
Guayaquil	13.3	12.6	11.8	12.7	11.7	2.2	2.0	1.9	2.0	1.9	12.0	11.6	11.3	12.0	12.1
Cuenca	10.2	9.3	8.3	9.1	8.5	0.3	0.2	0.2	0.3	0.2	1.5	1.4	1.3	1.5	1.5
Machala	15.5	15.0	14.0	13.5	12.5	0.3	0.3	0.2	0.2	0.2	1.5	1.5	1.5	1.4	1.4
Urban Sierra	13.2	13.0	12.8	13.1	12.5	1.8	1.8	1.8	1.8	1.7	10.1	10.2	10.4	10.6	11.0
Urban Coast	16.8	16.3	16.9	17.0	14.9	3.2	3.1	3.2	3.2	2.8	18.0	17.8	19.2	19.0	18.2
Urban Amazon	12.0	13.7	13.3	14.9	13.2	0.2	0.2	0.2	0.3	0.2	1.0	1.2	1.3	1.5	1.4
Rural Sierra	24.9	24.2	23.1	23.3	22.2	4.2	4.2	4.0	4.0	3.8	23.5	23.7	23.4	23.3	24.3
Rural Coast	28.5	27.5	26.2	25.6	22.9	3.7	3.6	3.4	3.3	3.0	20.7	20.4	20.2	19.5	19.0
Rural Amazon	27.6	31.2	27.2	26.5	23.8	0.9	1.0	0.9	0.9	0.8	5.1	5.9	5.4	5.0	5.2
Male	18.0	17.3	16.6	16.7	15.4	8.9	8.6	8.2	8.2	7.6	49.8	48.8	48.3	48.3	48.7
Female	17.9	17.8	17.2	17.4	15.8	9.0	9.0	8.7	8.8	8.0	50.2	51.2	51.7	51.7	51.3
Children	17.4	17.1	16.2	16.4	14.8	4.3	4.3	3.8	3.6	3.2	23.7	24.4	22.7	21.1	20.2
Teenagers	17.0	16.5	15.8	16.1	14.7	2.3	2.2	2.1	2.1	1.9	12.8	12.4	12.5	12.6	12.3
Youngs	17.0	16.9	16.1	16.1	14.5	3.3	3.2	3.1	3.1	2.7	18.7	18.2	18.3	18.3	17.6
Adults	18.0	17.7	17.1	17.3	15.9	6.2	6.3	6.1	6.3	5.9	34.8	35.7	36.2	36.6	37.7
Old-age	23.4	22.4	21.9	21.8	19.9	1.8	1.6	1.7	1.9	1.9	9.9	9.3	10.3	11.4	12.3
Indigenous	28.5	28.1	27.4	27.4	27.0	2.1	2.0	2.0	1.9	1.8	11.6	11.4	11.7	10.9	11.7
Whites	15.9	16.2	15.4	14.4	12.3	0.9	1.2	1.1	1.0	0.4	4.8	6.6	6.5	5.7	2.4
Mestizos	17.0	16.6	15.9	16.4	14.2	14.2	13.5	12.8	13.4	11.3	79.2	77.0	75.7	78.5	72.4
Afroecuadorians	20.8	20.3	19.8	18.3	17.2	0.8	0.8	1.0	0.8	0.8	4.3	4.5	6.0	4.4	5.1
Mulatos	n.d.	n.d.	n.d.	n.d.	22.4	n.d.	n.d.	n.d.	n.d.	1.3	n.d.	n.d.	n.d.	n.d.	8.4
Others	15.0	21.4	21.6	25.1	17.4	0.0	0.1	0.0	0.1	0.0	0.1	0.6	0.1	0.4	0.1

Annex 8: Multidimensional poverty by individual characteristics, region and year (OLS)

Variable	I	II	III	IV	Variable	I	II	III	IV
Indigenous	0.11663 (.00712) *	0.11205 (.00689) *	0.07583 (.00414) *	0.07575 (.00414) *	Quito			-0.03553 (.00027) *	-0.03555 (.00027) *
Afroecuadorian	0.03333 (.0065) *	0.03182 (.00631) *	0.01849 (.0034) *	0.01922 (.00343) *	Cuenca			-0.03346 (.00023) *	-0.03327 (.00022) *
Child	-0.00616 (.00508)	-0.01185 (.00562) **	-0.02303 (.00264) *	-0.02346 (.00268) *	Machala			0.01646 (.0001) *	0.01646 (.0001) *
Teenager	-0.00872 (.00481) ***	-0.01489 (.00524) *	-0.02450 (.0034) *	-0.02470 (.0034) *	Urban sierra			0.00083 (.00755)	0.00087 (.00755)
Young	-0.00836 (.00191) *	-0.00666 (.00185) *	-0.00779 (.00163) *	-0.00800 (.00166) *	Urban coast			0.03889 (.00351) *	0.03884 (.00346) *
Old age	0.04601 (.00376) *	0.00818 (.00346) **	0.01732 (.00152) *	0.01764 (.00149) *	Urban amazon			0.00489 (.00502)	0.00506 (.00513)
Female	0.00378 (.0007) *	0.00365 (.00059) *	0.00532 (.00077) *	0.00526 (.00078) *	Rural sierra			0.00489 (.00339)	0.09135 (.0034) *
Married	0.00708 (.00169) *	0.00717 (.00211) *	0.00293 (.00088) *	0.00282 (.00087) *	Rural coast			0.13571 (.00368) *	0.13570 (.00369) *
Household dependency ratio		0.00863 (.00028) *	0.00611 (.00034) *	0.00604 (.00034) *	Rural amazon			0.11904 (.00864) *	0.11935 (.00863) *
Female head		-0.01038 (.00207) *	0.00266 (.00129) **	0.00356 (.00124) *	2007				-0.00409 (.00152) *
Head age		0.00001 (.00007)	-0.00034 (.00007) *	-0.00032 (.00008) *	2008				-0.01110 (.00152) *
Single head		0.00901 (.00136) *	0.00713 (.00164) *	0.00669 (.00155) *	2009				-0.00896 (.00158) *
					2010				-0.02392 (.00209) *
					_cons	0.15623 (.01268) *	0.14910 (.01198) *	0.13473 (.00281) *	0.14334 (.00289) *
					Observations	395,280	395,280	395,280	395,280
					R2	0.09140	0.11070	0.34640	0.35170