Dipartimento di Scienze Economiche
Università degli Studi di Firenze

Working Paper Series

Income Distribution under Latin America’s New Left Regimes

Giovanni Andrea Cornia

Working Paper N. 16/2009
November 2009

Dipartimento di Scienze Economiche, Università degli Studi di Firenze
Via delle Pandette 9, 50127 Firenze, Italia
www.dse.unifi.it

Stampato in proprio in Firenze dal Dipartimento Scienze Economiche
(Via delle Pandette 9, 50127 Firenze) nel mese di Novembre 2009,
Esemplare Fuori Commercio Per il Deposito Legale
agli effetti della Legge 15 Aprile 2004, N.106

Income Distribution under Latin America's New Left Regimes

Giovanni Andrea Cornia[1]

Abstract. This paper reviews the decline in income inequality that has taken place over 2002-2007 in most Latin American countries against the background of its steady increase over 1980-2002. The paper analyzes then the factors that could explain this trend reversal. It focuses in particular on favorable external conditions, cyclical factors, improvements in the distribution of educational achievements and the subsequent drop in skill-premium, and changes in macroeconomic and social policies introduced in several countries, particularly by a growing number of left-of-centre governments which have come to power during the last decade. An econometric test[2] for the years 1990-2007 indicate that, in addition to a favorable business cycle and external conditions, a decline in skill premium and the new policy model of fiscally prudent social-democracy which is emerging this decade in much of Latin America impacted favorably the distribution of income. If this approach will survive the current crisis, much of the recent inequality decline is likely to become permanent.

JEL: D31, E6, H53, I28, I38.

Keywords: income inequality, human capital inequality, external conditions, policy regimes, Latin America.

---

[1] The author would like to acknowledge the comments on prior versions of this paper received from an anonymous referee, as well as from Simone Bertoli, Francois Bourguignon, Guillermo Cruces, Michael Grimm, Rafael de los Hoyos, Saul Keifman, Stefan Klasen, Juan Carlos Moreno-Brid, Abijit Sen, Rolph van der Hoeven and participants to conferences or seminars held at ISS-Den Haag (18 September 2008), University of Montevideo (30 September 2008), UN House in Asuncion (2 October 2008), CERDI-University of Auvergne (5 December 2008), TISS-Bombay (13-15 March 2009), EcIneq conference in Buenos Aires (18-19 July 2009), and PegNet conference of Den Hag (3-4 September 2009). I would also like to thank Bruno Martorano for providing a truly outstanding research assistance. The usual caveats apply.

[2] The countries included in the dataset and used for the econometric tests represent the near totality of the population and GDP of the region. They are: Argentina, Bolivia, Brazil, Chile, Colombia, Costarica, Dominican Republic, El Salvador, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, and Venezuela.

1. Introduction

The gloom and doom caused in Latin America by the current financial crisis has obscured the positive changes that have taken place in the region since 2002. The most evident of them is the six-year uninterrupted economic expansion of 2003-2008 during which the average growth rate of GDP averaged 5.5 percent a year, lower only to that registered over 1967-74 (Ocampo 2008). Such steady expansion of output was to some extent a rebound from the stagnation recorded during the "lost half decade" of 1998-2002, but featured also a rise in the investment rate which grew from 16-17 to 21-22 percent of GDP over the same period, a level lower only to that reached at the end of the Seventies. The boom was accompanied also by a nine percentage points decline in the poverty headcount ratio and, central to the topic of this paper, a significant drop in income inequality.

Other important changes which are less frequently emphasized in the literature were recorded starting from the mid 1990s. The first concerns the steady gains in educational achievements realized since the beginning of the 1990s by both center-right and left-of-center (LOC) regimes – both social-democratic and populist - and the parallel decline in many aspects of educational inequality (Gasparini et al. 2009). The second change is the slowdown in the growth of the labor force which according to CELADE (2006) dropped from 3.1 percent in the 1990s to 2.2 percent during the current decade. Together with a faster growth of labor demand for unskilled workers and in the supply of skilled workers (see later), the slower increase in unskilled labor supply possibly contributed to reducing unemployment and halting the long term rise in the wage premium. The third, and possibly most important, change concerns the shift towards democratization and the election of LOC governments (Panizza 2005). Indeed, during the last decade the political centre of gravity of the region's shifted with surprising regularity towards political regimes which place greater emphasis on distributive and social issues while, at the same time, avoiding the populist excesses of the 1980s. However, the recent coup in Honduras, and the election of a centre-right president in Panama in July 2009, may signal that such trend has reached its nadir.

To what an extent do these and other changes explain the decline in income inequality recorded since 2002 in most of the region? To what an extent are these changes permanent or to what extent will they be overturned by the current crisis[3]? These are the main issues explored by the paper. Part 2 reviews the recent decline in income inequality. Part 3 discusses the factors that could explain such decline. Part 4 tests econometrically the relative importance of these factors, while Part 5 concludes and offers a few conjectures on the inequality changes that may be expected in the future.

2. The distribution of income in Latin America in historical perspective

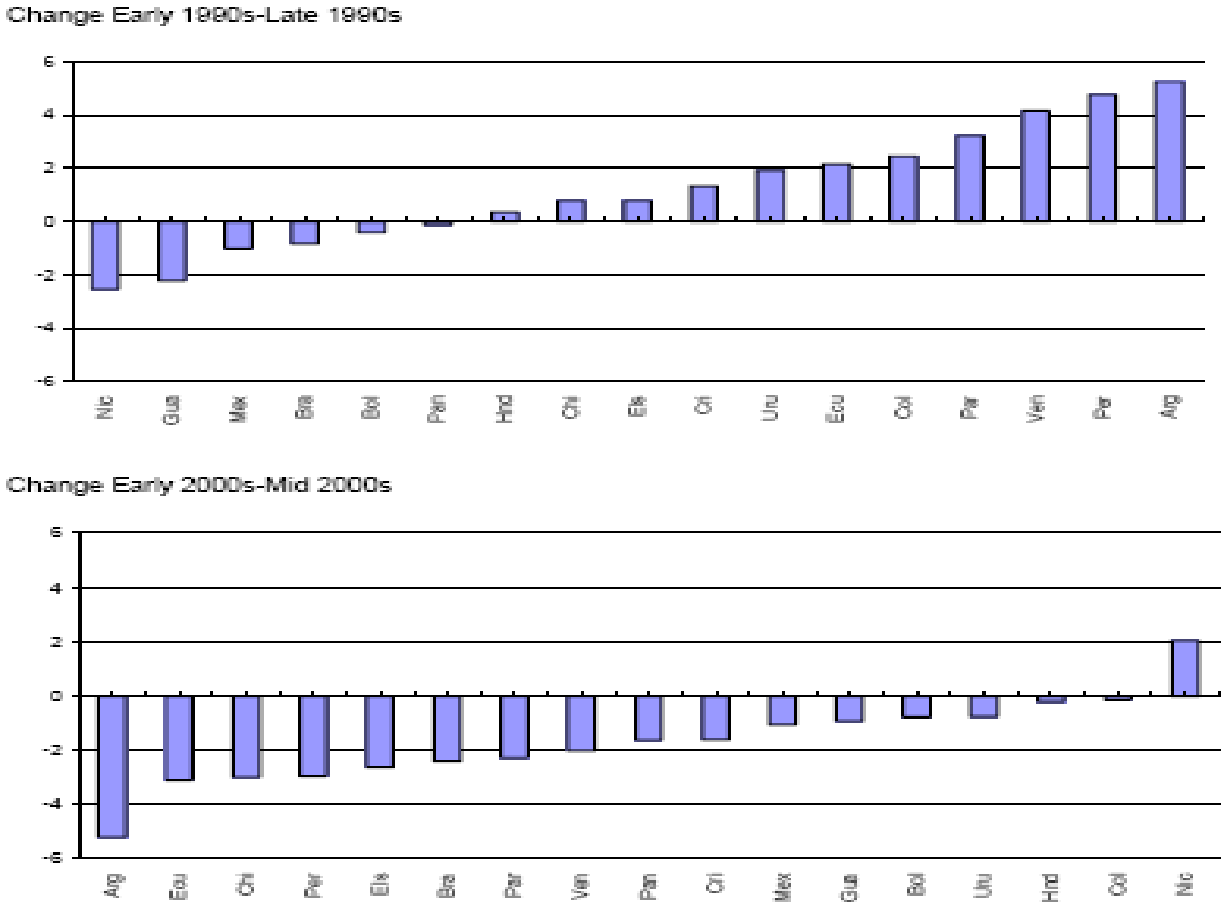
The colonial origins of income inequality in Latin America have been well documented in the classical work of Engerman and Sokoloff (2005). These authors theorized that high historical levels of inequality in the distribution of land, other forms of wealth, human capital and political power which benefited a tiny agrarian, mining and commercial oligarchy led to the development of institutions that perpetuated these inequalities, furthering their deleterious impact on long run economic growth. Such

[3] CEPAL's Economic and Social Survey 2008-9 predicts a 1.9 percent fall in GDP in 2009 and a recovery of 3.1 percent in 2010, with a cumulative loss of ten points of GDP growth in relation to the 2003-8 trend.

hypotheses have been fully verified in Latin America. Indeed, with the exception of Uruguay and Argentina, in the early-mid 1950s, the Gini coefficients of the distribution of income in the region ranged between 0.45 and 0.60 (Altimir 1996), i.e. among the highest in the world (Klasen and Nowak-Lehman, 2007). The rapid growth which followed the adoption of the import substitution strategy in the 1950s and 1960s had - on average - a further un-equalizing impact. In contrast, during the 1970s inequality fell moderately in most of the region with the exception of the Southern Cone (Gasparini et al 2009) where an extreme version of the neo-liberal reforms had been implemented by military *juntas*. The combination of a rise in inequality over the 1950s-1960s and of a modest fall over the 1970s made that by 1980, all main Latin American countries had a higher income concentration than in the early-mid 1950s.

During the 'lost decade' of the 1980s, inequality in Latin America was affected by the 1982-4 world recession, the debt crisis, a large decline in commodity prices, and the recessionary adjustments introduced to respond to these shocks. Altogether, the 1980s were characterized by regressive distributive outcomes and, during this period, income inequality fell only in Colombia, Uruguay and Costa Rica out of 11 countries with reliable data (Altimir, 1996). Despite the return to a moderate growth and extensive internal and external liberalization, income polarization did not decline during the 1990s and in half of the cases it worsened further, if at a slower pace than in the 1980s (Gasparini et al.2009, and Figure 1). A review of inequality changes over the 1990s based on 76 standardized surveys for 17 countries covering 90 percent of the regional population shows that inequality rose in 10 countries and stagnated or declined in seven (Székely 2003). The worsening was particularly acute during the "half lost decade" of 1998-2002. The income polarization of the 1980s and 1990s resulted from fast inequality rises during recessionary spells and slow inequality declines during periods of recovery. A key feature of the trend towards growing inequality was a decline in the labor share in total income and a parallel rise in the capital share. For instance, between 1980 and the late 1980s, the labor share declined by 5-6 percentage points in Argentina, Chile and Venezuela and by ten in Mexico. Such trend was not reversed during the mild recovery of 1991-98 (Tokman 1986). In several countries – as in Chile during the military dictatorship – the fall in the labor share was due – *inter alia* - to the relaxation of norms on workers dismissals, a reduction of the power of trade unions, the suspension of wage indexation, a cutback in public employment and in the coverage of the

Figure 1. Changes in the Gini coefficients of the distribution of household income per capita, from early to late 1990s, and from the early to the mid 2000s.



Source: Gasparini et al (2009)

minimum wage, as well as to the reduction or elimination of wealth, capital gains and profit
taxes. From an analytical perspective, the impact of the above changes on the labor share can be decomposed into five effects (*ibid.*). First, sluggish growth brought about a slowdown in jobs creation. Second, informal employment became much more common. Third, formal sector wages grew more slowly than GDP per capita. Fourth, minimum wages mostly fell in relation to average wages. Fifth, the skill premium, i.e. the wage differentials by skill, widened particularly during the 1990s in parallel with widespread trade liberalization (Székely 2003).

In contrast to the trends observed in the 1980s and 1990s, during the 2000s income inequality fell in most of the region, particularly since 2001-2. Figure 1 above shows that inequality declined between the early 2000s and the mid 2000s in all 17 countries analyzed with the exception of Nicaragua (where inequality rose) and Honduras and Colombia (where it remained broadly constant). While the average decline in the Gini coefficient was of 2-3 points, in countries ruled for most of 2002-7 by LOC governments, such as Argentina, Brazil and Venezuela, the drop was much more pronounced. Lustig (2009) arrives at similar conclusions, while noting further that the decline in income inequality observed in LOC countries was more pronounced among the populist than the social-democratic regimes. The recent decline in inequality was also characterized by greater convergence at lower level of inequality, a trend opposite to that recorded during the prior two decades, when the countries' Gini coefficients converged at a higher level of inequality[4].

3. Factors explaining the decline in income inequality over 2002-2007

Four groups of factors are discussed hereafter: the favorable external environment of 2002-2007, the rapid regional growth of GDP during this period, the longer term improvements in human capital formation and in its distribution, and the changes in economic and social policies part of the 'new LOC Latin American model' which is has been gradually taking shape during the last decade.

3.1 External conditions (i) Terms of trade gains. Since the beginning of the new century, the rapid growth of China and other Asian countries exerted a favorable impact on the exports and economic performance of Latin America. The pull effect of Asian growth has entailed a large increase in Latin America's exports, which has become the most dynamic component of aggregate demand in the region. As a result, the regional export/GDP ratio rose from 13 to 22 percent of GDP between the average for the 1990s and 2006. The rapid increase in the value of exports was due to significant improvements in both export prices and volumes. In 2007, the index of the commodity prices exported by the region rose for the sixth year running, with the highest increases recorded by energy and agricultural products such as vegetable oils, flour and seeds (CEPAL 2007).

As a result, in 2007 the average regional terms of trade index exceeded by 33 percent its average level for the 1990s, generating in this way a positive yearly shock equal to 3.7 of the regional GDP between 2003 and 2007 (Ocampo 2008). However, the terms of trade evolved in dissimilar ways within the region (CEPAL 2007). For instance, between the 1990s and 2007 the terms of trade index rose by 52 percent in South America, 21 percent in Mexico, and 13 percent for Mercosur, but fell by 13 percent in Central America, a region which depends on imported energy. Of the countries adversely affected by terms of trade changes, a first subset (Paraguay, Uruguay, Panamá and Nicaragua) further specialized in the export of traditional agricultural commodities. A second group (Costa Rica, El Salvador, Guatemala, and Honduras) switched to the export of textiles and recorded a rise in emigration (Perez Caldentey and Vernengo 2007).

What was the likely impact of these changes in terms of trade and export volumes on income inequality? A partial equilibrium analysis suggests that, given the high concentration of the ownership of land and mines (particularly by foreign TNCs[5]) prevailing in the region, the recent gains in terms of trade likely generated – *ceteris paribus* - a disequalizing effects on the functional and size distribution of income. Indeed, production in these sectors is very land, resource, and capital-intensive, and their employment generation capacity limited[6]. However, if these rents accrue to the state (as in Bolivia) or if private rents are taxed (as in

[4]The coefficient of variation of the national Gini indexes fell from 0.10 to 0.07 over 1992-2006 (Gasparini et al 2009).

[5]An important part of the gains in terms of trade left the region in the form of profit remittances, as the exploitation of natural resources in Latin America is often in the hands of TNCs. Chile and Peru account for over half of the regional outflow of profit remittances, though they account for only 8 percent of the region's GDP.

[6] For instance, in Argentina, agriculture accounts for a modest 8 percent of the total labor force.

Argentina) and the resources so obtained are redistributed in a progressive way, then the rise in land and mining rents can have a favorable distributive effects. Yet, the empirical evidence suggests a weak relation between terms of trade and tax/GDP and non-tax/GDP ratio in Latin America. The only relatively strong correlation (r = 0.63) between terms of trade and the non-tax revenue/GDP ratio was found for the eight main commodity exporters over 2003-2007 (Cornia and Martorano 2009).

In the absence of a CGE model, the general equilibrium effects of the commodity boom on income inequality are even more difficult to map out. Improvements in the balance of payments due to terms of trade gains can, for instance, relax the foreign-exchange constraint to growth and stimulate production in labor intensive industries with the effect of reducing income inequality. A second equalizing effect could occur via a reduction in interest rates (due to an expansion in money creation from abroad induced by growing export receipts) which would favors firms and households and penalize banks and rentiers. All in all, while it is plausible that the recent commodity bonanza had a favorable effect on growth, its impact on inequality remains uncertain.

(ii) Rising migrant remittances. During the last decade, Latin America enjoyed also a sharp rise in migrant remittances which benefitted in particular the Central American and Caribbean countries, Mexico and Ecuador. The surge in migration and remittances occurred mainly during the crisis years of 1998 and 2003, though it continued during the boom of 2003-2008. Official remittances to the region increased from US$ 2 to 59 billion dollars between 1980 and 2005 or from 0.23 to 2 percent of regional GDP (Table 1). In 2007, they accounted for 2.3 percent of the

Table 1. Remittances/GDP in countries affected by positive and negative terms of trade

	1980-1990	1991-2001	2002-2006
Countries that recently experienced favourable terms-of-trade effects			
Argentina	0.07	0.22	0.38
Bolivia	1.98	2.17	2.51
Colombia	1.49	1.87	3.32
Ecuador	0.60	3.50	6.46
Peru	0.80	1.64	2.07
Venezuela	-0.42	-0.22	-0.06
Mexico	0.96	1.19	2.36
AVERAGE	0.69	1.26	2.12
Countries that recently experienced unfavourable terms-of-trade effects			
Dominican Republic	4.40	8.67	11.37
El Salvador	8.85	14.01	15.86
Guatemala	1.51	1.95	10.47
Honduras	3.64	8.11	20.48
Nicaragua	5.48	10.05	14.84
Paraguay	…	1.77	2.91
Uruguay	0.17	0.29	0.77
AVERAGE	3.59	4.91	8.85

Source: Adapted from Perez Caldentey and Vernengo (2008)

regional GDP (CEPAL 2007) but for over 11 percent in Central America, 2.8 percent in Mexico and about 20 percent in Grenada, Guyana and Jamaica. Interestingly, with the exception of Ecuador, remittances plaid a greater role in countries which did not experience terms of trade gains, meaning that Latin American countries support their current account balance by exporting either primary commodities or migrant labor, and only a modest amount of manufactured goods.

For the above group of countries, one may be tempted to establish a causal link between rising remittances and falling inequality. Yet, the literature on the inequality impact of remittances suggests that their short and medium term effect tends to be un-equalizing. Indeed, in developing countries mainly middle-class people are able to finance the high costs of illegal migration[7]. As a consequence, the remittances will accrue not to the poor but mainly to middle income groups. In addition, in the countries of origin the migration of skilled workers tends to raise their wage rate in relation to that of unskilled workers. Of course, the final distributive effect depends on if and how the families of migrants receiving remittances share them with the low income groups. In addition, remittances may reduce inequality over long term, if the creation of migrant networks in the countries of destination reduces migration costs, thus making migration accessible also to low unskilled workers. The long term inequality impact of migration is mediated also by its effect on growth. In this regard, most of the available evidence (IMF 2005) shows that remittances raise current consumption, reduce volatility, and improve the creditworthiness in the countries of origin, but do not have a significant effect on the investment rate and the growth of GDP. In view of all this, one would not expect that migrant remittances plaid a central role in reducing income inequality, either directly or indirectly.

(iii) Increasing availability of external finance. Between 2004 and 2007, the region recorded a surge in capital inflows, the variation of which amounted to 2.4 percent of the region's GDP (Ocampo 2008). Portfolio flows accounted for most of the rise in foreign financing while FDI stagnated at 22 percent of the region's GDP. The portfolio flows mainly consisted in purchases of shares and securities in regional stock markets. As a result, the stock market capitalization of the seven largest regional economies quadrupled its value between middle 2004 and end 2007 (Ocampo 2009). In addition, this large capital inflow facilitated the accumulation of international reserves which reduced country spreads on international loans, while the drop of international interest rates exerted a downward pressure on domestic rates. However, the increased availability of foreign finance benefitted mainly large capital- and skill-intensive companies and banks while it did not ease the financing problems of labor-intensive small and medium enterprises, possibly inducing in this way adverse distributional effects.

Also in this case, it is difficult to trace the indirect effects of financial exuberance on inequality. It is likely that – as in the case of terms of trade and remittances - the indirect effect on growth, employment and inequality was positive due to the relaxation of the balance of payments constraint. Yet, financial exuberance caused also an appreciation of the real exchange rate which penalized the labor-intensive traded sector of the economy and, with it, the distribution of income (Taylor 2004).

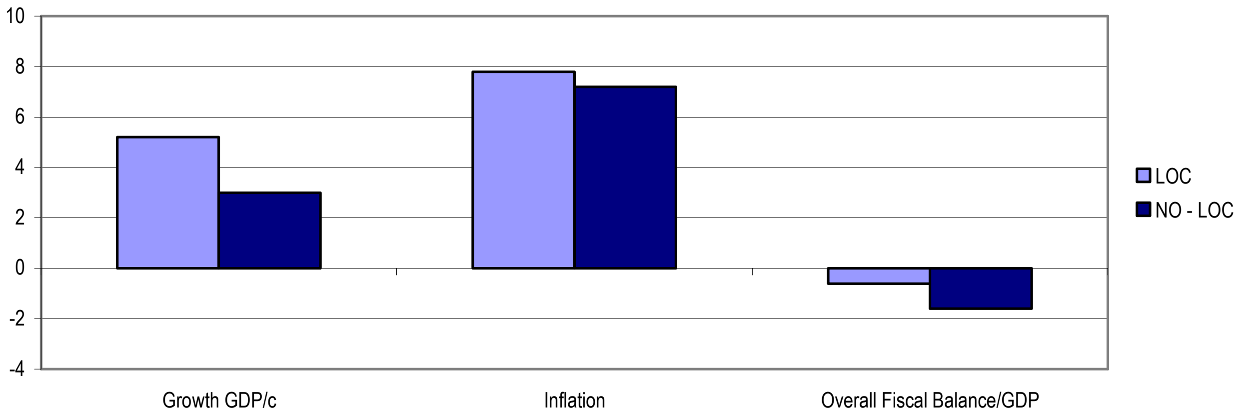
3.2 A positive business cycle

As noted, from end 2002 the region recorded a strong recovery. The growth rate of GDP/capita doubled between the average of the 1990s and 2003-7 in South America and improved by 50 percent in Central America. Only few countries (such as Chile

[7] However, in Mexico most of the migrants come from low income groups (communication of Rafael de los Hoyos).

which recorded a Tiger-like growth already in the 1990s) did not improve their performance. While all countries improved their performance, in countries ruled by LOC governments GDP growth was higher by about one point than in countries ruled by conservative regimes (Figure 2).

Figure 2. 2007 macroeconomic and 2003-7 growth performance of LOC versus NO-LOC regimes



Source**:** Author's elaboration on ECLAC's Badecon for the growth of GDP/c and fiscal balance/GDP, and IMF's World Economic Outlook 2008 for inflation. Note: The inflation rate of LOC countries would be 6.6 % (i.e. lower than the NO-LOC countries' average) if Venezuela (which recorded an average inflation of 21% during this period) is excluded.

Economic theory suggests that in developing countries characterized by flexible labor markets an increase in GDP reduces inequality as it tends to increase labor absorption and, under certain conditions, the wage rate, while a contraction of GDP raises inequality as wages drop and the workers made redundant are not covered by unemployment insurance. Past evidence from the region confirms this hypothesis (Altimir, 1993). A decline in inequality following a return to growth is, of course, far from automatic, as it depends on whether the growth pattern is pro-poor, neutral or immiserizing. Yet, the evidence for the 2002-2007 period confirms that the vigorous recovery of those years, as well as the labor policies analyzed in section 3.4, generated an equalizing effect on the distribution of wages. Urban unemployment dropped from 10.7 to 8 percent between 2002 and 2007 for the region as a whole (Table 2). Over 5.3 million new jobs were created – i.e. at a much faster than during the previous decade. The new jobs were mainly taken by low–income groups, thus contributing significantly to the drop in wage inequality. Such improvements were more pronounced in the LOC than in the NO-LOC countries. Indeed, between 2002 and 2007, the unemployment rate fell from 13.2 to 7.9 percent in the first group and from 10 to 8 percent in the second. Likewise, the average wage index rose from 98.6 to 103.7 in the LOC countries while it stagnated at 102 in the NO-LOC (Cornia and Martorano 2009).

Table 2. Labour market trends for Latin America as a whole, 1990-2007

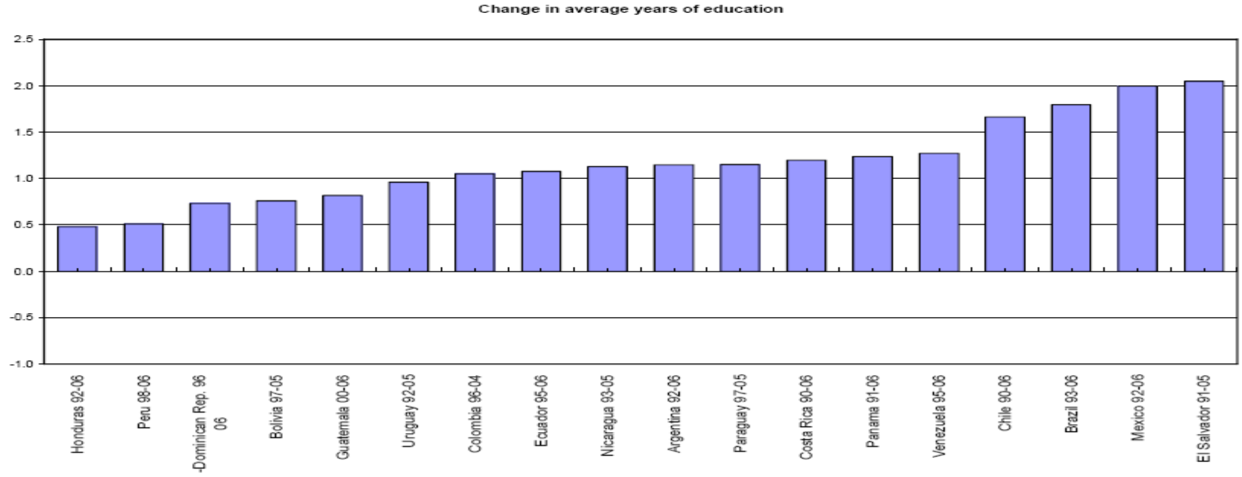
	Participation rate (%)	Unemployment Rate (%)	% wage earners on total workers	% formal sector workers	%workers paying social sec.	Average wages (constant 2000 US$)**		
						Average	Formal Sector	Informal Sector
1990	63.8	6.2	62.6	55.0	63.3	384	372	278
2002	68.5	10.7	60.9*	52.8	54.6*	397	457	264
2005	70.1	9.7	61.4	53.7	59.4	405	449	267
2007	70.0	8.0	63.1	55.5	61.0	423	452	….

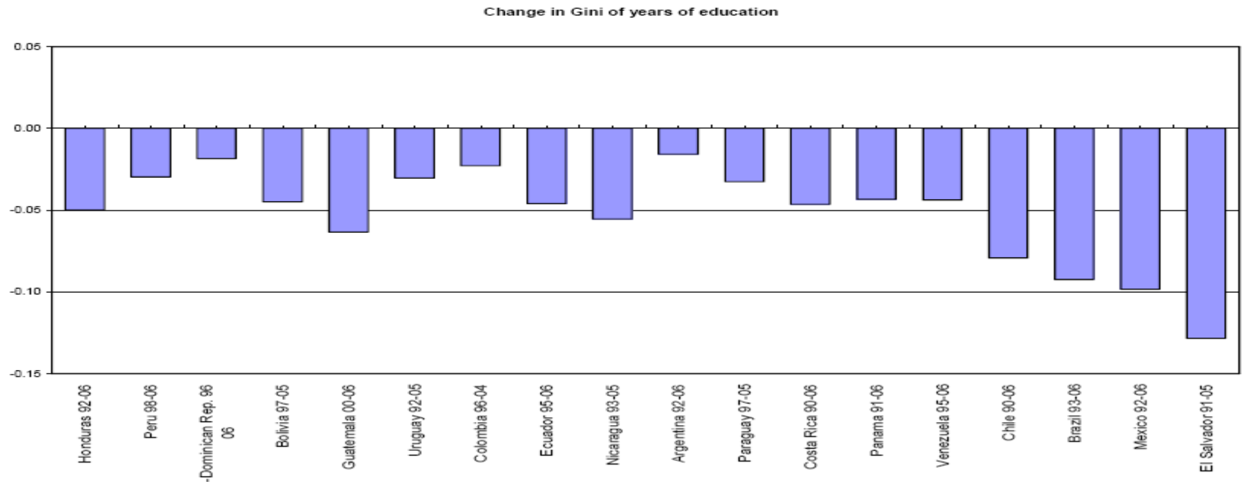
Source: compilation on different tables in CEPAL (2006 and 2008), IDLA database and OIT's 'Panorama Laboral' (http://www.oit.org.pe/WDMS/bib/publ/panorama/panorama08.pdf) for the % of wage earners and workers paying social security. Notes: * refers to 2000, ** the computation of the regional average is based on 13 Argentina, Brazil, Costa Rica, Dominican Republic, Ecuador, Panama, Paraguay, Uruguay. For Chile, Colombia, Honduras, Mexico and Venezuela the 2007 data are proxied by those of 2006.

3.3. An improvement in the distribution of educational achievements

Another important factor in the recent fall in income inequality is the rise in enrolment rates recorded at all educational levels since the early-mid 1990s (Gasparini et al. 2009), and the subsequent reduction in enrolment inequality in primary and secondary education.

Figure 3. Percentage changes in average years if education of the adult population and the Gini of educational achievements between the mid 1990s and the mid 200s in 18 Latin American countries





Source: Gasparini et al (2009)

For instance, the probability that a boy/girl from the bottom decile completes secondary school in relation to that of a child from the top decile rose from 36.7 to 50 percent between 1990 and 2005 (CEPAL 2007a)[8]. The surge in enrolments raised the average number of years of education of the working population, while reducing the inequality of its distribution in both LOC and NO-LOC countries (Figure 3). While the effect of these trends on the skill-premium are not automatic, CEDLAS data confirm that the gains in human capital formation and educational inequality of the last 15 years were accompanied by a widespread drop in the skill-premium during the 2000s (Cornia and Martorano 2009). In addition, a detailed IPEA study (cited in CEPAL 2006) which decomposed the fall in income inequality in Brazil over 2000-2006 confirmed that two thirds of the decline was due to a fall in labor incomes inequality caused by a drop in educational inequality among workers and in wage premium by education level.

3.4 The spread of LOC regimes and the adoption of a new policy model

Latin America has been for long a symbol of authoritarian political systems, unequal distribution of assets, and limited redistribution by the state. However, during the last twenty years, the political landscape has witnessed a steady drive towards democratization and, starting from the mid-late 1990s, a shift in political orientation towards LOC regimes. As documented by the results of different waves of the Latinobarometro[9], such shift was to a large extent explained by growing frustration with the disappointing results of the Washington Consensus policies implemented in the 1980s and 1990s. Among other things, such policies caused a shrinkage of the industrial working class, a weakening of the unions, rising unemployment, and a substantial enlargement of informal sector and self-employment. The shift away from such approach began with the election in 1990 of Patricio Alwyn in Chile. It continued with the election of LOC leaders in the late 1990s and early 2000s, as in the case of Chavez in Venezuela in 1998, Lula in Brazil in 2002, Kirchener in Argentina in 2003, Tabarè Vasquez in Uruguay in 2004, Morales and Correa in Bolivia and Ecuador in 2006, Lugo in Paraguay in 2008, and Funes in El Salvador in March 2009. By mid 2009, of the 18 Latin American countries analyzed in this study, only Colombia and Mexico were run by centre-right governments, while three are run by centrist regimes and 13 by LOC governments.

As noted by Panizza (2005) and Lustig (2009), the LOC parties differ substantially among each other. Some of them can be defined as 'social-democratic', as in is the case of Chile's Partido Socialista, Uruguay's Frente Amplio and Brazil's Partido dos Trabalhadores (Panizza 2005). These parties have their roots in organizations of the working class, but have evolved into broad coalitions comprising sectors of business and the middle classes, the urban and rural poor, the unemployed and the informal sector workers. They have abandoned any notion of revolutionary break in favor of electoral politics and respect for the institutions of liberal democracy. In contrast, a second group of countries (such as Argentina and Ecuador) developed left-nationalist platforms, while Venezuela, Bolivia and Nicaragua (since 2007) are characterized by a radical-populist approach entailing a redistribution of assets nationally and internationally.

[8] However, during the same period, the gap between rich and poor in accessing tertiary education widened.

[9] Corporación Latinobarómetro is a non-profit NGO based in Santiago, Chile. Since 1995 it carries out polls on various political topics by surveying 19.000 households from 18 countries of the region (http://www.latinobarometro.org).

Matters of social justice and economic development are at the core of the new LOC parties' identity. However, in the pursuit of such objectives, the LOC parties (including the populist ones) avoided the ill-conceived approach to budget deficits and inflation typical of the populist policies of the 1980s (Dornbusch and Edwards, 1991). In fact, the LOC economic model incorporates into its paradigm liberal policies such as a sound fiscal policy and low inflation, an awareness of the inefficiencies associated with some forms of state intervention and protectionism, the primacy of the market in determining prices, regional trade integration and openness to foreign investment. At the same time, its concern for poverty and inequality, recognition of market failures and the increasing importance assigned to strengthening state institutions are in sharp contrast with the neo-liberal emphasis on shrinking the state and the self-sustained role of the markets (Panizza 2005).

Despite this paradigmatic shift, measures to reduce the glaring wealth concentration existing in the region have seldom made their way on the LOC governments' agenda, with the exception of Bolivia (which nationalized the mines and is planning a land reform), Venezuela (which renegotiated oil royalties and nationalized key industries, including steel, electricity and telecommunications) and since 2007 Nicaragua. The moderate stance adopted by most LOC countries is likely explained by the fact that – in the absence of overwhelming political support, and in view of the heterogeneity of LOC coalitions – radical reforms would have generated tensions affecting business climate, capital flights, and electoral support. In addition, the advent to power of progressive regimes did not reduce the influence of dominant interest groups which – though numerically small – are still powerful and can sway the public opinion on controversial issues. As a result, the LOC policy model resembles more the 'Redistribution With Growth' model (Chenery et al. 1978) rather than the more radical 'Redistribution Before Growth' model which sees the redistribution of assets and opportunities as a necessary step to exit the under consumption trap afflicting developing countries. In contrast, the measures in the field of labor market, social expenditure, and transfers have been more far reaching.

LOC governments have thus developed a new economic paradigm and social contract that binds together their traditional and emergent constituencies through a combination of macroeconomic stability, neo-corporatist and participatory institutions, and redistribution via taxation and targeted social programs (Panizza 2005a). The main components of the new model are reviewed hereafter:

(i) Macroeconomic policies. Overall, the measures introduced in this areas are broadly aligned to what can be defined a pro-poor macroeconomic paradigm (Cornia 2006). Its key elements are:

- A fiscal policy aiming at balancing the budget in the context of an expansionary expenditure policy. Traditionally, Latin America adopted pro-cyclical expansionary fiscal policies that boost growth during periods of external buoyancy but build up vulnerabilities which explode when the favorable conditions disappear. This stance has been changed during the recent decade. A decline in the budget deficit was targeted in all countries, despite an increase in public expenditure (Figure 2). Overall fiscal deficits have typically been reduced below one percent of GDP (i.e. lower than the EU and US) and in several cases were turned into surpluses. As a result, in 2006 and 2007 the average central government budget for the region as a whole was in equilibrium, suggesting a shift towards a countercyclical fiscal management (Ocampo 2007). A strong version of such policy, which requires that the extra revenue collected during upturns is saved and is used to support public expenditure during bad years, was followed in Chile, Peru and Argentina. A 'weak version', consisting in balancing the budget or achieving a small surplus, spending then the extra revenue collected during the upturn was followed by most countries due to the difficulties faced by democratic regimes in convincing the electorate about the need for fiscal austerity in periods of rising revenue (Ocampo (2008).

- *Rising tax/GDP ratios*. Tax policy has undergone gradual but deep changes, both during the 1990s and even more so since 2002. As a result, the regional tax and non-tax revenue of the central government including social security contributions rose from 15 percent of GDP in 1990 to 17 percent in 2000, and 20.2 percent in 2007 (CEPAL, 2007). Very large increases were recorded over 2002-2007 in Argentina and Brazil (9-10 points of GDP), Colombia (8.5 points), Bolivia (10 points), and Venezuela (6 points), and only Mexico experienced a small decline in the tax/GDP ratio (Cetrangolo and Gomez-Sabaini 2006). By mid 2000s, Brazil, Argentina, Uruguay and Costarica had reached levels of taxation similar to those of the US and Japan. In contrast, with tax/GDP ratios at around 10-12 percent, several Central American countries remained mired in a 'low revenue development trap' which makes them unable to fund pro-poor and pro-growth public goods. This revenue increase constitutes an important achievement, as inability or unwillingness to raise taxation was an main factor in the large accumulation of public debt during the 1970s, the debt crisis of the 1980s, and the macro instability of the 1990s.

The revenue increase resulted from a widespread reduction in excises and tariffs (following trade liberalization), a rise in indirect taxes (VAT *in primis*), an increase in personal and corporate income tax, and stagnation of wealth taxes and social security contributions (Table 3). LOC countries appear to have performed better, both in terms of additional revenue raised and of the progressivity of the tax instruments used (*ibid.*). Countries benefiting from increases in the price of hydrocarbons, metals and agricultural exports recorded an important growth in public revenue[10].

Table 3. Tax and non tax revenue/ GDP ratio of the central government in 1990, 2002 and 2007, and changes in tax structure in LOC and NO-LOC countries.

Tax revenue/GDP			Non-tax revenue/GDP			Country Group	Changes over 2002-7 (% points of GDP)				
1990	**2002**	**2007**	**1990**	**2002**	**2007**		Trade taxes	Excises +other ind tax	VAT	Direct Taxes	Social Security
17.5	19.2	23.7	5.4	5.3	5.9	***LOC***	+0.38	-0.23	+ 1.35	+ 2.56	+ 0.45
9.9	14.2	16.1	2.8	2.5	3.4	***NO-LOC***	- 0.20	- 0.72	+ 1.19	+ 1.49	+ 0.13

Source: Cornia and Martorano (2009)

While the improvement in terms of trade certainly contributed to raise the tax revenue/GDP ratio, it must be noted that its increase preceded the commodity boom and depended on broader efforts at widening the direct and indirect tax base and

[10] Governments developed a variety of fiscal mechanisms for appropriating part of the increase in commodity prices (CEPAL 2007, p.31). Argentina financed part of its spending from resources generated by export duties. In turn, Venezuela, Bolivia and Chile created new taxes to increase the revenue generated from their non- renewable resources. As a result, the share of fiscal resources represented by such revenue in Bolivia, Chile, Colombia and Mexico rose from of 27.8, 7.6, 9.9 and 29.4 percent in the 1990s to 34.8, 20, 14.2 and 37.5 in 2006-2007.

reducing evasion (Table 3). Several countries introduced a surrogate tax on financial transactions which, while potentially distortive (Cetrangolo and Sabaini 2006), was a second best tool to tax assets the distribution of which is highly concentrated. In addition, Brazil and Argentina introduced selective export taxes which are very likely progressive, as they capture part of the land rent and windfall profits due to world price rises accruing to a sector characterized by high asset and income concentration. Overall, while tax systems in the region still have a long way to go to improve their progressivity, the recent revenue increase was in good part achieved by direct and other progressive taxes (Table 3).

- Monetary policy and inflation targeting. As suggested by the 'impossible trinity theorem', in economies with an open capital account, such as those of Latin America, the monetary authorities can count only on few instruments (accumulation of reserves and sterilization) to control the fall in interest rates and credit expansion during booms generated by export bonanzas and large financial inflows. Argentina over 2002-8 and Colombia in 2007, however, also reverted to capital controls (Ocampo 2008). In most other countries, both LOC and conservative, monetary policy was either accommodating or neutral, tolerating therefore (with the major exception of Brazil) low or even negative real interest rates and higher inflation rates. Monetary policy aimed also at reducing the extensive dollarization of the financial system. Argentina conducted a radical de-dollarization during the crisis of 2002, and Peru adopted a policy of gradual de-dollarization, together with Bolivia and Uruguay. In particular, there was a tendency for foreign currency-denominated public-sector bonds issued on local capital markets to dwindle. Finally, there was a general strengthening of Central Bank independence.

- ***Exchange rate regime***. With the exception of Brazil and Venezuela, most LOC and NO LOC countries abandoned the free floats and fixed pegs regimes adopted during the prior decade, and opted instead for a competitive exchange rate regime or for managed floats aiming at preventing the appreciation of the real exchange rate. As noted by Ocampo (2007), consistently with this approach, Central Banks reduced the supply of foreign exchange through interventions in the currency market, adopted a coherent fiscal and policy, and in a few cases, introduced capital controls. The clearest example of this policy is given by Argentina, where the maintenance of a competitive exchange rate has been a cornerstone of macroeconomic policy (Frenkel and Rapetti, 2008)[11]. In this country, the adoption of a competitive exchange rate shifted labor towards the unskilled labor-intensive traded sectors (mainly manufacturing) with a strong equalizing effect (Damill 2004, cited in World Bank 2005).

In 2006 and 2007, this exchange rate policy came under pressure owing to large increases in export prices, capital inflows and remittances. As a result, the ensuing large current and capital account surpluses lead to a modest appreciation of 4.8 percent of the extra-regional real exchange rate for the region as a whole, with stronger effects felt in Colombia, Brazil and Venezuela (CEPAL 2007). Without a huge accumulation of reserves and parallel sterilization efforts by the central banks, several countries would have shown stronger symptoms of Dutch disease and

[11] Such policy requires that the build-up of international reserves during upturns be matched by measures to sterilize their monetary impact. Sterilization of this type is easier when there is a fiscal surplus. Otherwise it is necessary to sterilize via a mix of traditional open market operations, sales of central bank bonds in the market, or higher reserve requirements. For this reason, a fiscal surplus is an essential complement to the policy aiming at maintaining a stable and competitive real exchange rate.

accelerating inflation in the non-tradable sector which – if uncontrolled – would have generated adverse growth and distributive impact (Taylor 2004).

- ***Trade and external indebtedness***. The free trade policies adopted in the past have not been overturned, in part because the newly adopted exchange rate policies offered some protection to the tradable sector. In contrast, the trend towards international trade integration was substantially reoriented. The Free Trade Area of the Americas seems to have stalled while, in contrast, regional trade integration developed rapidly, especially in the field of manufacturing exports. The free trade agreements with industrialized countries, in contrast, strengthened the exports of primary commodities, with the possible exception of Mexico which increased its exports of manufactured goods, which in most cases have however a high import contents and limited backward and forward linkages. LOC governments have also attempted to reduce their dependence on foreign borrowing. Existing short-term stabilization agreements with the IMF were generally not renewed, while Brazil (2005) and Argentina (in 2006) prepaid their outstanding debt to the IMF. A few countries also restructured their foreign debt, as in the case of Argentina which successfully renegotiated its debt at a 70 percent discount. As a result, Latin America's gross foreign debt declined from 42 percent of the regional GDP in 2002 to 20 percent in 2007, while the debt net of foreign reserves fell from 33 to 8 percent of GDP.

(ii) Labor market, income, and social policies- ***Labor market policies.*** The LOC's policy model differs from the liberal one in terms of the extent to which labor policies explicitly address the problems of unemployment, informalization and instability, falling unskilled wages, diminishing coverage of social security, and weakening of institutions for wage negotiations and dispute settlements. Argentina enacted income policies to strengthen the purchasing power of poor and middle income families, including a rise in minimum wages, a large scale public work program, a deliberate attempt to extend the coverage of formal employment, and the re-birth of trade-unions. In Uruguay the Frente Amplio administration reinstated the tripartite collective bargaining bodies comprising representatives of business, unions and government that negotiate wage settlements for the main industries. In Brazil the government set up an Economic and Social Development Council composed of representatives of business, labor and a wide variety of civil society organizations to advise on economic and social issues. At the same time, most LOC governments decreed hikes in minimum wages which were sizeable but far from excessive. Such restraint reflected the greater concern of policy makers for creating jobs than for improving earnings. It also reflects the recognition that, unless backed by increases in productivity, nominal wage raises may fuel inflation with scant effect on real wages.

The empirical evidence suggests that the increases of minimum wages adopted during the 2000s likely produced an equalizing effect. Indeed, a study on 19 Latin American countries over 1997-2001 (Kristensen and Cunningham, 2006) shows that minimum wages[12] raised the pay at the bottom of the distribution and were generally associated with lower dispersion of earnings, as minimum wages were found to lift wages in both the formal and informal sector. Indeed, though they are not binding in the informal sector, the study found that in 14 of the 19 countries analyzed the minimum wages enhanced the wage distribution also in this sector. This suggests they represent a sort of 'fair reservation wage' below which

[12] Minimum wages varied between 20 and 143 percent of low-skilled wages, with the number of beneficiaries varying between 1 and 20 percent of the labor force.

the supply of unskilled labor falls. Table 2 suggests also that in the 2000s wage employment rose faster than self- employment, signifying that the policy of 'formalizing employment' produced some results. A third factor, was a decline in the wage premium of skilled workers, due to a growing supply of educated workers (section 3.3), and a shift of production towards the more unskilled labor-intensive tradable sector.

- *Rising public social expenditure and redistribution*. Public social expenditure started rising already in the early-mid 1990s but accelerated its upward trend since the early 2000s in most of the region (Table 4), especially in LOC countries. Most of the expenditure increase concerned social security, social assistance and education (*ibid*). The rise was nearly universal and of the 21 countries of the region, only Ecuador had in 2005 a social expenditure/GDP ratio lower than in 1990-1 (CEPAL 2005). There still is a huge intra-regional variation in social expenditure[13] but it appears that the recent rise was proportionately greater in low-income countries. A first factor in the public expenditure rise was the increase in tax/GDP ratios. Changes in the structure of public expenditure plaid also a role. For instance, the debt cancellation enjoyed by HIPC countries permitted reallocating to social activities monies used to service the foreign debt[14], while ODA-recipients increased their social expenditure, possibly due to growing 'social conditionality' for the achievement of MDGs.

Table 4. Average public social expenditure/GDP in LOC versus NO–LOC countries

Year	Social public expenditure as percentage of the Gross Domestic Product (GDP)				
	Total	Education	Health	social security	Housing
1990	9.0	2.8	2.1	3.3	0.7
1996	10.9	3.4	2.4	4.0	1.0
2003	12.8	4.3	2.8	4.6	1.1
Around 2006	13.3	4.3	2.9	4.6	1.4
LOC Δ (2006 – 2003)	1.33	0.20	0.38	0.46	0.29
NO LOC Δ (2006 – 2003)	0.48	-0.12	0.06	0.11	0.43

Source. Author's elaboration on the basis of the ECLAC database Badenso, Notes: the data refer to the 18 countries analyzed in this study, including Bolivia (on the basis of national data) omitted in similar CEPAL studies (2007a).

The rise in public social expenditure likely generated positive redistributive effects. Analysis of public social expenditure by income quintile for 18 countries over 1997-2003 (CEPAL 2007, Gasparini et al. 2007) suggest that: all components of public social expenditure (including social security) are less concentrated than private incomes; expenditures on primary education and social assistance are strongly progressive, those on secondary education and healthcare are mildly progressive or broadly proportional (in the case of health it depends on the approach to its financing), those on tertiary education are as concentrated as the distribution of income. In turn, expenditure on social security (pensions, unemployment insurance) is slightly less concentrated than that of private income, as it focuses on formal sector workers and only seldom provides non-contributory benefits to informal sector workers and their families. These are average regional data and things vary between the three main country groups in the region (Table 5, panel b).

[13] In 2005, Cuba, Uruguay, Brazil, Argentina, Bolivia, Costarica and Panama had social expenditure/GDP ratios of 15-20 percent (near the OECD level), but most Central American and Andean countries had ratios below 10%.

[14] Since 1996-7, Bolivia, Honduras and Nicaragua enjoyed debt cancellations equal to 5, 6 and 2 percent of their GDP.

Furthermore, there are indications (CEPAL 2005) that the incidence of such public expenditure is becoming more progressive, though at different speeds across the region, as shown by the increase in enrolments in secondary education mentioned above, greater access to health services, social assistance (see below) and anti-poverty programs.

Table 5. Incidence of government expenditure by quintile (18 countries, years 1997-2004) and concentration coefficients of the public expenditure by three country groups.

(Panel a) Shares of total public expenditure By sector and income quintile					**Expenditure Sector**	**(Panel b) Concentration coefficients of public expenditure**		
I quintile	II quintile	III quintile	IVquintile	V quintile		Group 1	Group 2	Group 3
7.4	6.5	6.3	5.9	5.6	**Education**	-0.067	0.116	-0.138
5.1	4.7	4.2	4.0	3.7	**Health**	0.074	-0.073	-0.192
2.0	2.8	4.3	**6.3**	**16.5**	**Soc Security**	0.504	0.568	0.349
3.3	2.1	1.6	1.3	1.1	**Soc Assist.**	-0.089	-0.154	-0.484
0.8	0.9	1.1	1.4	0.9	**Housing**	0.206	0.067	-0.026
19.6	17.0	17.5	18.9	27.8	**Total**	0.143	0.042	0.044

Source: Elaboration on CEPAL (2007a); Note: Group 1 includes Bolivia, El Salvador, Guatemala, Honduras, Ecuador, Nicaragua, Paraguay, and Peru. Group 2 includes: Colombia, Dominican Republic, Mexico, Panama, and Venezuela. Group 3 includes: Argentina, Brazil, Chile, Costarica and Uruguay.

As shown in Table 5, social security expenditure is not progressive, as it mainly covers formal sector workers with stable employment. This raises the question of how best can government expand social security coverage, whether by extending the formal sector or by setting up solidarity-based, non-contributory, universal funds providing basic benefits (such as minimum pensions) to informal sector workers and their families. Both approaches were adopted in recent years though the latter was more common. For instance, several LOC countries (Argentina, Bolivia, Brazil, Chile and Costarica) introduced non-contributory social pension which started addressing this problem (Table 6).

Table 6. Coverage of non-contributory pensions in Latin America

	Age of eligibility	Universal (U) Means tested (M)	Amount paid/month US $	% population over 60	% pop >60 receiving a pension	Cost of pension as % of GDP
Argentina	70+	M	88	14	6	0.23
Bolivia	65+	U	18	7	69	1.30
Brazil 1	67+	M	140	9	5	0.20
Brazil 2	60/55+	M	140	9	27	0.70
Chile	65+	M	75	12	51	0.38
Costa Rica	65+	M	26	8	20	0.18
Uruguay	70+	M	100	17	10	0.62
memo item						
Lesotho	70+	U	21	8	53	1.43
Mauritius	60+	U	60	10	100	2.00
South Africa	65/58+	M	109	7	60	1.40

Source: HelpAgeInternational (2006b) Notes: Brazil 1 and 2 = Beneficio de Prestacao Continuada; Previdencia Rural.

Prior to the recent changes in tax and expenditure policies, the overall redistributive effect of tax-and-transfer operations in Latin America was much smaller than in the OECD, with the exception of Argentina and Costa Rica. An analysis of tax incidence in 11 Latin American countries for the late 1990s and 2001-2 (Cetrangolo and Gomez-Sabaini 2006) concluded that the distribution of income after taxation (but before transfers) remained broadly unchanged and worsened in Mexico and Nicaragua, as the tax system mainly relied on regressive or proportional taxes. In contrast, in most countries public expenditure redistributed income in a perceptible way. Yet, as noted above, the increase in income and wealth taxes recorded between the mid-late 1990s and 2007 in several countries should have improved, if moderately, the progressivity of the tax system though no new analysis are available in this regard.

- Conditional transfer programs. During the last 10-15 years most governments introduced targeted social assistance programs to complement the coverage of formal social security. Contrary to the small, donor dependent, and poorly sequenced and targeted Social Emergency and Investment Funds (SEF and SIF) introduced in the late 1980s to soften the resistance to and impact of structural adjustment, conditional transfers are better funded by the state (second column of Table 7), cover an important share of the population at risk, and are directed to old and new political constituencies such as the urban and rural poor. Such programs include: conditional transfers aiming at reducing poverty and child labor and at ensuring that children remain in school, and have access to health services and proper nutrition (as in the case of Brazil's famous *Bolsa Familia*); temporary employment schemes for the construction of public infrastructure (as in Argentina's *Programma Jefas y Jefes de Hogares* and Uruguay's PANES); training of unemployed workers and youth with the aim of facilitating their access to formal sector jobs; subsidized formal sector employment for the youth; and the promotion of SME. Several studies document the favorable distributional impact of such transfers. For instance, an IPEA study (cited in CEPAL 2006) found that in Brazil government transfers (social pensions and *Bolsa Família*) explained one third of the decline in income inequality observed between 2000 and 2006.

Table 7. Summary of some main social programs introduced in recent times in the region

Program (reference year)	Cost (% of GDP)	Number of beneficiaries	Monthly subsidy ($)
Plan Jefas y Jefes (Argentina, 2002)	0,80	1.85 millions workers	US$45 (2002) US$ 150 (2007)
Plan Nacional Emergencia (Bolivia, 2002)	0,86	1.6% of Active pop.	63 $ Wage manual workers
PANES (Uruguay, 2005)	0.50	7.2% of active pop.	55 $
Bolsa Familia (Brazil, 2005)	0.36	11.1 million families	62 R$ for poor families 15 R$ for children 30 R$ for youth
Chile Solidario (Chile 2005)	0.08	256.000 families	8-21 $ depending on poverty intensity
Oportunidades (México, 2006)	0.40	5 million families (18% of pop)	12-74 $ depends on educ.level 17$ family health
Bono desarrollo umano (Ecuador 2005)	0.60	5 million people (40% of pop)	15 $
Familias en accion (Colombia 2007)	0.20	1.7 million families	8-33 US$ (educ subsidy/child) 30 US$ (health subsidy/ family)

Source: Authors' compilation on Fiszbein and Schady (2009) and Bouillon and Tejerina (2007).

4. Regression analysis

4.1 Dataset and matrix of correlation coefficients

The understanding the relative impact on inequality of the factors discussed in Part 3 required to compile a dataset on Income Distribution in Latin America (IDLA). IDLA includes annual data for 18 Latin American countries, for the 18 years 1990-2007 and the variables listed in Table 8. The database thus includes 324 (18x18) cells for each variable, though missing data reduce the number of data strings with non-zero cells. The dependent variable is the Gini coefficient of the distribution of household disposable income[15]. The explanatory variables included in the regression are described in Table 8. They belong to five sets of factors: (i) the current business cycle measured by the growth rate of GDP per capita, and expected *ex ante* to have a negative sign (ii) the distribution of human capital (i.e. the Gini of the distribution of years of education among workers lagged one year, expected *ex-ante* to reduce inequality) (iii) external conditions i.e. international terms of trade, migrant remittances (both of which have an uncertain *ex-ante* effect on inequality, besides the effect mediated through other variables), as well as FDI and portfolio flows (expected *ex-ante* to have a un-equalizing effect), besides the effects mediated through GDP growth and other channels; and (iv) public policies. These include the Real Effective Exchange Rate (REER) which proxies macroeconomic policy, and which is expected to reduce inequality for the reasons given in Part 3; the minimum wage interacted with the share of formal sector workers (expected *ex-ante* to reduce inequality) as proxy labor market policies. As for redistributive policies, the following variables were used in regression analysis: the ratio of direct to indirect taxes, the share of public expenditure on social security as a share of GDP (both expected to reduce inequality) and the ratio of pension coverage in the top versus bottom quintile; (v) two political dummy variables, i.e. the 'social democratic' dummy, which is equal to one when a country is ruled by a social-democratic government and zero in all other cases, and the 'populist' dummy which takes the value of one in the years during which Venezuela, Bolivia and Nicaragua were ruled by a radical-populist regime and zero in all other cases. Both dummies are expected to reduce inequality (beyond the impact of the progressive policies introduced by these regimes).

[15] Of the (18x18) 324 observations of the Gini coefficient of income inequality, 175 derive from the SEDLAC database (www.depeco.econo.unlp.edu.ar/sedlac/eng/statistics.php) and are obtained through a standard procedure using household surveys data, 11 are taken from WIDER's WIID2c (www.wider.unu.edu/wiid/wiid.htm), 3 from Badeinso-Eclac 2008 (www.eclac.cl/estadisticas/bases/), 13 from WDI 2007, and one (Argentina, 2007) from national sources. 98 data-points were interpolated by filling gaps of one or two years in time series with stable trends. In three cases, interpolation was used to fill gaps of 3 years, and in 3 cases of 4 years, i.e. for a total of 21 data-points referring mostly to the early 1990s. Finally, 23 cells (for Ecuador, Guatemala, Nicaragua, and Paraguay in the early 1990s) remain blank. A successful check was carried out to ensure that the data filled in by interpolation replicated the trend of other income concepts with available data. In most cases, the data refer to disposable household income per capita. In a few cases, it was not possible to find out the income concept used for computing the Gini coefficients, as this information was not included in the survey questionnaires. This might introduce some error in the measurement of the dependent variable. However, as it was possible to verify a strong co-variance between trends of Gini coefficients based on different income concepts, this bias may affect the value of the country intercepts in the fixed effect estimation, without affecting the parameters of the explanatory variables. All data cover the nation as a whole, except for Argentina (where surveys initially covered the Greater Buenos Aires, then the 15 main cities, and later the 28 main cities), Bolivia (where between 1990-95 the coverage was only urban), and Uruguay (urban coverage only).

Table 8. Definition, description and data sources of the variables used in regression analysis

variable name	***Variable label***	***Source***	***Unit of Measure***
Gini	Gini coefficient of the current distribution of disposable household income per capita	See footnote 15	Percentage points
GDP/c gr	Per capita average annual growth rates GDP at constant market prices	ECLAC	Percentage based on US dollar figures at constant 2000 prices
Gini education-1	Education Gini index for working population of 25-64 years old, lagged one year	SEDLAC	Percentage points
Tot- fob	terms of trade, fob	ECLAC	Index, 2000=100
Remittances	Workers' remittances / GDP	UNCTAD	Percentage of GDP
FDI	Net Stock of Foreign Direct Investment/GDP	UNCTAD	Percentage of GDP
Capital flows	Portfolio investment/GDP	ECLAC	Percentage of GDP
REER	Indices of Real Effective Exchange Rate	Econ Survey of L. America and the Caribbean	Index, 2000=100
Min-wage	Minimum wage	ECLAC	Index, 2000=100
Direct tax	Taxes on income, profits, capital gains, property/ GDP	ECLAC	as a percentage of GDP
Indirect tax	(General taxes on goods and services + taxes on specific goods and services) / GDP	ECLAC	As a percentage of GDP
Public exp. on social Security	Public expenditure on social security and social assistance / GDP	ECLAC	As a percentage of GDP
Q5/Q1 Pensions	Ratio of pensions coverage by quintile	Rofman et al. (2008)	Ratio
Social-democratic	Dummy denoting a country/year with a social-democratic government	Author's compilation	1(social-democratic), 0 (all other cases)
Populist	Dummy denoting a country/year with a radical-populist government	Author's compilation	1(populist), 0 (all other cases)

Source: author's compilation

Analysis of the matrix of bilateral correlation coefficients (omitted for reasons of space) among the 14 explanatory variables included in regression analysis shows that – of the 88 bilateral correlation coefficients contained in such matrix – only that between the 'ratio of pensions coverage between the top and bottom quintile' and 'public expenditure on social security' is sizeable (r = -.64) and can cause multicollinearity problems. Another four coefficients have values of around 0.5, while all others are very low (0.002- 0.3) suggesting that the explanatory variables are independent among each other, that problems of multicollinearity should be limited, and that – contrary to what could be suggested by economic theory - there is no need to develop a structural multi-equation model.

4.2. Estimation procedure and regression results

The IDLA database is organized as a tri-dimensional matrix, with 18 countries on one axis, 18 years on the second and the dependent and 14 explanatory variables on the third. Such kind of dataset demands that the procedure chosen for the estimation of the determinants of income inequality takes into account that each country is observed over several periods. Such model takes therefore the following form:

$$GINI_{it} = \alpha + \beta X_{it} + \eta_i + y_t + u_{it}$$

where $Gini_{it}$ is the coefficient of the distribution of household disposable income per capita, X a vector of 14 explanatory variables (Table 8), the subscripts i and t represent respectively the countries and the years of the panel, η_i the error term for each country, y_t the error term for each year, and u_{it} a joint error term for countries and time periods, while α and are β parameters to be estimated. Given the nature of this dataset, the OLS procedure tends to yield inefficient and distorted estimates of the values of α and β (Baltagi 2006). The estimation procedure best suited to situations in which u_i varies from country to country is the fixed effects (FE) model in which u_i is not treated as a random variable. This means that this estimation procedure generates, for each of the 18 countries considered, an intercept which captures specific country effects reflecting differences in geography, institutions and unobservables. The Hausman test confirms that the fixed effects model is preferable to the random effect model.

The regression analysis has been carried out as follows: the ratio of pension coverage of the top to the bottom quintile has been dropped due to multicollinearity problems mentioned above, while the capital flows/GDP was also dropped due to lack of sufficient data. To capture the progressivity of the tax system, the ratio of direct taxes/GDP was divided by that of indirect taxes/GDP (and further standardized by the overall tax/GDP ratio). The regressors have been introduced in a stepwise mode starting with the two political dummies ('social democratic' and 'populist'), followed, one by one, by the different sets of factors discussed in Part 3, i.e.: the growth rate of GDP, educational inequality of the labor force, external economic conditions (terms of trade, remittances, and FDI), macroeconomic policies (proxied by the real exchange rate expressed in quadratic form), labor market policies (proxied by the minimum wage index interacted with the share of formal sector employment), and redistributive policies (i.e. the ratio of direct to indirect taxes, and social expenditure/GDP). The introduction of each new variable entails a reduction in the number of observations which drops from 301 in Model 1 to 222 in Model 8.

The results show that, when introduced all alone, the two dummy variables are highly significant with the 'populists' having a somewhat bigger redistributive (1.9 Gini points) effect than the 'social-democrats' (1.4 Gini points). As expected, with the introduction of other variables (particularly the policy variables) the parameters of the two dummies decline in value and loose significance, though they remain significant in most of the eight models in Table 9. The populist dummy is non significant in three of the eight models, likely because the small number of years in which this variable takes values different from zero, while the 'social democratic' is non significant only in one model. Most importantly both dummies are significant in the most complete model, i.e. model 8. In turn GDP growth has, as expected, a negative sign and is generally, if weakly, significant. But it appears to have a limited impact on income inequality; for instance a six percent growth of GDP/C reduces inequality by 0.2-0.4 Gini points, depending on which of the eight model of Table 9 is selected. The Gini of educational achievements is strongly and significantly related to the Gini income, and its parameters range between 0.6-0.7 in all models in which such variables is included. This means that the observed average drop of 2 or 3 points in the Gini of educational achievements over 2002 and 2007 (with higher values for Brazil and Guatemala) explains 1.5-2 points of the decline in the Gini of disposable during the same period. As for the impact of the international environment, the terms of trade turns out to reduce inequality moderately. For instance, given their 33 percent improvement in relation to the 1990s, and given values of the

Table 9. Fixed effects regression results (dependent variable: Gini coefficient of the distribution of disposable income/c)

Variable (sign expected ex ante on the basis of theory)	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Dummy social democratic (-)	-1.392 [0.3962]***	-1.3593 [0.3983]***	-1.1736 [0.3872]***	-0.9949 [0.3975]**	-1.0235 [0.4283]**	-0.7252 [0.4431]*	-0.5033 [0.4503]	-0.6978 [0.4152]*
Dummy populist (-)	-1.9185 [0.6777]***	-1.9045 [0.6706]***	-1.0883 [0.6343]*	-0.012 [0.7211]	0.0632 [0.7575]	-0.3148 [0.7697]	-1.3174 [0.7097]*	-1.4073 [0.7236]*
Growth rate of GDP/ per capita (-)		-0.0545 [0.0375]^	-0.0769 [0.0313]**	-0.0444 [0.0316]^	-0.0402 [0.0330]	-0.0364 [0.0336]	-0.0471 [0.0333]^	-0.0538 [0.0316]*
Gini distribution of years of education (-1) (+)			0.6892 [0.1008]***	0.701 [0.1089]***	0.666 [0.1106]***	0.637 [0.1162]***	0.6114 [0.1144]***	0.6212 [0.1216]***
International terms of trade, fob (+,-)				-0.0195 [0.0085]**	-0.0202 [0.0086]**	-0.019 [0.0089]**	-0.0154 [0.0086]*	-0.0128 [0.0091]^
Migrant remittances /GDP (+, -)				0.0446 [0.0612]	0.0356 [0.0627]	0.0359 [0.0628]	0.0459 [0.0625]	0.1102 [0.0684]^
Net FDI stock/GDP (+)				0.0381 [0.0134]***	0.0365 [0.0130]***	0.0348 [0.0134]***	0.0318 [0.0137]**	0.0610 [0.0123]***
REER (-)					-0.0689 [0.0293]**	-0.0786 [0.0293]***	-0.0848 [0.0293]***	-0.0725 [0.0303]**
$REER^2$ (+)					0.0002 [0.0001]**	0.0003 [0.0001]***	0.0003 [0.0001]***	0.0003 [0.0001]***
Minimum wage index * share of formal sector employm.(-)						-0.0256 [0.0105]**	-0.0258 [0.0104]**	-0.0198 [0.0115]*
Share of direct tax / indirect tax on tax/GDP (-)							-0.105 [0.0229]***	-0.0993 [0.0244]***
Public expenditure on social security/GDP (=,-)								-0.3183 [0.1495]**
Constant	53.0059 [0.3069]***	53.1929 [0.3235]***	29.3445 [3.4399]***	29.6811 [4.2750]***	35.3471 [4.9764]***	38.5238 [5.4184]***	39.7936 [5.3625]***	39.5974 [5.7001]***
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	yes
Observations	301	301	252	251	246	241	239	222
R-squared	0.17	0.17	0.30	0.34	0.35	0.36	0.38	0.45

Source: author's calculations, Notes: *** significant at 1%; ** significant at 5%; * significant at 10%; ^ significant at 18%;

regression parameters ranging between -0.13 and – 0.020, the average Gini decline during the 2000s due to this variable is estimated at about 0.4-0.6 points. In turn, migrant remittances are non significant in all specifications, while FDI/GDP appears strongly and very significantly un- equalizing, but rose only minimally during the last decade. Also the parameters of the linear and quadratic terms of the REER are strongly significant, confirming that, for instance a 20 percent devaluation of REER reduces income inequality by about 1.2 points. As for the redistributive policies, the regression analysis corroborates the predictions of Part 3 about of their equalizing impact. For instance, doubling of the minimum wage index and considering the 3 percentage points expansion of the formal employment on the total (Table 2) would induce a drop in income inequality by some 1.2 Gini points. Likewise, the 1.3 percentage points rise in public social expenditure observed in LOC countries over 2003-2006 (Table 4) induced a statistically significant drop in the Gini of income inequality of about 0.4 points. A bit less marked but highly significant and with the expected sign is the parameter of the ratio of direct to indirect taxes.

All in all, Table 9 – and in particular Model 8 - show that all the signs of the estimated parameters coincide with those expected *ex-ante* on the basis of the theories discussed in Part 3. The parameters are also stable across the different specifications, a sign that their values are correctly estimated and sufficiently reliable for computing the relative weight of each set factors used to explain the inequality decline observed between 2002 and 2007. Among all the variables considered, those with the biggest impact on income inequality are (in descending order): the drop in the Gini of educational achievements due to sustained investments in education which affected the skill premium; the choice of an appropriate REER; the labor market and social expenditure policies; and the 'social democratic' and 'populist' dummies which measure the effect on inequality of progressive policies and conditions other than those explicitly considered in the regression analysis. The terms of trade gains and the growth recovery also contributed to the decline in inequality over 2002-2007 but in a quantitatively less important way, while migrant remittances and portfolio flows were not significant, and the stock FDI/GDP (which changed little over 2002-7) had a lesser impact on inequality, though its parameter is highly significant.

These satisfactory results have to be probed for the possibility of reverse causation and endogeneity. Reverse causation is normally tested by means of the Granger test. However, such test is not suitable for the IDLA dataset in which each variable has at most 18, and often fewer, observations. It is therefore more appropriate to deal with this problem from a theoretical standpoint [16]. In turn, solution of possible problems of endogeneity, requires developing a simultaneous equations system, which is however difficult in a panel with only 18 observations. This means that the results in Table 9 are to be interpreted as correlations rather than causal explanations, though the theoretical discussion in Part 3 lends support to a prudent causal interpretation of the results obtained.

On the whole, it appears that improvements in educational inequality, favorable terms of trade, and pro-poor policies contributed to reduce income inequality. These results contradict the conclusions of Perez Caldentey and Vernengo (2008) according to which the recent growth acceleration and fall in inequality have nothing to do with the policy changes introduced by governments in the economic and social sphere. These authors are right, however, in noting that the recent developments have only minimally reduced the dependence of the region on the export of primary commodities

[16] In this regard, it must be noted that reverse causality makes no sense in the majority of the relations in Table 9. For instance, it is not plausible that changes in domestic inequality affect the real exchange rate, or can affect lagged, exogenous or policy variables (such as Gini income 1990, migrant remittances, terms of trade, ratio of direct/indirect taxes, ratio of pension coverage Q1/Q5, and minimum wage). Also, a fall/increase in Gini income may affect the Gini of years of education only after a considerable lag. It is also implausible that a decrease in inequality will affect the expenditure on social insurance/GDP, which depends on the coverage of formal employment as far as pensions are concerned, and on tax revenue and public expenditure allocation for conditional cash transfers. The only relation in which reverse causation may be plausible is that between the Gini inequality and the growth rate of GDP/c. In this case, however, this relation would be characterized by time lags, thus excluding the possibility of reverse causation on synchronous data. Furthermore, the literature on the impact of higher inequality on GDP/c growth is not unanimous. Neokeynesian and neoclassical models postulate a positive relation between these two variables, while 'political economy' and 'incentives' models assume a negative one. On the whole, reverse causality does not seem plausible.

5. Tentative conclusions: is 'prudent redistribution with growth' reducing income inequality in Latin America? Will the current crisis undo it?

The spread of democracy and dissatisfaction with Washington Consensus policies have lead to the elections of LOC governments which introduced – thanks also to favorable external conditions – economic reforms broadly inspired by a 'prudent redistribution with growth' paradigm committed to reducing the inequality inherited from the colonial past and exacerbated by the liberal policies of the 1980s and 1990s. With the exception of Venezuela and Bolivia, the new policy model did not introduce radical measures altering the distribution of assets. Rather, it emphasized orthodox objectives such as macro-economic stability, fiscal prudence, and the preservation of free trade and capital flows. Yet, in a clear departure from the 1990s, the new model relies on managed exchange rates, a neutral or countercyclical fiscal policy, reduced dependence on foreign capital, rapid accumulation of reserves, and an active role of the state in the field of labor and social policies.

In addition, as in the European social democracies, LOC and moderate centre-right governments raised the tax/GDP ratio (a trend facilitated but not fully explained, neither in its timing nor in its extent, by the recent gains in terms of trade gains) as well as public spending on education, conditional cash transfers, and other forms of social assistance. There is micro evidence that higher public and private spending reduced inequality in education, improved the distribution of human capital among the workforce, and reduced the skill premium. Redistribution was also pursued via macro policies favoring the labor-intensive traded sector as well as changes in labor market policies and institutions. Also in this case, the changes introduced were far from radical, and yet helped increasing labor participation and the share of workers covered by formal contracts, and reducing unemployment.

Beyond the problems posed by the current financial crisis, the Latin American governments still face formidable hurdles in deepening these reforms. First, the trend towards rising taxation and social expenditure needs to continue in part of the region with the objective of building a lean welfare state that avoids the high costs of the European model but offers universal coverage. Second, the fiscal revenue needed to sustain future social expenditure will have to come from a diversification of the economy into new labor- and skilled-intensive sectors. Third, an intensification of the new policy model by LOC governments in the region faces considerable political opposition, as shown by the case of Bolivia and Argentina, where interest groups have nearly stalled attempts at redistribution. Meanwhile, the financial crisis may dig a gap between the responses expected from LOC governments and what they can actually do under the recessionary conditions of 2009 and part of 2010. An unchecked deterioration of living conditions might lead to a collective perception that the crisis is due to inadequate policy responses. Failure to stay – if in part - the new policy course may cause a credibility gap, undermine electoral support, and push the region towards its traditional path of unequal development or towards more radical solutions, possibly overturning in this way the inequality gains of the recent past.

A simulation of model 8 in Table 9 suggests that income inequality is likely to have stagnated in 2008 and to have risen by 2-3 points in 2009 due to deterioration in some of the model's explanatory variables such as terms of trade, migrant remittances, growth of GDP/c and so on. Adverse changes in other variable not included in the model – such a drop in capital inflows, rising interest spreads on international loans, and rises in capital flights – may affect further income inequality. These recessionary pressures are very likely to cause a decline in tax revenue, a phenomenon that may be aggravated by the tax cuts introduced as relief measures as part of the policy response to the crisis. The ability to redistribute via the budget would thus be eroded, unless a countercyclical fiscal policy is adopted.

On the positive side, it must be noted that the current crisis hits a region in better conditions than those prevailing on occasion of the crises of 1982-4 and 1998-2002. To start with, the crisis is mainly a real economy crisis, and not a financial crisis, as in the US or as experienced in the region during the 1980s and 1990s. This means that fewer funds are needed than in the past to recapitalize ailing banks. Second, many countries of the region are in a position to adopt countercyclical fiscal policies and to incur substantial deficits for a couple of years, thanks to declines in the public debt/GDP ratio, large accumulation of currency reserves, and decline in inflation achieved in the first part of the decade (see Part 3). Central Banks can also carry out a more flexible monetary policy without endangering their inflation targets. In turn, the devaluation of the exchange rate is likely to raise the REER (correcting in this way its recent appreciation in some countries, Brazil ahead of all) with a possible favorable impact on inequality. Third, the impact of the recession via the international trade will not affect all countries equally hard. Mexico, Central America and other nations strongly integrated with North America and Europe are likely to suffer an important trade shock, but the Andean and Southern Cone nations which have been increasingly trading with East Asia are likely to be less affected due to the milder recession experienced by this region. Fourth, most countries have introduced in the recent years important public works and cash transfer programs (Table 7). At the moment 85 million Latin-Americans receive a subsidy under some kind of CCT schemes (UNDP 2009). This prior institutional development ought to facilitate the expansion of safety nets during the crisis and preserve in this way some of the recent inequality decline, though not all countries may have the capacity to do so in a timely manner. Finally, current and future the inequality trends will depend on the ability of governments to sustain the measures introduced during the recent past in the field of direct taxation, social expenditure, labor market policies and a gradual drive towards an integrated, universal social protection system. As noted, the countercyclical fiscal policy followed in the first part of this decade should permit to sustain some of these programs in the years ahead and to preserve part of the inequality gains achieved during the recent past.

Bibliographic references

Altimir, Oscar (1993), "Income Distribution and Poverty Through Crises and Adjustment", paper presented at the ECLAC/UNICEF Workshop on Public Policy Reforms and Social Expenditure, Santiago, Chile, 14-15 June 1993.

Altimir, Oscar (1996), "Economic Development and Social Equity", *Journal of Interamerican Studies and World Affairs*, Summer/Fall 1996.

Baltagi, Badi H. (2005) "Econometric Analysis of Panel Data", John Wiley and Sons, Chichester.

Bouillon, Cesar Patricio and Luis Tajerina (2007), "Do We Know What Works?: A Systematic Review of Impact Evaluations of Social Programs in Latin America and the Caribbean", Inter-American Development Bank, Washington D.C.

CELADE (2006) *América Latina y el Caribe: Observatorio Demográfico Nº 2*, October. Santiago, CEPAL.

CEPAL (2009), 'La reacción de los gobiernos de América Latina y el Caribe frente a la crisis internacional : una presentación sintética de las medidas de política anunciadas hasta el 30 de enero de 2009' CEPAL, Santiago de Chile.

CEPAL (2007), 'Preliminary Overview of the Economies of Latin America and the Carribean, 2007', CEPAL, Santiago de Chile.

CEPAL (2007a), 'Panorama Social de America Latina', CEPAL, Santiago de Chile.

CEPAL (2006 and 2008), 'Panorama Social de America Latina', CEPAL, Santiago de Chile.

CEPAL (2005), 'Panorama Social de America Latina', CEPAL, Santiago de Chile.

Cetrangolo, Oscar and Gomez Sabaini (2006), "Tributacion en America Latina: En busca de nuevas agenda de reformas", Libros de la CEPAL, n.93, CEPAL, Santiago de Chile, December.

Chenery Hollis, Montek Ahluwalia, Clive Bell, John Duloy and Richard Jolly (1974), "*Redistribution with Growth*", Oxford University Press.

Cornia, Giovanni Andrea (2006), "*Pro-poor Macroeconomics: potential and limitations*", Palgrave Mc Millan, London

Cornia, Giovanni Andrea (2004), "*Inequality, growth and Poverty in an Era of Liberalization and Globalization*", Oxford University Press, Oxford.

Cornia, Giovanni Andrea and Bruno Martorano (2009), "What explains the decline of income inequality during the last decade?", paper presented at the conference "Overcoming Persistent Inequality and Poverty" in honor of Frances Stewart, Oxford Department of International Development (17-18 September 2009).

Dornubush Rudiger and Sebastian Edwards (1991), "*The Macroeconomics of Populism in Latin America*. Chicago and London: University of Chicago Press.

Engerman, Stanley L. and Kenneth, L. Sokoloff (2005), "Colonialism, Inequality and Long Run Paths of Development", Working Paper 11057, NBER, Cambridge, MA.

Fizsbein, Ariel and Schady Norbert (2009), " Conditional cash Transfers: Reducing Present and Future Poverty", the World Bank, Washington D.C.

Frenkel, Roberto and Martín Rapetti (2008), "Five years of competitive and stable real exchange rate in Argentina, 2002-2007". *International Review of Applied Economics*: 215-216.

Gasparini, Leonardo (2007),"Monitoring the Socio-Economic Conditions in Argentina 1992-2006" Mimeographed, CEDLAS, Universidad Nacional de La Plata, June 2007.

Gasparini Leonardo, Guillermo Cruces, Leopoldo Tornarolli y Mariana Marchionni (2009) "A Turning Point? Recent Developments on Inequality in Latin America and the Caribbean "Documento de Trabajo Nro. 81, CEDLAS Universidad Nacional de La Plata, February 2009.

Helpage International (2006), www.helpage.org/Home
Klasen, Stephan and Felicitas Nowak-Lehman (2009), "Poverty, Inequality and Policy in Latin America", Cesifo Seminar Series, The MIT Press, Cambridge.
Kristensen, Nicolai and Wendy Cunningham (2006), "Do Minimum Wages in Latin America and the Carribean Matter? Evidence from 19 Countries", World Bank Policy Research Working Paper No. 3870, World Bank, Washington D.C., March 2006
IMF (2005), "World Economic Outlook: Globalization and External Imbalances", April 2005, IMF, Washington D.C.
Lustig, Nora (2009), "La pobreza y la disegualdad en America Latina, y los gobiernos de la Izquirda", Cuadernos del Consejo Mexicano de Asuntos Internacionales, n.7.
Moreno-Brid, Juan Carlos and Igor Paunovic (2006) " The Future of Economic Policy Making by Left-of-Centre Governments in Latin America: Old Wine in New Bottles? *Post-autistic Economic Review,* no. 139, 1 October 2006, pp.2-7.
Ocampo, José Antonio (2007), "The Macroeconomics of the Latin American Economic Boom," *CEPAL Review*, No.93. pp.7-28.
Ocampo, José Antonio (2008), "The Latin American Economic Boom*"Revista de Ciencia Política,* Volume 28, n. 1, p. 7-33.
Panizza, Francisco E. (2005) "Unarmed utopia revisited: the resurgence of left-of-centre politics in Latin America**".** *Political studies*, 53 (4). pp. 716-734.
Panizza, Francisco E. (2005a) , " The Social democratisation of the Latin American Left", *Revista Europea de Estudios Latinoamericanos y del Caribe*, 79, October 2005.
Perez Caldentey, Esteban and Matías Vernengo (2008), "Back to the Future: Latin America's Current Development Strategy", www.networkideas.org/featart/aug2008/fa02_Back2Future.htm
Székely, Miguel (2003), "The 1990s in Latin America: Another Decade of Persistent Inequality but with Somewhat Lower Poverty", *Journal of Applied Economics* Vol. VI, No.2, 317-339.
Taylor, Lance (2004), "External Liberalization, Economic Performance and Distribution in Latin America and Elsewhere", in Cornia G.A. (2004) op.cit.
Tokman, Victor (1986), "Ajuste y Empleo: Los Desafios del Presente", PREALC, Regional Employment Programme for Latin America and the Caribbean. Mimeo. Santiago, Chile.
UNDP (2009), "The Global Financial Crisis: Social Implications for Latin America and the Caribbean" Crisis Update No. 2, February 10, 2009, Regional Bureau for Latin America and the Carribean.
World Bank (2005), 'Argentina: Seeking Sustained Growth and Social Equity: Observations on Growth, Inequality and Poverty', 21 October 2005, Washington D.C