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POVERTY AND ECONOMIC CRISIS: RECENT EVIDENCE FROM URUGUAY

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I. INTRODUCTION

Many studies attest that Latin America is a region of persistent poverty and inequality, despite the evolution of its economic performance. Since the 1940s, research undertaken in the orbit of the Economic Commission for Latin America and the Caribbean (ECLAC) has remarked on the enormous social disparities present in most countries (see, for example: Prebisch, 1949; Furtado, 1969; Pinto, 1976; ECLAC, 1991; Altimir, 1997). In recent times, work carried out by Lustig (1995), Berry (1997), Londoño and Székely (1998), Morley (2000), De Ferranti et al. (2004), and many others has shown that this situation remained unchanged and has even worsened in the 1980s and 1990s, and more recently than that in some Latin American countries that have experienced severe economic crisis. In 2002, approximately 44 percent of the Latin American population lived in poverty and 19.4 percent in indigence. In 2003 no relevant modifications occurred, although according to ECLAC it is likely that 2004 provides better trends (ECLAC, 2004).

In the first years of the twenty-first century, Latin American countries have experienced modest GDP growth rates, with the probable exception of Chile (Chart 1). Even though Brazil showed significant growth rates in previous decades, in the 1990s it experienced a slowdown of its economic expansion. In the Southern Cone, Argentina and Uruguay went through a severe economic crisis in 2001-2002 that turned into a significant reduction of economic activity and eroded socioeconomic indicators. Since 2004, these two countries are experiencing positive and significant growth rates.

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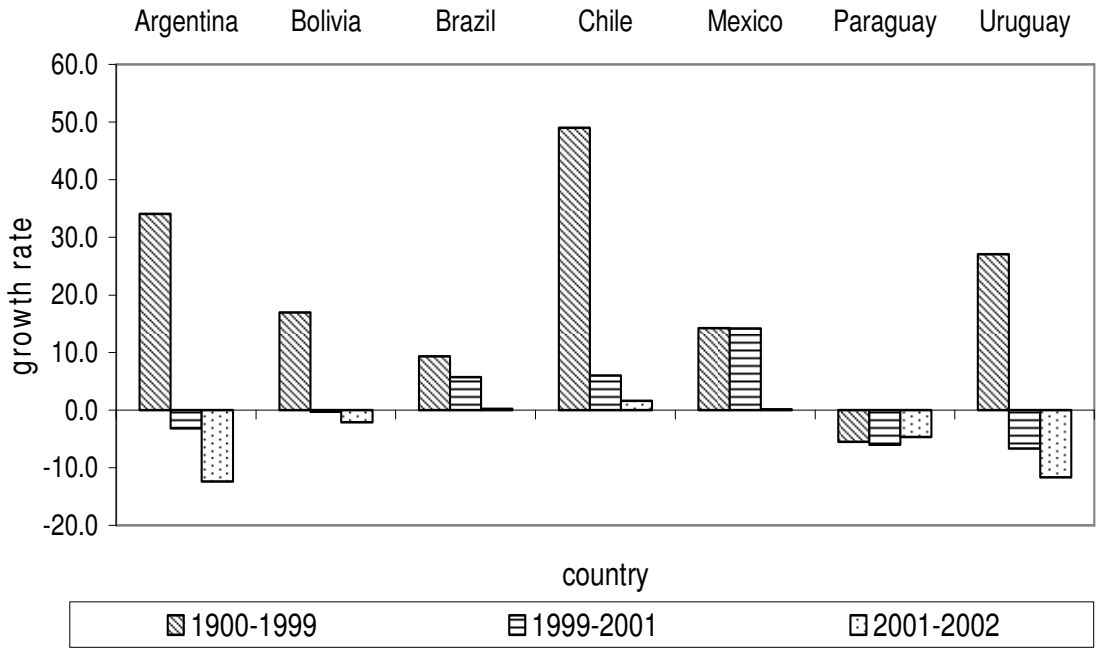

Chart 1 - GDP Growth Rates in Selected Latin American Countries. 1990-2002
Source: ECLAC (2004).

Income poverty and inequality trends worsened significantly in Argentina and Uruguay in recent years as a result of the economic crisis. At the same time, unemployment rates increased, while informality remained steadily high (Table 1).

Table 1 - Unemployment, Inequality, and Poverty Incidence in Selected Latin American Countries. 1996, 1999, and 2002

Country	Unemployment			Gini		Poverty rates	
	1999	2001	2002	1996	2001	1999	2002
Argentina	14.3	15.1	17.4	48.2	52.2	23.7	45.4
Bolivia	8.0	7.5	8.5	57.6	57.8	48.7	52.0
Brazil	7.6	7.1	6.2	60.0	59.0	37.5	37.5
Chile	9.8	9.2	9.1	56.1	57.1	21.7	18.8
Mexico	3.2	2.2	2.5	54.4	54.4	46.9	39.4
Paraguay	9.4	10.0	10.8	59.5	56.8	60.6	61.0
Uruguay	11.3	13.6	15.3	42.7	44.6	9.4	15.4

Source: Unemployment and Gini Indexes: De Ferranti et al. (2004). Poverty rates: ECLAC (2004). (Local food baskets and Orshansky coefficient equal 2).

In the last ten years developing countries located in three regions experienced severe economic crises, which resulted in severe shocks in household well-being indicators. But one peculiar aspect to be noted is that,

in both Argentina and Uruguay, the impact and duration of these economic crises in terms of income-poverty variation was larger than in most other countries that also experienced severe shocks (Table 2 and World Bank, 2003).

Table 2 - Selected Indicators for Countries under Recession. Percentages

Country	Year	GDP growth	Change in X-rate	Unemployment Rate	Wages growth	Poverty after crisis	Change in Poverty rate
East Asia Crisis:							
Indonesia	1998	-13.1	70.9	5.4	-44.0	13.8	20.3
Korea	1998	-6.7	32.1	6.8	-9.8	7.6	64.4
Malaysia	1998	-7.4	28.3	3.2	-2.7	10.4	21.2
Tequila Crisis:							
Argentina	1995	-2.8	0.0	16.2	-1.9	27.6	22.8
Mexico	1995	-6.2	47.4	5.7	-18.5	53.3	23.7
Others:							
Russia	1998/99	-4.9	60.6	13.3	n/a	n/a	n/a
Argentina	2002	-11.0	210.0	17.8	-21.9	57.5	50.1
Uruguay	2002	-11.7	89.8	18.6	-10.0	23.7	41.9

Source: World Bank (2003).

The purposes of this article are to assess which poverty concepts and measures are more suitable for analyzing the impact of an economic crisis on household well-being, and on this basis, to examine the impact on poverty of the recent economic crisis in Uruguay.

Uruguay's interest, in terms of poverty studies in Latin America, comes from the fact that despite its having a relatively developed social protection system built many decades ago, the recent crisis uncovered many of its weaknesses and clearly pointed out the need for redesign.

Uruguay is a peculiar country in the Latin American context. Specific demographic and socioeconomic features have distinguished it since its origin. It received significant inflows of Southern European immigrants until 1950. At the same time, indigenous population was relatively scarce. Demographic transition was achieved in the first decades of the twentieth century. An early welfare state built a broad pension system and led to universalization of primary schooling.

Inequality, poverty, and indigence were and still are low compared to most Latin American countries (before and after the crisis).[1] Uruguay also has distinctive economic features, as it experienced significant economic growth rates in the first decades of the twentieth century and stagnation since. The reform process undertaken abruptly in many Latin American

countries in the 1990s was gradual in Uruguay, and the trade liberalization process started in the 1970s. Hence, a case study of Uruguay is a sort of laboratory for anticipating possible problems to be faced in the next years by other countries in the region that are presently building and broadening their social protection system.

In section II a short discussion of the poverty concepts and indicators more suitable to analyzing the impact of economic crises is presented. On this basis, section III analyzes poverty trends in Uruguay before, during, and after the crisis. Section IV provides information on the effects of the social protection system on poverty alleviation and section V gathers the main conclusions reached in this article.

II. POVERTY AND ECONOMIC CRISIS

This section contains a short summary of poverty concepts most used in contemporary economic analysis, followed by a review of the recent literature on poverty effects in Asia and Latin America.

Economic analysis of poverty and inequality has been focused mainly on income and consumption and has paid scant attention to other dimensions of individual well-being until the last decades of the twentieth century. In her analysis of the origins of poverty studies, Ruggeri-Laderchi (2000) suggests that this conceptual lack characterizes poverty studies carried out by economists since the birth of this field of study in Great Britain in the nineteenth century. According to this author, the lack of interest in alternative definitions of poverty is related to the positivist vision predominating at the inception of poverty analyses. Specifically, this is the case with Rowntree and Booth, who were more concerned with estimating poverty and finding mechanisms to reduce it than with developing ideas about the nature of poverty.

At the same time, economists find income a very attractive variable because it is easy to relate it to a standard analysis of economic change, allowing a linking of poverty and inequality trends to economic performance, in particular to the labor market performance. This possibility makes the derivation of policy conclusions from poverty analysis more straightforward (Rius and Vigorito, 2000).

In spite of that, Kanbur (2001) points out that in contrast to what happened twenty-five years ago, there is now a broad consensus regarding the fact that access to health and education is just as important as income, and that in the future, the consensus will probably include empowerment and participation in civic life. Contemporary poverty analysis is moving toward a multidimensional perspective either in terms of basic needs, functionings, capabilities (Sen, 1992), or of human rights (Townsend, 2005).

Hence, the monetary approach needs to be complemented with information on other dimensions of human life; given that not all individuals have the same rate of converting income into what Sen (1992) has called *functionings.*[2]

Multidimensional analysis is a relatively new approach to economic poverty studies. The state of the art of multidimensional approaches is developing, and many perspectives are being considered.[3] Some approaches are normative, whereas others are methods driven by the development, as new methodologies need to be developed to handle the multidimensionality. There is a gap between measurement and theory that is not easy to fill. Consensus on dimensions, weights, and aggregation is difficult to achieve. Many lists of dimensions have been debated, even among the followers of a particular span of thought, as is the case with Sen's capabilities approach (Alkire, 2002). In that sense, methods that are flexible are interesting tools to develop but need to be strongly coupled with normative approaches to choosing dimensions.

Although a large number of empirical studies show that income and consumption are strongly correlated with other dimensions of deprivation, research performed for Latin American and European countries shows that in many cases these variables are not an accurate synthesis of human well-being (see, for example, Glewwe and Van der Gaag, 1990; Ruggeri-Laderchi, 1999).[4] Empirical applications have not yet been completely successful, and also some doubts have been cast on the robustness of methodologies recently developed.

Having set this general framework, we now turn to the discussion on assessing poverty levels and trends in the specific context of economic crises. The first aspect to be considered is that in order to handle the impact of an economic crisis, a distinction between short-, medium-, and long-term effects is needed. Lustig and Walton (1998) distinguish five transmission mechanisms from economic shocks to household well-being: labor demand, relative prices, public-spending cuts, changes in assets and in their value, and long-term impacts on capabilities. The first three are the ones that mainly affect short-term outcomes as they directly affect household income through generation capacity and purchasing power. Budget cuts during economic crisis can affect household well-being indicators if they are anti-poor.[5] Lustig also points out that "the poor have little or no voice to demand the protection of pro-poor programs and the implementation of safety nets in times of fiscal retrenchment" (2000:2).

Assets and capabilities are associated with medium- and long-term crisis effects. These effects are present to the extent that household coping strategies affect long-term outcomes, a classic example being withdrawing children from the educational system.

Whereas short-term effects are usually captured by monetary poverty, medium- and long-term effects need to be captured by non-income poverty indicators.

Short-Term Effects

Short-term effects are very important in developing countries, as there are times that inequality increases and gains in well-being obtained during growth periods are rapidly reversed. Since income-poor households are more vulnerable to crisis, it is more likely that their outcomes will be affected by economic fluctuations. According to López-Calva (2004), financial crises in Latin America affect mainly the poor and are transmitted to household income through two main channels: unemployment and inflation. Using macro- and micro-level evidence, Baldacci et al. (2001) find that financial crises increase poverty and in some cases income inequality.

Most of the empirical literature on poverty and economic crisis reviewed in this section has been focused mainly on short-term impacts, mainly measured through income and consumption variations. Some authors point out that data requirement for studying crisis impacts are different from those required in standard poverty analysis (Widyanti et al., 2001). They specifically stress the relevance of using monthly or quarterly panel data, since annual information cannot capture inflows and outflows from poverty condition. These movements are quite rapid during economic crises.

Evidence for Latin American countries shows that income poverty increased during crises and remained higher than pre-crisis levels, approximately between one and five years, depending on the country (Lustig, 2000).

Widyanti et al. (2001) point out that in Indonesia income-poverty rates changed relatively quickly and poverty declined after the crisis, using yearly based data. But they show in their short-term analysis of the Indonesian crisis that yearly headcount ratio poverty indexes are not good indicators of the extent of households experiencing poverty during the crisis, since the flow into and out of poverty was very quick and involved more households than what is depicted by poverty figures.

Suyarhadi and Pritchett (2003) analyze the evolution of poverty during the crisis in Indonesia. They find that in 1999 poverty reached the pre-crisis level. In May 1998 it peaked (33.2 percent) at twice the pre-crisis level and in August 1999 it returned to the pre-crisis level and continued falling (13.1 percent). In two and a half years, poverty rates came back to the pre-crisis level. But the economic and social impacts are still in effect in 2003, after six years.

Mukhopadhaya (2002) examines the 1997/98 Asian crisis in Singapore (one of the least affected) and contrasts it to Thailand, where the crisis started. The crisis impacted income poverty and other social indicators such as school drop-outs, enrolment, and health.

Milanovic (1990) assessed poverty changes during the 1978-1987 Eastern Europe crises in Poland, Hungary, and Yugoslavia. Poverty increased in the first two countries and in the third remained unchanged. Increases in poverty are explained mainly by real income fluctuations as inequality remained steady.

Cruces and Wodon (2003) estimate transitions into and out of poverty during the Argentine crisis, finding that the rate of households entering and emerging from poverty was around 8 percent each semester. During the crisis, only 60 percent of non-poor households remained non-poor in the following semester. Poverty grew 46 percent during the crisis, and in the first semester of 2005 it was situated above its pre-crisis level (37 percent and 32.7 percent in 2001, first semester) but showing a descending pattern since 2004.

López-Acevedo and Salinas (2000), Baldacci et al. (2001), and López-Calva (2004) studied the 1995 crisis impact in Mexico. Average household income fell by 31 percent between 1994 and 1996, open unemployment was doubled, and other labor market indicators also worsened. Indigence increased from 10.6 percent in 1994 to 17 percent in 1996, and moderate poverty increased 32 percent (from 36.3 percent in 1994 to 48 percent in 1996). In contrast to what happened in most countries experiencing crisis, inequality decreased due to a significant reduction in the distance between the upper and lower income strata.

Thus, cross-country evidence shows that in almost all cases crises' effects on poverty are clear but not on inequality. The recovery period varies by country, lasting from one year to five. Baldacci et al. (2001) point out that the sectors most affected by the crisis are not necessarily the most deprived ones, as higher income strata tend to experience important income losses due to changes in interest rates. So, the design of coping strategies involves two different target groups: those mainly hit by the crisis and the most deprived.

Long-Term Effects

Long-term effects are commonly associated with variations in human capital accumulation rates, mainly through trends in school enrolment rates, but these have been examined to a lesser extent. In the short run, income fluctuations can bring about a slowdown in human capital accumulation due to household coping strategies during economic crisis.

Evidence in regard to the evolution of enrolment rates in Singapore shows a decrease in secondary schooling (4.3 percent) in 1997/1998 and a

slight increase in university schooling due to students not leaving the country to study abroad. At the same time, an enormous increase in attendance at technical institutes is observed.

In Thailand, a decrease in elementary school, lower secondary and technical education was observed. Mukhopadhaya (2002) links it to uncertainty of future job possibilities. At the same time, an increase in upper secondary and in higher education was also noticed. These two effects lead to an inconclusive but apparently unpronounced effect on drop-outs.

Vélez et al. (2002) find that although there is a long-term trend toward improvement in completion rates and average years of schooling, school enrolment shows a markedly pro-cyclical pattern in Colombia during the 1999 economic crisis. Umaña Aponte (2004) points out that the 1999 Colombian recession brought a sharp increase in child labor and a mild decrease in school attendance.

Lustig (2000) presents evidence on primary enrolment and economic crises showing that in most Latin American countries school attendance was affected. Income effects dominated price effects.

This author also reports information on health outcomes which are more sensitive to economic downturns. The more basic ones like infant mortality rates continued falling at a lower pace, but nutritional indicators tended to worsen.

Duryea, Lam and Levison (2003), on the basis of panel data for 1982-1999 from Brazil, find that unemployment shocks increase the probability that children aged 10 to 16 enter the labor force and decrease the probability that they enter school.

In regard to the recovery, a distinction can be established between the countries that were facing a decline in poverty previous to the crisis and those that were already showing increasing poverty and inequality trends. If inequality increased during the crisis, then it is likely than the income elasticity of poverty has been reduced and returning to pre-crisis poverty incidence could be a long process.

The impacts of an economic crisis on poverty are varied and depend crucially on the time horizon considered. Short-term effects can be observed using standard monetary poverty analysis. Medium- and long-term effects involve other dimensions such as health and education. In the remaining sections we will examine the evolution of poverty in Uruguay in the crisis years in regard to income poverty, coping strategies, health, education, employment, and the role of the social protection system.

III. POVERTY AND ECONOMIC CRISIS IN URUGUAY

After a decade of continuous growth, the Uruguayan economy started to experience a severe recession in 1999 that peaked in 2002, triggered by

an acute crisis of the financial system. Thus, in 2002 per capita GDP fell 11.4 percent compared to the previous year (Table 3) and the exchange rate slumped around 90 percent. Recession has also had a severe impact on the open unemployment rate which reached its highest level of the last twenty years.

In the first quarter of 2002, the crisis was amplified due to the deepening of the Argentinean crisis (Table 3).[6] The GDP fall accelerated and slumped 11 percent in 2002. The depth of the crisis led to the loss of the qualification of "investment grade" in February 2002. Public finances deteriorated: fiscal deficit share of the GDP represented approximately 4.2 percent and the public debt/GDP ratio increased from 54.3 percent in 2001 to 92.8 percent in 2002. Additionally, a severe trust crisis determined a formidable run against bank deposits.

Table 3 - Main Indicators of the Uruguayan Economy Performance (1991-2004)

Indicator	1991	1994	1998	1999	2000	2001	2002	2003	2004
GDP growth (annual, %)	3.5	7.3	4.5	-2.8	-1.4	-3.4	-11.0	2.2	12.3
Exchange rate Dec-Dec (%)	57.9	27.4	8.3	7.6	7.3	12.9	93.2	7.4	-9.2
Inflation Dec-Dec (%)	81.5	44.1	8.6	4.2	5.1	3.6	25.9	10.2	7.6
Current account (% GDP)	0.4	-2.5	-2.1	-2.4	-2.8	-2.7	3.1	-0.5	-0.8
Fiscal result (% GDP)	0.0	-2.5	-0.9	-4.0	-4.1	-4.3	-4.2	-3.1	-2.0

Source: Banco Central del Uruguay.

Previous weaknesses of the Uruguayan economy and domestic financial system, the high exposure of the bank system to the Argentinean risk, and management errors in the bank crisis powered the "infection effect" of the crisis of the neighbor country. Under those conditions, a very considerable and persistent run on deposits led to a severe liquidity crisis. At the same time, recession and devaluation determined the increase of payments delay and solvency problems of the bank system.

Income Poverty

Many studies show that during the 1990s, income poverty in Uruguay followed a U-shaped pattern, declining until 1994 and then starting to rise in terms of incidence, severity, and intensity (Filguira and Kaztman, 1999; Amarante et al., 2004). Although this increasing poverty trend began many years before the crisis, it was accelerated significantly in 2002 and after the economic recovery in 2003 as long as inflation continued eroding household income (Table 4).[7] Although it remained steady in 2004 and fell 3 percent points in 2005, poverty was still 70 percent over the pre-crisis level.

Table 4 - Evolution of Household Income, Poverty, and Inequality. 1991-2004. INE (1997) PL (*)

Indicator	1991	1994	1997	1999	2001	2002	2003	2004
Real average household income	100	117.7	111.6	118.7	111.1	97.8	83.0	84.2
Poverty incidence	24.5	19.4	23.9	22.8	27	32.7	40.9	40.9
Poverty gap	7.8	6.1	7.8	7.6	9.2	11.7	14.9	15.8
Poverty severity	3.6	2.8	3.6	3.6	4.4	5.7	7.5	8.2
Gini index	41.2	41.6	42.6	43.5	44.5	45.0	44.5	45.1
Theil index	29.5	28	32.6	32.6	34.2	35.4	35.5	37.3

* PL is the poverty line calculated on the basis of INE (1997) methodology.
Source: Elaborated on the basis on Household survey data (ECH), INE(1997).

Since variations in absolute income poverty can be attributed to changes in both average income growth and income inequality (Datt and Ravallion, 1992), it is necessary to asses their evolution to understand which forces led to the rise in poverty. Breakdowns based on Datt and Ravallion (1992) show that the leading force was declining average household income, but it was reinforced by increasing inequality.

Average household income followed an inverse pattern to poverty incidence, increasing significantly until 1994 and decreasing since then.[8] Household Survey data show that in 1990-1994, the evolution of household income was led by the increased value of real pensions and by a mild increase in real wages.[9] After 1995, inflation started to fall, real pensions reduced their growth rate substantially, and real earnings started to decrease.[10] At the same time, trade liberalization produced diminishing interest rates, which slowed the real evolution of capital and self-employment income (Vigorito, 1997; Bucheli and Furtado, 2005).

Real income loss was accelerated during the recession and was strengthened in 2002 and 2003 as inflation peaked and relative prices varied considerably. In 2004 this trend was stopped and real household income remained almost steady; in 2005 it increased 3 percent. The evolution of average income by quintile shows that the lower quintiles have experienced larger income losses.

As stated previously, income inequality in Uruguay is low relative to the rest of the Latin American countries (ECLAC, 2004). In spite of that, income inequality experienced a mild increase during the 1990s, which boosted during the recession. Though inequality growth accelerated during the crisis, this trend had been present since the mid-1990s.

Previous studies conclude that the driving forces of increasing income inequality are to be found in the performance of the labor market. In this period, earnings inequality increased and the probability of being

unemployed varied according to educational attainment.[11] According to Arim and Zoppolo (2000), inequality among the labor force, and particularly in the category of private employees, increased during the last decade mainly due to increasing skill premium in 1991-1994. Results presented here suggest that this trend was also mirrored by the household income distribution.

Many authors studying income inequality (see, for example, Vigorito, 1997; Bucheli and Furtado, 2005) suggest that during the last ten years, the contribution of wages to inequality increased, particularly in Montevideo (Table 13), in spite of the fact that their share in household income fell. In observing the recession years, the latter is particularly clear.

Pensions increased their contribution to inequality as their share in total income grew and those receiving pensions moved to the right of the median of the income distribution. In contrast to what happened to wages, the distribution of pensions remained mainly unchanged. Meanwhile, self-employment and capital income reduced their contribution to inequality. Capital income reduction possibly conforms to the fall of the interest rates already mentioned. Bucheli and Furtado (2005) also indicate that during economic crises households with scarce human capital endowment and poor labor market attachment were the ones mainly hit by the crisis.

Vulnerable Groups

In order to identify vulnerable groups three probit models were estimated for 1998, 2002, and 2004. "Dependent" variable takes the value 1 when a household per capita income is below the poverty line and 0 otherwise (Table 5). "Independent" variables capture household demographic, educational, and labor market characteristics. Data come from the household surveys that cover urban areas with at least 5,000 inhabitants (85 percent of total population).

Household size is positively associated with the probability of experiencing poverty, probably due to higher fertility rates for less educated women and to the presence of extended households as a strategy to cope with fixed costs like housing. The presence of children is also associated with the probability of being poor, and this effect decreases with age. This is probably reflecting the construction of per capita income and differential fertility rates. But studies using equivalence scales show the same results (Rodríguez and Vigorito, 2003). In computing headcount ratios, it can be noticed that the increase in poverty rates for the younger groups was much more significant than for the elderly adults, although for the first time in almost a decade this latter group has shown increasing poverty rates. Age of the household head is negatively correlated with the probability of experiencing poverty. Although there are life cycle considerations that allow this to be understood as older household heads

having higher income, there are some specific features of the design of the Uruguayan social protection system that contribute to explaining this result. These are the universal coverage of the pension system, the reform of its indexation mechanism that took place in 1989, and the low value of child allowances (10 percent) compared to average non-contributive pensions.

Table 5 - Results of the Estimates of Probit Models.1998, 2002, and 2004

Variables included	1998		2002		2004	
	Marginal effects	T	Marginal effects	T	Marginal effects	T
Household size (log)	0.2357	0.00	0.3512	0.00	0.2380	0.00
Presence of children in the household						
0 to 4 (No=0; Yes=1)	0.0760	0.00	0.1420	0.00	0.1399	0.00
5 to 9 (No=0; Yes=1)	0.0648	0.00	0.0968	0.00	0.1382	0.00
10 to 14 (No=0; Yes=1)	0.0354	0.00	0.0488	0.00	0.1013	0.00
15 to 18 (No=0; Yes=1)	0.0261	0.00	0.0836	0.00	0.0855	0.00
Household head characteristics						
Age	-0.0104	0.00	-0.0073	0.00	-0.0079	0.00
Age 2	0.0001	0.00	0.0000	0.01	0.0000	0.01
Sex (male=0; female=1)	0.0657	0.00	0.0829	0.00	0.0221	0.01
Secondary school	-0.1204	0.00	-0.1751	0.00	-0.1568	0.00
Technical	-0.0712	0.00	-0.1399	0.00	-0.1267	0.00
College	-0.1672	0.00	-0.2892	0.00	-0.2554	0.00
Other	-0.0828	0.03	-		-	
Household head labor force status						
Unemployed	0.2585	0.00	0.3612	0.00	0.3736	0.00
Public employee	-0.0333	0.00	-0.0805	0.00	-0.0549	0.00
Entrepreneur	-0.1108	0.00	-0.1829	0.00	-0.1791	0.00
Self-employed (without investment)	0.1818	0.00	0.2682	0.00	0.0777	0.00
Self-employed (with investment)	0.0474	0.00	0.0835	0.00	-0.0627	0.00
Retired (pensioners)	-0.0142	0.03	-0.0968	0.00	0.0916	0.00
Inactive	0.1019	0.00	0.1813	0.00	0.3065	0.00
Social security rights (0=no; 1=yes)	0.1257	0.00	0.2333	0.00	-0.1449	0.00
Region (Montevideo=0; Rest=1)	-0.0820	0.00	-0.0996	0.00	-0.1227	0.00
Pseudo R2	0.3207		0.3511		0.3632	
Wald chi squared	3218.02		4571.53		4647.38	
Observations	17690.3		17358.4		18392	

Source: Own estimations based on ECH microdata.

This estimation shows that when controlling for other variables, a female household head increases the probability of being under the poverty line. This is probably associated with the gender gap and the loss of an earner after a couple dissolves, since non-cohabiting parents' transfers to their offspring are significantly low (Cabella and Bucheli, 2005).

Although the gender gap narrowed during the last decade from 0.73 in 1990 to 0.89 in 2004, according to Amarante and Espino (2002), gender segregation grew mildly during the 1990s and most of the narrowing of the

gender gap was due to increasing female schooling and not to a reduction in discrimination (Rivas and Rossi, 2003).

Previous studies also show that nuclear households headed by women are less likely to be under the poverty line, probably related to the fact that poorer women tend to constitute extended households after divorce, returning to their parental home. When sub-households are identified within households, it can be seen that single-parent sub-households within extended households are the most deprived structures (Vigorito, 2003).

In spite of this, headcount ratios by sex show no remarkable differences. Unfortunately, this analysis has a severe drawback in Uruguay as there is no information on intra-household allocation of resources.[12] Aguirre and Batthyány (2003) find a significant bias in household allocation of time between productive and reproductive spheres: whereas women allocate on average 32 hours to housekeeping and 16 hours to market work, males allocate 13 and 38 hours respectively.

Using household head's schooling as a proxy for household educational climate shows that the more educated the household head, the lower the probability of falling under the poverty line. The explanation for this pattern relies on earning differentials by schooling mentioned previously.

The characteristics commented on thus far show the same sign across the years, depicting a structural picture of poverty correlates before and after the crisis.

Household head participation status and employment sector are aspects for assessing vulnerability. Being unemployed is highly correlated with poverty status, which is reasonable considering that income poverty is being assessed. Households headed by a pensioner show an interesting pattern along the different years. In 1998 and 2002, having a retired household head was negatively correlated with the probability of being poor, probably due to the increase in the real value of pensions. Finally in 2004, real pensions fell and, as a result, the marginal effect became positive.

With regard to those who are employed, we considered informal private employees (omitted category), public employees, self-employed with investment, self-employed without investment, and entrepreneurs. Non-contributing to the social security system is positively associated with the probability of being poor, reflecting low-quality jobs. Self-employed workers without investment are in many cases extremely vulnerable, and the dummy variable sign is positive during the whole period. Amarante and Arim (2004) show that this group's earnings were the most affected ones by the crisis. Meanwhile, the self-employed with investment effect changed signs, showing that they were affected by the crisis to a lesser extent.

Households headed by public employees are less likely to be poor, reflecting that public workers are mainly situated in the middle of the income distribution and that they have more work stability, as they were not affected by unemployment during the crisis.

In brief, vulnerable groups before and after the crisis were crowded households with children under 18, young household heads with scant schooling, unemployed or self-employed without investment and living in Montevideo. Pensioners were the group most affected by the crisis as they experienced a higher income loss, but their headcount ratios are one-third of those corresponding to households composed of children and young adults.

Coping Strategies

Finally, although consumption data are not available, we present an illustration of some of the living strategies of vulnerable groups in 2002 (Table 6). The magnitude of the crisis impact was significant across all groups considered, even though, once again, it can be noticed that those households with higher educational attainment experienced fewer difficulties. At the same time, households with children experienced more difficulties in meeting their needs, but their reaction was not to withdraw children from school.

Table 6 - Proportion of Households that Undertook the Following Strategies as a Result of the 2002 Economic Crisis. Urban Uruguay. 2002

Strategies	Presence of children 0 to 18			Educational attainment household head			
	No	Yes					
		Household head		low	medium	high	
		Female	Male				Total
Food expenditure							
Reduced	59.1	72.5	70.5	73.3	69.0	52.9	65.1
substituted by cheaper items	84.5	93.0	92.2	88.0	89.0	91.7	85.4
substituted preparing at home	57.4	71.3	67.3	63.9	65.6	59.8	62.9
Reduced non food items consumption	76.5	89.5	86.6	84.2	85.7	77.0	81.9
Drop out from school, college, etc.	6.2	10.2	9.9	16.6	18.4	23.2	19.5
Health							
reduced preventive visits to doctor	6.4	63.2	57.5	33.4	36.3	29.0	32.6
could not buy medicines	20.9	34.8	27.0	31.7	25.5	17.2	25.0
could not visit the doctor	20.2	29.8	21.3	38.0	26.8	23.0	21.9
could not pay for medical analyses	21.6	29.5	24.7	54.0	27.5	26.0	23.8

Source: Elaborated upon World Bank survey on "Living strategies in Uruguay."

Based on the same data source, World Bank (2003) analyzes private coping mechanisms used by households during the crisis. It too finds that most household strategies affected short-term expenditure reflected in changes in food spending and shifts in its quality and composition, rather than medium-term expenditure such as having children drop out of school.

These findings suggest that the crisis impact on poverty depends very much on the time horizon of the variable chosen to reflect poverty trends.

Non-Monetary Poverty[13]

As stated in Section II, the non-monetary dimensions of poverty have been discussed by many authors within the capabilities approach and other theoretical frameworks, but a consensus has not been reached yet. Alkire (2003) reviews the different lists of dimensions considered up to now, showing the lack of consensus and also the need to converge on one list in order to make multidimensional approaches more empirically tractable. In spite of this ongoing discussion, there is a broad consensus among different authors that education, health, and labor participation are key aspects to be assessed. At the same time, these dimensions have been pointed out in section II as important aspects to be monitored before, during, and after economic crisis. Due to that reason and to data availability, non-monetary poverty will be assessed on the basis of education (III.1) and Human Poverty indexes and the evolution of the variables that constitute their informational basis (III.2). These composite indexes have been extensively used by the United Nations Development Programme (UNDP) in the human development framework and have been created by Anand and Sen (1997). Human poverty indexes measure poverty on the basis of literacy, income, health, and labor force indicators and are loosely related to Sen's capabilities approach. Although they are useful for ranking countries and they represent an effort to capture the multiple dimensions of poverty, these indexes present important drawbacks that have been remarked on by many researchers. We will return to this point in the following sections.

Education

During the 1990s, many studies concluded that one of the main problems to solve in order to foster human capital accumulation in Uruguay was the endemic drop-out rate that was concentrated mainly in the first three years of compulsory secondary schooling, *Ciclo Básico*. Although access to elementary school was universalized many decades ago, progress in the population's average years of schooling faced the challenge of keeping teenagers in secondary school (Mesifod, 2002). Drop-out rates remained steady between 1990 and 1998. Mesifod (2002) also remarked that other Latin American countries that traditionally showed lower average schooling have had more achievements in secondary enrolment rates in the 1990s, passing Uruguay. In 1996 an educational reform was initiated and one of its objectives aimed at expanding the supply and quality of secondary schooling in order to solve this problem.

Surprisingly, the start of the crisis represents a turn in enrolment trends in a direction opposite what had been feared in light of the findings for other countries reviewed in section I. In fact, in the period 1999-2002

enrolment rates grew substantially, led mainly by an increase in both the secondary and tertiary levels (Table 7).

Table 7 - School Attendance Rates by Age Group and per Capita Income Quintile. 1998, 2002, and 2004

Year and age group	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
1998					
3 - 4	32.8	45.3	59.0	72.2	83.6
5	77.3	88.1	95.6	94.0	97.4
6 -11	98.1	99.1	99.5	99.6	100.0
12 -14	84.2	92.8	96.0	97.3	100.0
15 -17	50.7	67.2	76.4	88.1	93.0
18 -22	13.3	24.6	34.3	36.0	62.4
2002					
3 - 4	41.8	57.4	64.7	73.1	82.7
5	83.5	95.4	91.2	95.8	96.9
6 -11	98.3	97.9	98.4	98.9	99.4
12 -14	89.6	96.2	98.1	98.3	98.7
15 -17	62.6	77.4	87.8	95.4	98.1
18 -22	20.1	36.2	48.5	43.0	82.1
2004					
3 - 4	49.2	57.8	71.2	81.5	88.3
5	90.5	96.2	99.2	96.9	95.9
6 -11	97.9	99.0	98.9	99.4	99.3
12 -14	92.5	96.5	97.0	98.4	99.0
15 -17	64.1	79.1	89.5	92.2	99.0
18 -22	24.6	33.7	48.8	65.4	79.1

Source: Elaborated from ECH of INE.

The secondary school enrolment rate grew as a result of increased school attendance by male students belonging to the lower quintiles of the income distribution (UNDP, 2005). The reasons for this growth have not yet been studied in depth. Either they can be read as a success for the educational reform, or it can be concluded that increasing unemployment turned out to decrease the opportunity costs for young people to remain in the educational system.[14] Bucheli and Casacuberta (2002) found that before the crisis, drop-out rates were higher for boys than for girls aged 14 to 17, and the opposite happened with participation rates. Hence, increasing enrolment rates in males coming from the lower income strata can easily be coupled with the second interpretation.

Argentina, Brazil, Thailand and Singapore do not show increasing school drop-outs during economic crises, and in some cases attendance rates have even increased. But the extent of the increase in school attendance during the crisis in Uruguay has been considerably steeper than what happened in these other countries.

Hence, these figures show that during the crisis, human capital accumulation has been fostered rather than eroded. But in order for this assertion to be true, increased attendance data need to be supplemented with data on completion rates and on school quality. Completion rates show a slight increase, although average years of schooling increased in this period by almost one year (Table 8).

Table 8 - Educational Attainment and Labor-Force Status among the Uruguayan Population. Urban Uruguay. 1991-2004

	1991	1994	1999	2001	2002	2004
Average years of schooling (population aged 25 and more)	7.3	7.7	8.0	8.5	8.7	8.9
% population aged 13-17 that completed through….						
Primary school	91.01	91.88	91.91	92.62	92.67	92.6
Secondary 1st cycle	30.58	32.3	37.84	34.44	34.69	35.73
Technical school	0.65	0.92	0.62	0.68	0.39	0.44
% population aged 18-25 that completed through….						
Primary school	95.08	95.56	96.38	96.77	96.97	96.9
Secondary 1st cycle	66.06	68.84	69.71	66.1	67.9	67.19
Secondary 2nd cycle	26.15	26.35	25.65	28.16	29.41	31.05
Technical school	6.6	5.93	5.02	4.84	4.81	4.41
School teachers	0.73	0.57	0.66	0.76	0.88	0.82
University	0.97	0.71	0.56	0.89	0.87	0.91
Employment rate age group 14-17	17.7	19	13.6	10.9	8.52	8.21

Source: Own calculations on INE household surveys.

At the same time, emigration is another potential source of human capital variation. Since 1960 Uruguay has experienced important migratory episodes due to economic and political crisis, and at present around 12.6 percent of the population lives abroad. This last crisis also fostered international emigration: between 1996 and 2004 approximately 150,000 persons left Uruguay (Cabella and Pellegrino, 2004). As long as recent Uruguayan emigration is biased toward semi-skilled and skilled workers, the emigration process that peaked in 2002 can be read as a human capital loss (Pellegrino and Vigorito, 2005). At the same time, and contrary to the case of other Latin American countries experiencing comparable migratory episodes, remittances from abroad are very low (0.2 percent of GDP).

Human Poverty and Its Dimensions

Human Poverty Index 1 (HPI-1) has been created for developing countries, but the variables that compose it reflect very severe and basic deprivation dimensions such as access to water, malnutrition, and non-survival rates after 40 years of age.[15]

Through the 1990s, this index has been almost constant and shows a slight descending trend in the last years (Table 9). This evolution responds to the extension of the public water network services and to the reduction of the already low illiteracy rates. Meanwhile, the proportion of children aged 0 to 5 with low birth weight has been increasing. These figures are not totally accurate, since the sample comprises only children assisted at public health services and could present a remarkable bias towards poor households. Results coming from an unbiased sample such as the Height Censuses of children attending the first year at public schools (85 percent of total enrolment in the first year) also show a slight increase in the proportion of children presenting stunting (ANEP 2003).

Table 9 - Human Poverty Index 1. Uruguay. 1991, 1994, and 1999-2002

Component	1991	1994	1999	2000	2001	2002
Survival rate(40)[1]	5.4	5.4	5.0	5.0	5.0	5.0
Illiteracy rate[2]	3.7	3.3	2.7	2.5	2.4	2.3
Access to water* [2]	2.3	1.9	2.0	1.8	1.6	1.6
Malnutrition	4.6	4.1	4.8	5.6	5.9	5.9
HPI1	4.09	4.17	3.92	3.99	3.98	3.97

* Access to the public network.
Source: UNDP (2005).

As a whole, HPI-1 shows no erosion of household well-being during the crisis, suggesting that very basic achievements were not damaged by the economic performance in the short run. Since HPI-1 does not reflect deprivation in middle-income countries, we present calculations of Human Poverty Index 2 (HPI-2) that were performed in UNDP (2005).

UNDP computes this index for developed countries. It has been computed in the country report for Uruguay as it could be useful to depict the situation of middle-income countries, since HPI-1 is not a demanding index. The dimensions are the same as those in HPI-1 but the indicators vary. Health is measured as the probability at birth of not surviving the age of 60, education is approximated by the functional illiteracy rate, and deprivation is measured as the proportion of the population with per capita average household income below 50 percent of the median. At the same time, a new dimension has been added to capture social exclusion, and it is measured through the long-term unemployment rate.[16]

One of the drawbacks of HPI-2 is that it aggregates means and outcomes; hence there could be high correlation among dimensions (Silva Leander, 2005). At the same time, although the capabilities approach emphasizes processes, HPI-2 mainly stresses results.

Although this index was originally conceived for industrialized countries, it can be potentially useful for assessing the evolution of multidimensional poverty in a middle-income country such as Uruguay.

The national country report of 2005 presents calculations of this index under different methods of considering income poverty:

a) HPI-2. HPI-2 following standard UNDP methodology: illiteracy rate, long-term unemployment rates, and relative poverty.

b) HPI-2MA. HPI-2 Illiteracy rate, long-term unemployment rates, and absolute poverty based on INE (1997) poverty line.

HPI-2 shows an increase since 1998, accelerating in 2002. In this sense, HPI-2 does not provide additional information to income poverty measures but encompasses them. The evolution of HPI-2 tends to be dominated by the components that fluctuate more in the short run. An exercise undertaken in UNDP (2005) using the more complex Chakravarty and Bourguignon (2002) methodology shows exactly the same problem.

Table 10 - Human Poverty Index II under Different Assumptions. 1991-2002

Year	Long-term unemployment rate		Open unemployment rate	
	Relative poverty	Absolute	Relative poverty	Absolute
1991	12.2	16.4	12.6	16.6
1992	13.1	15.6	13.4	15.8
1993	12.5	14.0	12.8	14.3
1994	12.6	13.6	13.0	13.9
1995	12.2	14.8	12.8	15.2
1996	12.9	15.5	13.7	16.1
1997	13.1	15.9	13.8	16.3
1998	13.5	15.5	13.9	15.8
1999	14.5	15.3	15.0	15.8
2000	14.7	16.5	15.6	17.3
2001	14.6	17.7	15.8	18.6
2002	15.0	20.9	16.6	21.8

Source: UNDP (2005).

The analysis of the HPI-2 components is interesting by itself and explains what happened to its evolution in a clearer way. Income poverty was analyzed in the previous section, and so we turn our attention to long-term and open unemployment. These indicators show the same pattern of income poverty and hence strengthen its effect. The evolution of HPI-2 is dominated by the poverty rate, which is reinforced by the evolution of unemployment, in both alternatives.

Table 11 - Human Poverty Index 2 by Components. 1991, 1994, and 1999-2002

Year	Illiteracy rate	Poverty incidence		Long-term unemployment rate	Unemployment rate
		Absolute poverty	Relative PL		
1991	3.7	24.5	16.4	1.4	8.8
1994	3.3	19.3	17.3	1.4	9.2
1999	2.7	22.8	21.3	1.9	11.3
2000	2.5	25.1	21.9	2.5	13.6
2001	2.4	27.0	21.5	3.4	15.3
2002	2.3	32.5	22.4	3.7	17.0

Source: UNDP (2005).

In sum, the crisis accelerated trends that were already present in the Uruguayan economy. Increasing unemployment, increasing return to education, rising inequality, and increasing poverty incidence had been reported since the mid-1990s and were deepened by the crisis.

The incidence, severity, and intensity of income poverty grew dramatically during the crisis and did not fall in 2004, after economic recovery. In 2004 poverty indexes remained steady relative to 2003 but were twice the pre-crisis levels. The most vulnerable groups before, during, and after the crisis were households composed of low-skilled workers and children. By contrast, elder adults' households exhibited low poverty incidence, even when they experienced real income losses, since poverty indexes among these groups were the ones that increased more during the crisis. Still, poverty incidence among elder adults is one-third the value for the age group 0 to 18. Income-poverty increase is mainly due to a per capita income growth effect, but it was fostered by an increasing inequality effect.

Other dimensions of poverty examined in this article show a different picture of the crisis effects. Unemployment rates and long-term unemployment rates reflect the same pattern as income poverty. Meanwhile, education shows an improvement during the crisis, which needs to be consolidated in the recovery. Very basic needs like the ones covered in HPI-1 remained unchanged, though nutritional indexes worsened. The extent to which short-term deprivation was reflected in income, and unemployment involves medium- and short-term household behavior, can help in guessing the crisis effects in the long run. Educational figures and household strategies presented suggest that in order to cope with the crisis, households took decisions that mainly affect the short run. Thus, a picture based only on income poverty presents a very partial description of the crisis effects on household well-being. Notwithstanding, composite indexes like human poverty indexes are also problematic, as

they tend to be dominated by variables that merely fluctuate in the short term.

IV. The Social Protection System

Uruguay has traditionally shown high social government spending (SGS) compared to other Latin American countries, both in per capita ppp dollars and relative to GDP (ECLAC, 2003). This position in the regional ranking has remained the same after the economic shock.[17] In 1999-2003, SGS amounted to approximately 25.3 percent of GDP.[18]

After showing an erratic pattern in the 1980s, SGS increased throughout the 1990s and started to decline in 1999. The 2002 fall in SGS was similar to that of GDP (10.4 percent), showing a pro-cyclical pattern (Amarante et al. 2004). The reasons for this pro-cyclical pattern are to be found in the pension indexation mechanism previously described.

In the context of a severe fiscal adjustment undertaken in 2002, the response of the government relied on protecting a group of programs labeled *Programas Sociales Prioritarios* (PSP) from budget cuts. These social-priority programs included short- and medium-term risks and included food transfers, child allowances, non-contributive pensions, unemployment insurance, education for deprived sectors (pre-primary schooling expansion, full-time schools, and deprived context schools), and a group of very specific health programs. New programs were not created, nor were existing ones reformulated, to tackle emerging risks to a larger extent. Before and during the crisis, social security benefits were mainly contributive, and most vulnerable groups were not met by the protection system in the form of income transfers. Nonetheless, two years after the crisis peaked, in May 2004, a new law on child allowances was approved by the Parliament and very deprived households with total income of up to 3 minima wages a month were entitled to receive the benefit.[19]

As it was found in the previous section that the main effects of the crisis show up in household income and labor market attachment, below we concentrate on income transfers and unemployment benefits. These programs are included in the PSP.

Income transfers as a whole represent about 50 percent of SGS and about 10 percent of GDP.[20] In recent years, due to inflation, this share fell two percent points. Social security spending percentages show a remarkable "pro adult" bias (Grau, 2005). It is focused mainly on retired workers' pensions, whereas benefits reaching households at early stages of the life cycle, such as family allowances and unemployment benefits jointly represent less than 10 percent (Table 12).

Hence, the social safety net has been mainly oriented towards the elderly. As a result, population groups identified in section II.1 as the most

vulnerable were those that already had lower coverage from the social safety net.

Table 12 - Social Security Spending by Component. (%). 2000-2003

Program	2000	2001	2002	2003	2004
Contributive pensions	74.3	74.6	74.4	74.3	
Maternity leave and family allowances	4.1	3.6	4.1	4.1	
Illness insurance	12.0	11.7	10.8	11.8	
Unemployment benefits	3.0	3.6	4.3	2.7	
Special funds	1.2	1.1	0.8	0.6	
Administrative costs	5.3	5.4	5.6	6.6	
Total	100.0	100.0	100.0	100.0	
% BPS spending/GDP	11.66	11.74	11.67	9.86	8.65

Source: Based on data from BPS.

The only income transfer that significantly reduces poverty incidence is pensions (Table 13).[21] This result holds for all households and for households with children, showing that pensions contribute more to poverty alleviation than child allowances and unemployment benefits even in households with members in the early stages of the life cycle. This is clearly linked with the amount of each benefit: monthly average non-contributive pensions are 10 times family allowances, and the ratio is higher for contributive pensions. The effect of pensions on poverty in households with children corresponds to the overrepresentation of extended households near the poverty line (20 percent of total households and 30 percent of poor households).

Table 13 - Sensitivity Analysis of Poverty Incidence to the Reception of Income Transfers

	1991	2002
All households		
Poverty incidence	24.41	32.45
Poverty incidence removing family allowances	25.02	32.67
Poverty incidence removing pensions	35.50	46.55
Poverty incidence removing unemployment benefits	25.10	32.97
Households with children aged 0 to 18		
Poverty incidence	38.87	51.91
Poverty incidence removing family allowances	39.92	52.27
Poverty incidence removing pensions	42.91	57.04
Poverty incidence removing unemployment benefits	38.92	52.42

Source: Amarante et al. (2005) based on ECH microdata.

In regard to food transfers, Casacuberta (2004) finds that despite the considerable expansion of food programs during the crisis, they do not contribute significantly to alleviation of indigence or poverty due to the very small amount of the per capita benefit.

Access of Uruguayan households to the social safety system has not been studied in depth since to date there are no comprehensive data assembling household consumption of different public services and

programs. There is some partial information coming from the *Encuesta de Caracterización Social*, a survey carried out by the World Bank in December 2002 which included a set of questions on access to the social safety net. On the basis of that information, Amarante et al. (2004) built access indicators under different definitions (Table 9). The category labeled "broad safety net" includes access to pensions, child allowances, public food transfers, attendance at free childcare centers, or other governmental assistance. In this definition, approximately 62 percent of Uruguayan households had access to the network, and 66 percent of households under the poverty line. The "restricted social safety net" removes access to the pension system. In this case, the extension of the social protection decreases significantly, its coverage reaching only 35.58 percent of total households and 46.99 percent of those located under the poverty line. Finally, the labor safety net was analyzed for access to unemployment benefits, and it can be seen that this program was oriented mainly toward non-poor households.

Table 14 - Proportion of Households that Have Access to Social Protection System by Poverty Condition. 2002

Characteristics of safety net	Poverty status of households that have access to the social protection system			Households having access to the social protection system by poverty status		
	Non-Poor	Poor	Total	Non-Poor	Poor	Total
Belong to broad social safety net	36.58	63.42	100	54.88	66.16	61.54
Belong to restricted social safety net	22.11	77.89	100	19.18	46.99	35.58
Belong to labor safety net	50.13	49.87	100	69.78	48.26	57.09

Source: Amarante et al. (2004) based on *Encuesta de Caracterización Social*, World Bank (2002).

Data gathered in this section indicate that the social protection system did not contribute significantly to overcoming the effects of the recent crisis.

V. FINAL COMMENTS

Most studies assessing the impact of economic crises concentrate on income-poverty variations and educational attainment as potential medium- and short-term crisis effects. The literature reviewed in this article indicates that short-term impacts tend to be more severe and the time of recovery varies from one to five years. Whereas income-poverty increased dramatically in most countries that experienced recent crises, the effects on

education attainment and, hence, human capital accumulation do not show uniform patterns.

According to the World Bank (2003), the impact on household well-being of the recent Argentine and Uruguayan crises in terms of income-poverty variation has been larger than that observed in most countries that also experienced severe economic shocks. The analysis presented in this article shows that in Uruguay the crisis impact varied significantly depending on the variable to be considered. At the same time, different time horizons carry different diagnoses. Thus, a complete analysis requires a multidimensional perspective.

In terms of income poverty, the crisis deepened trends that already existed in the Uruguayan socioeconomic indicators. Absolute income poverty was already increasing, but the crisis dramatically accelerated this trend. Falling average real household income and rising inequality reinforced each other and led to higher poverty incidence, severity, and intensity.

Very basic needs indicators like the ones composing the Human Poverty Index 1 did not show significant variations. Meanwhile, educational attainment in secondary and tertiary levels increased dramatically, led mainly by the behavior of male students coming from the lower income quintiles. This evolution is particularly surprising because it took place after many years of a steady contrary trend in secondary school enrolment and drop-outs. The reasons for this change need to be studied in depth, as they may be conforming to an increasing supply of secondary schooling resulting from the 1996 Reform or else they can be read as a reduction of the opportunity costs of dropping out of school (UNDP 2005). The latter poses a challenge for the educational authorities in creating the incentives to keep teenagers from lower income strata in the educational system.

The findings presented in this article and in previous studies indicate that in Uruguay short-term effects were more significant than long-term effects as households modified their budgets, cutting short-term expenditure rather than medium- and long-term items. This is in accord with the macro evidence presented on educational attainment. A further analysis of multidimensionality needs to be carried out, but it requires data generation in other dimensions such as, for example, health, social integration, access to public programs, etc.

Results presented in this article attest to the need to focus on the reshaping of the social protection system, as the most deprived sectors had no protection at the start (i.e., households with children headed by adults with scant schooling). In that sense, Lustig (2000) points out that although macroeconomic crises are recurrent in Latin America, effective income-smoothing safety nets have not yet been created.

ANNEX 1

Table A.1 - Share of Income Transfer Programs in Household Income by per Capita Income Quintile. Uruguay. 1994, 1999, and 2002

Per capita income quintile	Family allowances	Pensions	Unemployment benefits
1994			
1	0.8	8.3	0.0
2	0.5	12.3	0.1
3	0.3	15.1	0.0
4	0.2	14.0	0.0
5	0.1	12.3	0.0
Total	0.2	12.9	0.0
1999			
1	1.0	5.5	0.1
2	0.4	10.9	0.1
3	0.2	14.7	0.1
4	0.1	15.9	0.1
5	0.1	14.0	0.0
Total	0.2	13.7	0.1
2002			
1	0.9	9.8	1.4
2	0.5	14.9	1.3
3	0.2	19.2	0.6
4	0.0	21.9	0.5
5	0.0	21.1	0.2
Total	0.1	19.8	0.5

Source: Amarante et al. (2004).

Notes

[1] For example, the share of persons under the 1ppp dollar a day poverty line is 2 percent.

[2] *Functionings* are an individual's abilities to take advantage of opportunities in different areas (being well nourished, access to health services, housing, etc.). *Capabilities* are the set of functionings available to each individual and represent individual freedoms. Finally, Sen has also noted the relevance of *individual agency.* This concept refers to the possibility for a person to define objectives and actions to meet them.

The efforts made by the United Nations Development Programme (UNDP), crystallised in the Human Development Index, also point to broadening the dimensions used to evaluate the performance of the different countries (see, for example, UNDP 2002).

[3] See for example, Anand and Sen (1997), Atkinson (2003), Bourguignon and Chakravarty (2003), and Duclos et al. (2006).

[4] The analysis carried out by Ruggeri-Laderchi for Peru and Chile makes it evident that the other dimensions of poverty are not consistent with income in all cases. The same conclusion can be drawn from the myriad studies that map basic needs and income poverty, or even from the UNDP's Human Development Index.

[5] In his case study of India, Bangladesh, and Argentina, Ravallion (2002) finds that non-poor-biased government spending is the one protected when facing an economic crisis.

[6] The Argentinean crisis peaked at the end of 2001. The combination of political difficulties, non-payment of the foreign debt, the freezing of bank deposits (*corralito*), asymmetric "pesification" of bank deposits and credits, maxi devaluation, and the lack of IMF support determined a sharp fall of economic activity in Argentina, coupled with the increasing deterioration of household well-being and the social situation. In the first semester of the year the Argentinean GDP fell almost 15 percent and 11 percent in 2002. Country risk grew from 217 basic points in December 2001 to 2,191 basic points in October 2002.

[7] This result holds despite the poverty line used to measure poverty.

[8] There is a jump in 1998 given by the modification of the universe and sample of the household survey; afterwards the path of household income remains the same.

[9] This significant increase in the real value of pensions resulted from a modification in the indexation mechanism voted *ad Referendum* in 1989. Pensions were adjusted on the basis of the past quarter wage increase. As long as inflation was declining at the same time, the combination of these two effects produced a significant increase in average pensions relative to average wages.

[10] The evolution of disposable income estimated on the basis of National Accounts is different, as its decline starts in 1998.

[11] Previous studies show that the characteristics of the head of household are a good proxy for measuring the characteristics of the whole household (see, for example, Mendive and Macadar, 1997).

[12] In spite of that, two previous studies suggest that the nutritional status of girls is better than the one observed among boys (ANEP, 2003) and that school drop-out rates among children aged 14 to 17 are higher among boys (Bucheli and Casacuberta, 2000).

[13] Most of the empirical evidence presented in this section comes mainly from previous work carried out jointly with Verónica Amarante and Rodrigo Arim.

[14] Secondary schools do not offer lunch or food complements that could be understood as an additional reason to remain in the educational system.

[15] Since 1997, UNDP calculates this index for developing countries (UNDP 1997):

$$\text{HPI1} = \left[\frac{1}{3}\left(P_1^{\alpha} + P_2^{\alpha} + P_3^{\alpha}\right)\right]^{\frac{1}{\alpha}},$$

where P_1^{α} represents the probability at birth of not surviving 40 years old, P_2^{α} is the adult illiteracy rate, and P_3^{α} averages the proportion of the population that has no access to potable water and the proportion of children who are underweight. When α is greater than 1, the relative incidence of each component within HPI-1 increases when deprivation also increases. The greater the value of α, the greater the relative weight of the dimension where higher deprivation is observed. UNDP uses a value of 3.

[16] The formula is as follows:

$$\text{HPI} = \left[\frac{1}{4}\left(P_1^{\alpha} + P_2^{\alpha} + P_3^{\alpha} + P_4^{\alpha}\right)\right]^{\frac{1}{\alpha}},$$

where P_1^{α} is the probability at birth of not surviving the age of 60, P_2^{α} is the functional illiteracy rate, P_3^{α} is the proportion of the population under the income poverty threshold, and P_4^{α} is the long-term unemployment rate.

[17] Following Grau (2005), social government spending will be understood in this article as that expenditure related to human and social capital accumulation such as education, housing, and health and expenditure devoted to income compensation as social security, unemployment benefits, food transfers, etc.

[18] Estimations of SGE are difficult to be obtained in Uruguay and series are often not coherent. An explanation of differences among existing estimations can be found in Coimbra and Forteza (2004) and Flood et al. (2004).

[19] Including formal and informal earnings.

[20] Including family allowances, pensions for elder adults, and unemployment benefits.

[21] Unfortunately, Household Survey data do not allow separation of contributive from non-contributive pensions. The exercise shown in Table 13 is a very simple one as it presents household income with and without a certain transfer. Hence, general equilibrium effects and behavioral responses such as changes in labor force participation and household structure are not considered.

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