Social and economic problems in Cuba during the crisis and subsequent recovery

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p to 1989, social policy in Cuba achieved very notable advances in education, health, social security, employment and income distribution. The collapse of the socialist bloc and other internal and external factors, however, gave rise to a severe crisis, which reached its bottom in 1993 and led to a deterioration in almost all the social indicators. The modest market-oriented reforms introduced in 1993-1996 generated a partial recovery but were later interrupted and have been reversed since 2003. The social indicators improved after 1994, but in 2003 some of them had still not regained their 1989 levels and poverty and inequality had increased. This article evaluates the economic and especially the social evolution of Cuba between 1989 and 2004, on the basis of Cuban statistics and publications, ECLAC documents, and a recent study of economic and social aspects in 1997-2002 jointly published by ECLAC, the National Economic Research Institute of Cuba, and the United Nations Development Programme.

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I

Introduction

Up to the end of the 1980s, social policy in Cuba had achieved very notable advances in education, health, social security, employment and income distribution, thanks to the priorities and financial resources assigned by the government and the aid amounting to US\$ 65 billion provided by the Soviet Union between 1960 and 1990 (Mesa-Lago, 2000) as well as the assistance of the other member countries of the Council for Mutual Economic Assistance (CMEA). The collapse of the socialist bloc, preceded in Cuba by the recession caused by the anti-market approach taken during the Rectification Process (1986-1990), and the inability of the Cuban model to generate sustainable economic growth, expand and diversify exports, and achieve import substitution provoked a severe crisis, which reached its worst point in 1993. Because of this, almost all the social indicators deteriorated, in spite of the efforts of the government. The modest market-oriented reforms, mostly introduced between 1993 and 1996, generated a partial recovery, but it slackened in 2000-2002, partly because of the virtual paralyzation of the reform process. The social indicators improved after 1994, but in 2003 some of them had still not regained their 1989 levels and poverty and inequality had increased (Mesa-Lago, 2003a and 2003b; Mesa-Lago and Pérez-López, 2005).

This article evaluates the economic and especially the social evolution of Cuba during "The Special Period in Time of Peace" (1990-2004), which makes it different from the treatment often given to this subject in the literature, limited to certain phases in that period and lacking an integrated long-term analysis. For simplicity's sake, however, the statistics provided correspond to years which correspond to three different

points in that evolution: 1989 (the eve of the crisis),

1993 (the worst moment in the crisis) and 2003 (the

most recent year for which data are available). The

analysis is based on Cuban statistics and publications,

several documents of ECLAC and other international

organizations, and recent works by this and other

authors. Among the ECLAC documents, special mention

¹ The main topics of the relevant chapters in Álvarez and Máttar (2004) and their authors are as follows: a summary of economic performance (Jesús M. García Molina); an overview of social policy and nutrition (Angela Ferriol); education, health and employment (Victoria Pérez Izquierdo); water supply, sanitation and housing (Aída Atienza); social security and assistance (Maribel Ramos), and conclusions and future prospects (Beatrice Dhaynaut and Jorge Máttar). There is also a statistical annex which is available on the web site of the ECLAC Subregional Headquarters in Mexico (www.ecla.cl/mexico/) and which will henceforth be referred to as "Anexo Estadístico", followed by the corresponding table number. All the authors except two are Cuban, and the chapters on social policy were written by researchers of the National Economic Research Institute of Cuba (INIE). Frequent references are made in the present article to those authors, giving as the source their contributions to Álvarez and Máttar (2004).

is made of those on structural reforms and economic and social performance in the 1989-1998 period (ECLAC, 1997 and 2000a). Detailed references are also made of a recent work entitled Política social y reformas estructurales: Cuba a principios del siglo XXI (Álvarez and Máttar, eds., 2004), published jointly by ECLAC, the National Economic Research Institute of Cuba (INIE), and the United Nations Development Programme (UNDP), which concentrates on social aspects and is restricted to the 1997-2002 period. In the following sections, this article presents a summary of Cuba's economic evolution (section II), an evaluation of social problems —poverty, income distribution, unemployment, nutrition, education, health, social security and assistance, and housing during the crisis and subsequent recovery (section III), and a discussion on whether Cuba is an integral development model for the region (section IV).

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II

A summary of Cuba's economic evolution

Table 1 summarizes the main Cuban economic indicators from 1989 to 2003: the internal macroeconomic indicators, those on physical production, and the external indicators.

1. Internal macroeconomic indicators

A serious obstacle to evaluating the evolution of GDP over the 1989-2003 period is the fact that in 2001 the

base year for calculations at constant prices was changed from 1981 prices to 1997 prices. The new series of the National Statistical Office (ONE, 2002 and 2003) only covers the 1996-2003 period, and when it is compared with the same years in the previous series (ONE, 1998 and 2001) it results in a systematic annual increase of 60% in the value of the GDP, without the authorities having given any explanation of this anomaly. As the new series does not go back to 1989,

TABLE 1 Cuba: Economic indicators, 1989, 1993 and 2003

Indicators	1989	1993	2003	Variation 2003/1989 (%)
International macroeconomic indicators				
Average annual GDP growth, 1981-1989 and 1990-2003 (%)	2.9		-0.5^{a}	-83
Per capita GDP (constant pesos)	1 852	1 172	1 538 ^b	-17
Investment/GDP (%)	15.2	6.7	7.8 ^c	-49
Inflation rate (%)	0.5	25.7	-1.0	-100
Monetary liquidity/GDP (%)	21.6	73.2	42.7	98
Fiscal balance/GDP (%)	-7.2	-33.5	-3.2	-56
Physical production (thousands tons)				
Sugar	8 121	4 246	2 200	-73
Nickel	47	30	72	53
Oil	718	1 107	3 609	402
Electricity (millions of kwh)	16	11	16	0
Cement	3 759	1 049	1 345	-64
Textiles (millions of square meters)	220	51	28	-87
Fertilizers	898	94	72	-91
Cigars (units)	308	208	308	0
Livestock (millions of head)	4.9	4.6	4.0	-18
Fish and shellfish	192	94	67	-65
Cow's milk	1 131	585	607	-46
Eggs (million units)	2 673	1 512	1 785	-33
Citrus fruit	1 016	644	793	-22
External indicators (thousand millions)				
Exports of goods (pesos)	5.4	1.1	1.6	-70
Imports of goods (pesos)	8.1	2.0	4.6	-43
Merchandise trade deficit (pesos)	2.7	0.9	3.0	11
Terms of trade (1989=100)	100.0	54.4	44.3	-56
External debt (dollars)	6.2	8.8	11.0	77
Foreign aid/investment (dollars)	6.0^{c}	2.5 ^c	-58	
Exchange rate (pesos per dollar)	7	78	26	271
Gross income from tourism (dollars)	550	700	1 996	262
Remittances (dollars)	0	0	915	

Source: Figures for 1989: Comité Estatal de Estadísticas (1991); 1993: ONE (1998); 2002-2003: ONE (2003 and 2004) and ECLAC (2004); on aid/investment and terms of trade: Mesa-Lago and Pérez-López (2005); on remittances: ECLAC (2003a).

^a Average for 1990-2000 at 1981 prices, combined with average for 2001-2003 at 1997 prices.

b The per capita GDP for the year 2000 at 1981 prices was projected to 2003 on the basis of the 2001-2003 growth rate at 1997 prices.

^c Soviet aid only in 1989.

^d Total accumulated disbursed investment, 1991-2002.

it is impossible to compare the GDP in the two series for 1989-1995 (Mesa-Lago and Pérez-López, 2005). Furthermore, since 2002 the Cuban authorities have criticized the methodology used to calculate GDP in the System of National Accounts, claiming that it adversely affects Cuba because it underestimates the value of free social services and consumer price subsidies, and in the last two years they have therefore published alternative figures which increase the value of GDP still further (Rodríguez, 2002, 2003 and 2004).

Table 1 shows that GDP grew at an annual rate of 2.9% in 1981-1989 but, because of its sharp drop in 1990-1993, averaged –1.4% for the 1991-2000 period: the lowest rate for the whole of Latin America and the Caribbean, according to data from the *Preliminary Overview of the Economies of Latin America and the Caribbean* (ECLAC, 2000c).² In an attempt to make up for the lack of a continuous series, I have added the years 2001 to 2003 to the average for the 1990-2000 period, estimating an average annual rate of –0.5% in 1991-2003. A rough calculation of per capita GDP in 2003 indicates that that year was still 17% below the 1989 level.

The gross investment rate at current prices (not published in Cuba at constant prices) went down by 49% between 1989 and 2002, from 15.2% to 7.8% of GDP.³ The ECLAC series on gross domestic investment at constant prices gives higher figures: for example, 12.2% versus 7.8% in 2002 (ONE, 2003; ECLAC, 2004). García Molina (2004, pp. 19 and 36) states that "Cuba stands out in the region by its low investment coefficient"; between 1977 and 2003 that coefficient went down from 16.2% to 10.8% and external saving sank from 1.9% to 0.6%, which means "a serious process of decapitalization" that could hinder mediumterm growth.

According to official figures, the inflation rate, which stood at 25.7% in 1994, went down markedly, and there was deflation in the six years from 1995 on (inflation in 2003 was 1%). No official information is available, however, on the calculation of the consumer price index and the GDP deflator, which are crucial not

only for estimating inflation but also the GDP growth rate at constant prices, real wages, real budgetary expenditure, etc. Monetary liquidity decreased with the economic recovery, but in 2003 it was nevertheless equal to 43% of GDP: twice as much as in 1989. García Molina considers that the increase in liquidity in 2002 affected the upsurge of inflation to 7% in that year, but it is hard to understand why, although total monetary liquidity increased by 27% between 1999 and 2001, there was average deflation of 2.2% over the same period (García Molina, 2004, p. 43; ONE, 2003).

An important achievement was the reduction of the fiscal deficit from 33.5% of GDP in 1993 to 3.2% in 2003 (half the 1989 level). A contributory factor in this was the improvement in tax revenue after the 1994 tax reform, but in 2003 60.6% of such revenue came from indirect taxes with regressive effects, while only 39.4% was generated by direct progressive taxes (Anexo Estadístico, I-20). On the expenditure side, subsidies for the losses of State enterprises went down to 1.3% of GDP in 2001 but rose again to 2.8% in 2002 and 3.9% in 2003 (Álvarez and Máttar, 2004; Anexo Estadístico, I-20).⁵ Furthermore, according to García Molina (2004, pp. 39-40) GDP growth has been based on the expansion of government consumption represented by increased fiscal spending, and the high defence and internal security expenditure —which amounted to 4% of GDP, the second highest percentage in the region (UNDP, 2004)— were due solely to the "dispute between Cuba and the United States", leaving out internal factors such as the increase in the size of the police force and the high cost of armed forces pensions.

2. Physical production

Table 1 shows that after sharp declines in the main products of the agricultural, mining and manufacturing

 $^{^2}$ After 2000, the *Preliminary Overview*, published annually by ECLAC, suspended the series giving the annual average GDP for the last ten years.

³ In actual fact, there are two Cuban investment series at current prices: that published up to 2000 gave a level of gross domestic investment higher than that published since 2001, although the change in the base year for calculating constant prices should not affect the figures at current prices (ONE, 2001 and 2003).

⁴ There is no published information on the components of the "shopping basket", the prices and weights of goods and services provided through rationing, the agricultural market, stores that only accept foreign currency, and own-account workers, nor on the way those components have varied in importance over time, nor on how the foreign-currency value of economic activity is converted into pesos.

⁵ García Molina says that in 2002 there were "increasing subsidies granted to cover losses by State agricultural enterprises" and that the reduction of such subsidies would "help significantly to put fiscal expenditure on a sounder basis and free resources to aid in the recovery of investment" (García Molina, 2004, pp. 33 and 54). Subsidies for losses by State enterprises grew by 210% between 2001 and 2003, reaching 3.9% of GDP (ECLAC, 2004).

sectors, especially in 1993, there was a recovery, but in 2003 only two products had exceeded their 1989 levels (oil, by 402%, and nickel, by 53%). Two others had recovered the 1989 levels (electricity and cigars), but the other nine were between 18% and 91% below such levels. García Molina attributes the drop in sugar production (by 2.3% per year in the 1998-2002 period) to hurricane damage, but output went down steadily from 8 million tons in 1989 to 4 million in 1993 and 2 million in 2003 (73% below the 1989 level). Internal problems such as high costs, low levels of competitiveness and profits, technological backwardness and lack of incentives, together with low world prices, forced the reorganization of the sugar industry in late 1992, the closing down on 46% of the sugar mills, and the shifting of half the area planted with sugar cane to other crops. García Molina highlights the increase in the production of roots and tubers, green vegetables and pulses in 1997-2002 but says nothing of the following drops in production: 45% in poultry meat and 20% in beef, 14% in the number of head of livestock and 7% in milk production in the same period, as well as 45% in the catch of fish and shellfish in 1997-2002 and 26% in rice production in 1996-2003 (ONE, 2003; ECLAC, 2004). While acknowledging some of the domestic problems, García Molina maintains that a deepening of the agricultural reforms would help to raise food production and reduce the need for imports, as well as bringing down prices, which continue to be high (García Molina, 2004, p. 28).

Outputs of cement, textiles and fertilizers in 2003 were between 64% and 91% below the 1989 levels. García Molina notes that there are shortcomings in terms of industrialization: little change in the composition of exports, low value added, minimal levels of integration, little inter-firm cooperation and technical backwardness. After reporting that manufacturing production stagnated in 1998-2002, he highlights the notable increases in the output of oil, gas and non-metallic minerals (sectors in which there has been foreign investment), but fails to note that nickel production fell by 6.3% in 2001-2003, while in 1998-2002 the output of textiles went down by 44%, that of fertilizers by 39%, and that of cement by 22% (ONE, 2003; García Molina, 2004).

3. The external sector

In spite of the recovery, in 2003 the value of exports was 70% below the 1989 level and that of imports was 43% lower, giving a trade balance deficit of 2,957

pesos (table 1). Although this deficit was only 11% greater than that of 1989, at that time 84% of the deficit was with the Soviet Union, which gave Cuba automatic credits to cover it that were never repaid; now, however, Cuba has to seek scarce loans for short terms at high interest rates. García Molina does not touch upon this crucial problem, asserting that in 1998-2002 the volume of goods exported rose while that of imports went down, and that "there was an increase in external sales of non-traditional products with high value added, such as biotechnological and pharmaceutical goods, medical equipment and advanced diagnostic media" (García Molina, 2004, p. 49). The official figures, however, show a 20% drop in the value of exports between 1998 and 2002, as well as a 1% increase in the value of imports in the same period, giving rise to and increase of 10.8% in the merchandise trade deficit (ONE, 2004). Moreover, in 2002 the value of pharmaceutical and medical products was only 3% of the total value of exports and went down to only 1% in 2003; furthermore, the Anuario estadístico de Cuba does not disaggregate exports of medical equipment and advanced diagnostic media (ONE, 2003 and 2004). In contrast the respective proportions of traditional exports in the total in 2002 were: sugar, 32%; nickel, 29%; tobacco, 10%, and fishery products, 7%. The terms of trade deteriorated by 56% in 1989-2003.

The share of food imports increased from 12% to 19% between 1989 and 2002, while those of manufactures rose from 14% to 23%; imports of machinery and transport equipment, however, declined from 31% to 24% (Comité Estatal de Estadísticas, 1991; ONE, 2003). This indicates a deterioration in the level of self-sufficiency in food production, import substitution and industrialization. García Molina (2004, p. 46) warns that the "meagre agricultural performance" has an adverse impact on the fiscal and external deficits, because it "makes it necessary to import large volumes of foodstuffs [since 2002, mainly from the United States] and hinders the growth and diversification of exports". Cuba is now a net food importer, foreign exchange outlays exceed income in this respect, and the agricultural food export sector now registers a deficit instead of a surplus. As production of meat, milk, rice and beans is insufficient, these products must now be imported and account for half the total value of food imports (Ferriol, 2004b, p. 143).

Tourism and remittances from abroad were positive factors in the balance of payments. Tourism generated nearly US\$ 2 billion of **gross income** in

2003 and became the main source of foreign exchange, but the cost of the necessary imports per peso of income was high (reducing the **net income** by 35% in that year), while the occupancy level of the hotel infrastructure was low, thus "causing the immobilization of resources despite the big investment effort" (García Molina, 2004, p. 23). In fact, the occupancy level went down from 64% in 1998 to 55% in 2003, while average daily income per visitor fell by 13% (Álvarez and Máttar, 2004; Anexo Estadístico, I-15). The second largest source of foreign exchange for Cuba (exceeding that generated by sugar and nickel together) was remittances from abroad, which were estimated by ECLAC to amount to US\$ 915 million in 2003 (table 1).6

The external debt, measured in US dollars, increased by 77% between 1989 and 2003, but García Molina reports that it went down from 43.3% of GDP

in 1997 to 35.5% in 2002 because of the appreciation of the dollar over the euro and the yen in that period and the accumulation of interest arrears (García Molina, 2004, p. 50). As a percentage of the value of exports of goods and services, however (an indicator traditionally used by ECLAC), the debt increased from 255% in 1997 to 262% in 2003, and in the latter year it amply exceeded the regional average of 172% (ECLAC, 2003a). Moreover, whereas in 1989 Cuba received US\$ 6 billion of aid from the Soviet Union, total foreign direct investment accumulated in the period 1991-2002 was only US\$ 2.5 billion, equivalent to an annual average of US\$ 200 million, and it has gone down in recent years. The United States embargo has been a negative factor, and it was stepped up in 1996 and 2004, but it is not the fundamental culprit of Cuba's poor economic performance (Mesa-Lago and Pérez-López, 2005).

Ш

Social problems during the crisis and subsequent recovery

This section contains an analysis of the main social problems during the worst stage of the crisis and their subsequent improvement, though not always complete recovery: namely, poverty, inequality, unemployment, nutrition, education, health, social security and assistance, and housing.

1. Poverty

Cuba has not published official statistics on poverty incidence. In 1997 it introduced the concept of the "population at risk" of poverty, defined as persons without sufficient income to acquire a basic basket of food and non-food goods (equivalent to the poverty line). The methodology calculates the cost and nutritional contribution of the foodstuffs sold at

subsidized prices⁷ and assumes that the rest of the basic basket is obtained on the free market at the prices prevailing there; it also incorporates into the income of the population the value of the social services provided free of charge (Informe de Cuba, 1997; Ferriol, 2004a, p. 78; Ferriol and others, 1998). A Cuban economist (Togores, 1999) has estimated Amartya Sen's "poverty severity index" for the whole of the Cuban population (not only the urban population) in 1995, as well as the poverty incidence without taking into account the free social services and price subsidies. Lastly, in 2002 a survey was made of the personal perception of poverty in the capital, in which the interviewees were asked to classify themselves in one of three categories: poor, almost poor and not poor. Table 2 summarizes all these rough estimates: the urban population at risk trebled between 1988 and 1999, increasing from 6.3% to 20%, and

⁶ This figure is taken from ECLAC (2003a), but the 2000-2003 figures do not appear in the annual reports by ECLAC on the economic evolution and future prospects of Cuba (ECLAC, 2003b and 2004). Other estimates of the remittances vary from only US\$ 100 to 400 million (see Mesa-Lago and Pérez-López, 2005).

⁷ The average monthly subsidy per inhabitant through the system of rationing was 6 pesos in 2002, equivalent to 2% of the average wage according to my calculations.

TABLE 2 Cuba: Poverty estimates, 1988-2002

	1988	1995	1996	1999	2002
Estimates by Ferriol Total urban population at risk (% of population) Population at risk in the city of Havana (% of population) Perception of poverty in terms of income inthe city of Havana (% of population)	6,3 4,3	20,1	14,7 11,5	20,0	a 31,0 ^b
Estimates by Togores Sen's index (severity of poverty) ^c Poverty incidence (% of total population)		0,39 - 0,42 ^d 61 - 67 ^d			

Source: Ferriol (2004a; 2003) and Togores (1999).

b Also, 23% of "almost poor".

^d Variants obtained by using different income distributions

remained at the latter level in 2001; in the capital it increased from 4.3% to 20% between 1988 and 1995 but subsequently went down to 11.6% in only one year. The figures of other estimates are much higher: the poverty severity index was 0.39-0.42, the poverty incidence in the population as a whole was 61%-67% in 1995, and the perception of poverty in the capital was 31% in 2002. Although the measurement techniques used were very diverse, these figures all indicate an increase in poverty throughout the period.

Ferriol (2004a, p. 81) compared the urban population at risk in Cuba in 1999 with the incidence of poverty in four Latin American countries in 2001-2002, placing Cuba after Uruguay as one of the countries with the least "urban poverty". She left out Costa Rica, however, which had a lower poverty incidence than the population at risk in Cuba, and Chile, which had a similar incidence, and included instead Colombia and Ecuador, which are countries with a high incidence of poverty (ECLAC, 2001).

2. Inequality

In the second half of the 1980s (during the anti-market Rectification Process), "society tended to become more

homogeneous" through two means: more equal access to consumption, and the reduction of wage differences. This weakened wages as an incentive to work harder, however, and up to 1994 there was "high absenteeism" and a "high level of disguised unemployment". The reforms made in the 1990s restored incentives to work harder, but widened wage differences and created a segmented consumption market, thus increasing inequality (Ferriol, 2004a, pp. 67-71).

Average real wages in the State sector fell by 45% in 1989-1998 according to ECLAC, and by 32% in 1989-2002, according to a Cuban economist (Togores, 1999; Togores and García, 2003; Togores, 2004), measured in both cases at 1981 prices. Pérez Izquierdo, in contrast, shows an increase of 17.4% in 1998-2002, based on 1997 prices. The change in base year results in a real wage almost three times higher in 1998, 2000 and 2002 (table 3). At the same time that real wages declined in the State sector, private sector incomes grew considerably, and remittances heightened the inequality. In 1989 the ratio between the highest and lowest wages was 4.5:1. Although the comparison is not exact, in 1995 the ratio between the average income of the top decile and that of the lowest decile of households in the capital was 150:1, and it increased to 199:1 in 2001 (Quintana, Nova and others, 1995; Espina, 2003).

Ferriol claims that rationing at subsidized prices reaches all families and covers at least 50% of nutritional requirements. It is very well known, however, that nowadays the foodstuffs included in the

^a According to Ferriol (2003), the preliminary calculations for 2001 confirm a resistance to a downward movement of the percentage of the population at risk, which would indicate that that percentage remained around 20%.

^c For a large population, Amartya Sen's poverty severity index (P) may be expressed as follows: $P = H[I + (1-I) G_p]$, where H is the incidence of poverty (population under the poverty line, divided by the total population); I is the income gap, understood as the difference between the poverty line and the average income of the poor population, in relation to the poverty line; and G_p is the Gini coefficient for the income distribution of the poor. P varies between 0 and 1, having a value of 0 if the whole population has an income higher than the poverty line, and 1, if the income of the whole population is zero.

⁸ The greater increase of the "population at risk" in the capital over urban areas as a whole is explained by growing inequality, but this is in contradiction with the reduction of the "population at risk" in 1996 despite the overall increase in inequality; furthermore, the reduction of almost 9 percentage points in a single year is doubtful.

Cuba: Estimates of average real monthly wages in the State sector, 1989-2002

Estimates	1989	1998	2000	2002	Variation (%)
ECLAC (index 1990=100) ^a	104	57			-45
Togores (pesos) ^a	130	73	83	89	-32
Izquierdo (pesos) ^b		206	242	242	17

Source: ECLAC (2000a), Togores (1999), Togores and García (2003), Togores (2004), Pérez Izquierdo (2004c).

TABLE 4 Cuba: Estimates of inequality, 1986-1999

Year	Gini coefficient		Income quintiles	
		Poorest (0-20%)	Richest (81-100%)	Ratio of richest to poorest
1986	0.22	11.3	33.8	3.3
1989	0.25	8.8	33.9	3.8
1995	0.55			
1996	0.39	4.8	54.4	11.3
1996-98	0.38			
1999	0.407	4.3	58.1	13.5

Source: Brundenius (2002) for 1986, 1989, 1996 y 1999; Añé (2000) for 1996 and 1999; Fabienke (2001) for 1995, and Ferriol (2004a) for 1996-1998

rationing system only cover about a week's needs, and the rest of the month it is necessary to buy food in the free farmers' markets, stores that only accept foreign exchange, and the illegal informal market, where prices are much higher than those of rationed goods and/or demand the possession of foreign exchange. The lowest income deciles spend 88% of their total food budget in those markets; moreover, 62% of households receive foreign exchange mainly from remittances from abroad, which further heightens the social inequality between those who have access to foreign exchange and those who have not (Ferriol, 2004a, pp. 66 and 72-78; Ferriol, 2004b, pp. 147-150).

The foregoing indicates that there has been an increase in inequality in income distribution. This is also indicated by some estimates made by Cuban and foreign economists (table 4). The Gini coefficient went

^a At 1981 prices.

b At 1997 prices.

up from 0.22 in 1986 to 0.407 in 1999; the percentage of total income received by the poorest quintile went down from 11.3% to 4.3% over the same period, while the percentage received by the richest quintile rose from 33.8% to 58.1%, and the ratio between the average income of the richest quintile and that of the poorest rose from 3.3 to 13.5. In spite of this, Ferriol (2004a, p. 83) asserts that "the Cuban population continues to be that with the lowest inequality in Latin America and the Caribbean". This assertion is taken from a previous study (ECLAC, 2000b, pp. 37-38) that compared the Gini coefficient of 13 countries but did not include Cuba. ¹⁰ On the other hand, Fabienke (2001) estimates for the year 1995 a level of inequality much higher than that shown by other authors for years close to that date.

⁹ The estimates do not specify the concept of income used: whether it includes that generated by the market, the State and by remittances; whether it is before or after taxes (including the very high surcharge applied in the stores that only accept hard currency), and whether or not it includes social benefits and services or extra payments in convertible pesos and in kind. They are therefore not strictly comparable.

¹⁰ In the 33 tables and 18 figures of the ECLAC study, many of which refer to equity, Cuba only appears in three: two which are irrelevant because they refer to demographic matters, and one on the coverage of services.

TABLE 5

Cuba: Comparison of estimates of economically active population, employment and unemployment, 1998 and 2000

	1998		2000	
	Pérez Izquierdo	ILO/ONE	Pérez Izquierdo	ILO/ONE
EAP (thousands)	4 573	5 438 ^a	4 632	5 552a
Employment (thousands)	4 288	3 754 ^b	4 379	3 843 ^b
Estimate of non-civil sector ^c		534		536
Unemployment (thousands)	285		252	
Residue		1 150 ^d		1 173 ^d
Unemployment rate (%)	6.2	21.1e	5.4	21.1e

Source: Álvarez and Máttar (2004), ILO (2004a), ONE (2003), Pérez Izquierdo (2004c).

- ^a ILO estimate; the figure for 1998 is my interpolation between 1995 and 2000.
- b "Total employed persons in the economy" according to the ONE, probably only the civil sector.
- ^c Subtraction of Pérez Izquierdo's estimated employment from the ONE's employment figure; probably persons employed in the armed forces and internal security.
- ^d Subtraction of Pérez Izquierdo's employment figure from the ILO's estimate of the EAP.
- e Residue as a percentage of the EAP estimated by the ILO.

3. Employment, unemployment and productivity

The open unemployment rate went down from 7.9% in 1989 to 7% in 1997 and 2.3% in 2003 (ECLAC, 2000a and 2004). The abrupt drop of almost five percentage points in the last six years is doubtful or conceals considerable under-utilization, for various reasons:

- i) in 1995 the Secretary-General of the Cuban Trade Union Confederation (CTC) estimated that between 500,000 and 800,000 State workers were unnecessary (surplus) and should be relocated (cited in Mesa-Lago, 2000), but the corresponding number was reported as only 19,000 in 1997 (Pérez Izquierdo, 2004c, p. 191);
- ii) ECLAC (2000a, pp. 252-253) estimated that the "equivalent unemployment" rate was 25.7% in 1997 (7% of open unemployment plus 18.7% of underutilization) and 25.1% in 1998 (6.6% and 18.5%, respectively): this series was later suspended;
- iii) average gross investment per job created was seven times greater in 1975-1989 than in 1995-2000, so that the 800,000 new jobs created in the latter period must be of lower productivity (García Díaz, 2004);
- iv) 219,600 sugar workers were affected in 2000 by the closure of 45% of the sugar mills and cane plantations;
- v) non-State employment shrank from 23.4% to 20.8% in 2001-2002;¹¹
- ¹¹ Self-employment decreased from 3.8% to 3.4% of total employment, members of cooperatives from 8% to 7%, and the private sector from 14.7% to 13.1% (Pérez Izquierdo, 2004c, p. 201).

- vi) in 2002 "high levels of underemployment" still prevailed (Dhaynaut and Máttar, 2004, p. 317), and
- vii) in 2002, 14% of those interviewed in the survey on poverty in the capital considered themselves to be poor in terms of employment, and 13% considered themselves to be almost poor (Ferriol, 2003).

Table 5 compares the estimates of Pérez Izquierdo (2004c) on the economically active population (EAP), employment and unemployment in 1998 and 2000 with those of the International Labour Organisation (ILO) and the National Statistical Office of Cuba (ONE). For 2000, Pérez's estimate of the EAP is 920,000 lower than that of the ILO, while his estimate of employment is 536,000 higher than the figure for "total employed persons in the economy" given by the ONE. If the total employed persons in the economy refers only to employment in the civil sector, then the difference of 536,000 (almost 10% of the EAP) must be accounted for by persons employed in the armed forces and internal security. Assuming that the sum of the civil and military sectors is 4,379,000 (the figure given by Pérez Izquierdo), then according to that author unemployment should be only 5.4%. If we use the EAP estimated by the ILO, however (which is 20% higher than that of Pérez Izquierdo), this leaves a residue of 1,173,000, which could be the number of unemployed and would be equivalent to 21% of the EAP (in 1998 and 2000), almost four times the percentage estimated by Pérez Izquierdo. Such a rate would be similar to the rate of between 16% and 28% in the 1994-2000 period calculated by a former Vice-Chairman of the Central Planning Board of Cuba (García Díaz, 2004).

Apart from the problem of statistical credibility, the extremely low official rate of open unemployment in 2003 conceals the persistence of high levels of underemployment which probably also include many persons who are not employed at all. Since 2001, the government has created five new "full employment" and "study as employment" programmes:

- 326,000 in the cultivation of food crops in backyards or urban gardens, partly on a part-time basis and for family consumption;
- 238,000 for disabled persons in regular jobs, work to be carried out at home, cultivation of gardens, or studying on socio-cultural courses;
- iii) 116,000 young people enrolled in night-school courses and receiving remuneration for this;
- iv) 44,000 sugar workers who were laid off but are now studying ("study as employment") and receiving a wage, plus another 20,000 who are in higher education;
- v) 8,500 who are taking ten-month courses in social work and who are guaranteed subsequent employment or entry into university courses in the humanities, and
- vi) 10,514 "interrupted" workers laid off due to the temporary closure of their places of employment, who are sent home with 60% of their normal wage, and 1,654 "available" workers who have not yet been relocated but also receive a wage (Pérez Izquierdo, 2004c, pp. 193-198 and 214; Dhaynaut and Máttar, 2004, p. 317).

In 2002, the 764,668 persons participating in these programmes were equivalent to 16% of the EAP of 4.7 million estimated by Pérez Izquierdo, and although this author does not specify how many of them are considered to be employed, the vast majority, if not all of them, have probably been counted as such.

Pérez Izquierdo rightly notes that the policy applied in the 1990s – maintaining the jobs and wages of workers of enterprises which closed down or interrupted production because of the crisis – caused under-utilization of the labour force and a decline in productivity. He claims, however, that the recovery and business improvement programme succeeded in relocating workers, creating 435,000 new jobs, reducing underemployment and raising average labour productivity by 1.8% per year in 1998-2002 (Pérez Izquierdo, 2004c, pp. 190-192 and 216). According to ECLAC (2000a, p. 235), however, productivity in 1997 was still 20 percentage points below the 1989 level, and in 1998-2002 it went down still further or stagnated. On the basis of the annual rates estimated

by Pérez Izquierdo for 1998-2002, I calculate that productivity in 2002 was still 12.6 percentage points below the 1989 level. Moreover, after the start of the "full employment" and "study as employment" programmes, the rate of change of productivity was 0.1% in 2001 and -0.1% in 2002 (Pérez Izquierdo, 2004c, p. 216).

Wages rose faster than productivity in 1998-2002, according to Pérez Izquierdo, because of the creation of new jobs of a social nature with wages higher than the national average, the de-linking of pay from work results in some activities, and the insufficient evaluation of the application of payment and incentive systems (Pérez Izquierdo, 2004c, pp. 206-207). The crisis and the employment policies applied led to a drastic change in the composition of the EAP by sectors of activity between 1991 and 2002 (in percentage points): according to data from ECLAC (2000a, table A-46) and Alvarez and Máttar (2004, p. 199), there were declines in manufacturing (-4.1), construction (-3.6), transport and communications (-1.3) and mining (-0.4), but increases in community, social and personal services (7.8), agriculture (1.2), and commerce, hotels and restaurants (0.7). In 1997-2002, most jobs were created in community, social and personal services (which grew by 68%), but this was the sector that suffered the biggest drop in average productivity (-3.7%). Although Pérez Izquierdo (2004c, pp. 209 and 215) does not analyse these problems, he does issue a warning: "The government continues to apply an employment and wage policy which involves two very different rationales: those of economic and of social considerations. Because of the government's humanistic calling, priority is given to the second of these, [but the present difficult conditions] ... demand that solutions be found to the problems which are limiting the country's economic performance".

4. Food

Before the crisis, rationing satisfied the nutritional needs of the population, even if only in a meagre manner, but at present —in Havana, which has the best supply of rationed foodstuffs in the country—it only satisfies 51% of the recommended intake of calories, 43% of that of proteins, and 17% of that of fats (Ferriol, 2004b, p. 147). The amounts provided under rationing have been reduced, while the cost of buying food and other essential consumer goods in the free markets has increased. At the end of 2002, the monthly rations per person included (in pounds): beans, 1.25; lard or oil,

0.5; rice, 6; meat, chicken or fish, 2.7 in total; sugar, 5; and roots and tubers, 15, as well as 8 eggs, which, except in the case of sugar and roots and tubers, only covers the needs of approximately one week. The ration of toilet and laundry soap was half a cake per month (Togores and García, 2003). The prices in the free markets were between 4 and 49 times the price of the same goods when received through rationing. The average monthly wage, at the exchange rate of 26 pesos per dollar paid in the government money changing offices (CADECAs), was equivalent to 16 dollars, with which it would be possible to buy one cake of soap, half a litre of oil and one pound of taro in the stores which only accept foreign currency (Mesa-Lago and Pérez-López, 2005).

According to Ferriol, the production and average per capita consumption of green vegetables, fruit and roots and tubers in 2002 was above the 1989 level, but that of meat, fish, eggs and milk was well below that level; furthermore, the quality of these products has gone down and the possibility of recovering the precrisis level is beyond the functions and possibilities of the present socio-economic model. 12 This author adds that in 1998-2002 the total volume of food consumption improved, although it did not always achieved the recommended average nutritional levels: the calorie intake exceeded them by 16%, but that of fats was 41% below them, and that of proteins 2% below (Ferriol, 2004b, pp. 140-145). According to international organizations, however, in 2001 Cuba was 7% below the regional average for calorie availability and 13% of its total population was undernourished in 1998-2000, the Cuban levels being exceeded by eight other countries of the region (PAHO, 2004; UNDP, 2004).

The shortage of food is officially explained by the limited and uneven recovery of agricultural and industrial production and the chronic shortage of foreign exchange, which restricts the capacity to import goods. These problems are attributed in turn to the economic crisis of the 1990s and the prior vulnerability due to excessive external dependence. However, this does not explain why, in the three decades before the crisis, and in spite of the abundant aid received from the socialist countries, Cuba was incapable of increasing and diversifying its exports and successfully promoting import substitution, and nor does it explain the generalized decline in agricultural production. Ferriol considers that the transformation of the State farms into basic cooperative production units (UBPC in Spanish) was a positive step, but in reality these production units are part of the problem: the government, which directs their production plans, sold them the buildings and the equipment (a debt which they have to repay), but 40% of these production units registered losses in 2003 and received fiscal subsidies; moreover, these units have to sell almost all their output to the State at prices below those that they would receive if they could sell directly to consumers, and their sales to the agricultural markets are subject to price ceilings. Because of these problems and the lack of incentives, in 2002 the basic cooperative production units, which controlled 45% of the total area of cultivated land (plus the 10% corresponding to the agricultural production cooperatives (CPA in Spanish)), only supplied the free agricultural markets with 3% of the products sold there; in contrast, private peasants had only 21% of the cultivable land but supplied 67% of the products sold, while the State, which had 24% of the cultivable land, supplied the remaining 30% (ONE, 2004; García Molina, 2004). ¹³ This is in contrast to the successful example of China, where the land was given to families, groups of workers and village communities which are free to decide what to produce, who to sell it to, and at what price. If Cuba had followed this policy, it would probably be self-sufficient in food and would have an exportable surplus too.

5. Education

During the crisis, education suffered the effects of the lack of resources: there was a reduction in the school meals service, a deterioration in the infrastructure, a shortage of educational materials, and a decrease in school transport. The rate of enrolment in primary education remained virtually unchanged, but the secondary enrolment rate, as a percentage of the school-age population, fell from 90.2% in 1989 to 74.5% in 1994, although in 2002 it recovered to 89% (UNESCO, 1999 and 2004). Total university enrolment went down by 56% during the worst stage of the crisis; it subsequently began to rise again, but in 2002-2003

¹² At 1981 prices, personal consumption fell by 40% between 1989 and 1993, and in 2000 it was still 22% below the 1989 level (Togores and García, 2003).

¹³ In the State agricultural markets, the State supplies 60% of the products, the private sector 34%, and the cooperatives 6% (García Molina, 2004). This author does not provide information on the breakdown of the total supply between the two markets (free and

TABLE 6	
	Cuba: University enrolment, by areas of study, in
	1989/1990, 1995/1999 and 2002/2003

Area of study	1989/90	1995/99 lowest level	2002/03 ^a	Variation between 2002/03 and 1989/90 (%)
Humanities and social sciences	5 095	5 366	33 898	565
Education	15 529	35 068	6 782	343
Economics	18 789	4 893	20 307	8
Agriculture	11 606	4 680	5 039	-57
Natural sciences and mathematics	6 399	4 019	3 934	-38
Technical courses	29 819	13 020	20 134	-32
Medicine	37 305	23 457	27 702	-26
$Total^b$	242 366	102 598	192 864	-20

Source: Comité Estatal de Estadísticas (1991); ONE (1998, 2001 and 2003).

it was still 20% below the 1989 level, although there were notable differences between the various careers: enrolment in agricultural sciences went down by 57%, in natural sciences and mathematics by 38%, in technical courses by 32%, and in medicine by 26%, whereas in humanities and social sciences it increased by 565%, and in education, by 343% (table 6). In the light of the severe shortage of resources, the enormous investment in some humanities careers or in education (although the number of students per teacher is the lowest in the region), contrasting with the deficit in careers that are crucial for development, not only represents inefficient resource allocation but will also create a serious problem in the future. Even so, Dhaynaut and Máttar (2004, pp. 306 and 307) maintain that "the levels of enrolment in technical and higher education are determined as a function of the requirements of economic development" and that "priority is given to technical and scientific specialities".

One of the reasons for the fall in university enrolment is the reversal of the wages pyramid. Before the crisis, doctors, engineers, university professors and other professionals were at the peak of the pyramid, but they have now been replaced in that position by owners of small restaurants (although the number of these has recently been reduced), owners of means of transport, tourism employees, small private peasants, etc. It is not reasonable to study for four to six years in the university, only to receive a very low salary on graduation, and this explains why many professionals

have left their State posts to engage in better-paid activities. Thanks to the salary increases in education, in 2002 the basic monthly salary of a teacher was between 280 and 330 pesos, possibly amounting to as much as 425 pesos with additional payments, but these salaries "are still not sufficient to be able to face the high cost of living today" (Pérez Izquierdo, 2004a, p. 111). The last-named amount is equal to 16 dollars per month at the exchange rate used in the money changing offices, which is not enough to buy food in the foreign-currency stores for the three weeks not covered by rationing (Mesa-Lago and Pérez-López, 2005).

An effort has recently been made to universalize higher education. In 2002-2003, the enrolment in humanities and social sciences was 530% higher than in 2000-2001. In 2003-2004, the authorities reported an impressive increase in enrolment in higher education as a whole, although the figures varied from source to source: 128,377 (Castro, 2003); 146,913 (Rodríguez, 2003), and 300,000 according to the Minister of Higher Education, 14 who said that the 17 universities had been "multiplied" with the creation of 732 university centres in the municipalities, while the number of professors had gone up by 83%. Half the new students are distance education students in socio-cultural studies, social work, teaching, and People's Universities for retired persons. A number of important questions

^a In 2002, enrolment in the humanities and social sciences, as well as in economics, was increased by between 10% and 14% from the 1996/1997 period to the 2001/2002 period, without any explanation, resulting in increases in total university enrolment.

b Excluding physical education and art.

¹⁴ Interview with Minister Vecino Alegret in *Granma*, Havana, 16 December 2003.

spring to mind in this connection, however: whether there is not a risk that the students involved in this massive expansion of higher education may not study hard; how it is possible to increase the number of higher educational institutions by a factor of over 43 and expand the number of professors and the level of enrolment by 83% and 56%, respectively, all in a single year; what type of training the 44,000 professors recently hired have had; what is the quality of the new study courses, and where the 300,000 potential graduates will find work.

According to Pérez Izquierdo, some Cuban studies consider that the programme for the universalization of higher education "will cause social tensions, because the dynamics of the demand by the economy for university graduates are only limited, and there could even be an increase in the tendencies to emigrate abroad". He also acknowledges that in spite of the advances made, there are still problems, especially with regard to "education as a strategic sector for promoting economic development". The new programmes "represent a challenge for the Cuban model, since their massive implementation calls for efficient utilization and a substantial rise in the (...) levels of training, and the large-scale results cannot yet be appraised" (ECLAC, 2004; Pérez Izquierdo, 2004a, pp. 96 and 116).

6. Health

Beyond any doubt, on the eve of the crisis the national health system of Cuba had reached the highest levels in Latin America, but Cuban medicine was marked by its excessively high costs, its very intensive use of capital, and its dependence on the socialist bloc (ECLAC, 2000a, pp. 274 and 275). The loss of the capacity to import medicines, spare parts, medical equipment and supplies from the Soviet Union, together with the acute shortage of foreign exchange and the deterioration in nutritional conditions, adversely affected the functioning of the health system, although care continued to be universally available and free of charge, which is a notable achievement. It is debatable whether the level of health expenditure was maintained during the crisis or not. On the basis of 1981 prices and the consumer price index, it has been calculated that real per capita expenditure on health shrank from 66.90 pesos in 1989 to 16.40 pesos in 1993, subsequently recovering to 53.00 pesos in 1999, although this was still 21% below the 1989 level (Sixto, 2003). Pérez Izquierdo, however, estimates that real per capita health expenditure continued to rise during the crisis and, at 1997 prices, increased by 40 pesos

between 1997 and 2002 (Pérez Izquierdo, 2004b, pp. 172 and 173). In any case, per capita health expenditure in Cuba in 2002 (229 dollars, based on purchasing power parity) came fourteenth in the region: only six countries—the least developed—had a lower level of expenditure (UNDP, 2004). 15

During the crisis, almost all the health indicators seriously deteriorated, and although they have improved in the recovery stage, several of them have still not recovered their previous levels. The infant mortality rate in Cuba continued to decline during the crisis, and in 2002 it was 6.5 per thousand live births (the lowest in the hemisphere after Canada, and similar to that of the United States), but the indices of mortality among mothers giving birth and among the population over 65 showed the opposite trend (table 7). In 2001 Cuba changed the maternal mortality series, because previously the "total" figure included direct mortality, indirect mortality, and that attributable to "other causes", but the new series eliminates "other causes", which results in a significantly lower rate, and it only goes back to 1996, which prevents comparison with the 1989 level. In 2000, the rate was 55.7 per 100,000 live births in the old series, but only 40.4 in the new one, since this excluded 15.3 for "other causes". The new series shows an increase from 38.6 in 1997 to 41.7 in 2002, and the 2002 rate in the new series, which excludes "other causes", is higher than the "total" of 29.2 in 1989, which included these causes. On the basis of the new series, and omitting the figures for 1997-1998, Pérez Izquierdo claims that the "total" maternal mortality rate went down from 43.8 in 1999 to 41.7 in 2002 (Pérez Izquierdo, 2004b, p. 179). Mortality among the population aged 65 or more increased from 48.4 per thousand in 1989 to 55.7 in 1993, later going down to 49.7 in 2001, but this latter figure is still somewhat higher than the pre-crisis level.

With regard to morbidity, the 1989-2002 trend displays considerable differences between diseases. The eradication or reduction of the incidence of diphtheria, poliomyelitis, measles, tetanus and pertussis continued, but the incidence of other illnesses increased considerably during the worst stage of the crisis, although it subsequently went down; in 2002 the

¹⁵ In terms of total health expenditure as a percentage of GDP, Cuba came sixth in the region in 2002, virtually drawing with two other countries. The total Cuban health expenditure of 7.2% of GDP is broken down into 6.2% public and 1% private, however, which is debatable because private medicine is prohibited. If only public expenditure is taken, then Cuba would come tenth in the region (according to data from UNDP, 2004).

TABLE 7

Cuba: Infant and maternal mortality rates, and mortality among the population aged 65 or more, 1989-2002

Year	Infant mortality (per thousand live births)	(per thousar	mortality nd live births)	Mortality among polulatin aged 65 or more (per thousand
		Old series ^a	New series ^b	persons in this age group)
1989	11.1	29.2		48.4
1993	9.4	49.3		55.7
1994	9.9	65.2		54.5
1995	9.4	57.1		52.5
1996	7.9	44.9	36.4	54.9
1997	7.2	50.4	38.6	52.3
1998	7.1	47.7	39.1	50.2
1999	6.5	52.4	43.8	52.2
2000	7.2	55.7	40.4	49.7
2001	6.2		33.9	49.7
2002	6.5		41.7	

Source: Comité Estatal de Estadísticas (1991); ONE (1998, 2001 and 2003); (MINSAP, 1995 to 2003).

incidence of acute diarrhoea, chicken pox, syphilis and blenorrhea was below the 1989 level, while in the case of acute respiratory diseases, viral hepatitis and tuberculosis it was higher, as may be seen from table 8. In spite of these trends in the official statistics, Pérez Izquierdo (2004b, pp. 155 and 156) asserts that "the indicators ... of morbidity were not substantially affected in the most acute years of the crisis".

As from the 1990s, the Ministry of Public Health substantially modified its objectives "by giving priority to the promotion of health and the prevention of diseases", which "has had important results in the reduction ... of transmissible diseases"; it also "continues with its efforts to develop domestically produced vaccines that will make the country selfsufficient in this respect in the future" (Pérez Izquierdo, 2004b, pp. 155-156 and 167). Part B of table 8, however, shows that the prevention of transmissible diseases through immunization has significantly declined. In 2002, the immunized population was between 25% and 90% below the 1989 level in the case of the five basic vaccines, and it was also below that level in the worst period of the crisis. BCG vaccination went down by 56%, although the incidence of tuberculosis in 2002 was 60% higher than the 1989 level. 16 Cuba occupies the eighth place in the region in terms of mortality due to transmissible diseases (PAHO, 2004).

In the 1990s, the almost total interruption of the provision of medical supplies, replacement equipment and chemicals from the socialist bloc, together with the drop in electricity generation, affected the pumps and drinking water supply and sanitation systems, reduced the hours they were in service, and considerably reduced the treatment of drinking water and its potability, giving rise to an increase in some infectious diseases. Atienza claims that by 2002 the 1990 levels had been surpassed through the construction of dams, water supply lines, water treatment plants and pumping stations, but the statistics she gives are from 1999-2002 and not from 1989, thus making it impossible to confirm the alleged advances over the long term. In actual fact, in 1999-2002 there was no increase in the number of water treatment plants, and there continued to be only one fluoridation station (Atienza, 2004b, table 45). Furthermore, the official figure for the volume of waste water evacuated through the sewer system was 672 hm³ in 1998 (one, 2001) but only 569 hm³ in 2002: a reduction of 15% over the period. The quality of drinking water supply has deteriorated for several reasons: the average duration of drinking water supply is 12 hours per day, which obliges part

vaccines are administered, however. This is a point which calls for further research.

^a Total maternal mortality, including direct and indirect mortality and that due to other causes.

b Excluding mortality from other causes, which averaged 10.6 per 100,000 in 1998-2000.

¹⁶ The variations from year to year may be due to appreciable changes in the number of births per year and the ages at which the

TABLE 8

Cuba: Morbidity rates for selected transmissible diseases and immunized population, by type of vaccine, before the crisis, at its height, and in 2002

Disease	1989	1992-1996	2002	Variation (%) ^a
Acute respiratory diseases	36 804	45 021	40 034	9
Acute diarrhoea	8 842	10 380	7 892	-10
Chicken pox	365	1 138	149	-59
Blenorrhea	381	412	114	-70
Hepatitis	106	295	125	18
Syphilis	82	143	41	-50
Tuberculosis	5	14	8	60
B. Immunized population (thousands	of persons)			
Vaccine	1989	1993-1994	2002	Variation (%) ^a
Poliomyelitis	840	616	589	-30
Tuberculosis (BCG)	320	149	140	-56
Double	157	164	118	-25
Triple (DPT) ^b	354	310	129	-64

Source: Comité Estatal de Estadísticas (1991); ONE (1998 and 2003).

of the population to store water in tanks and other recipients, thus reducing the benefits of water treatment (the population of Havana have to boil their drinking water in order to avoid giardia and other parasites); the water distribution system is insufficient, and part of it and of the pumping equipment is in bad condition, and water supply is unstable because of interruptions in the electricity supply (Atienza, 2004b, p. 281).

Although efforts have been made to maximize the available resources, there are various indicators which point to inefficiency. The number of real medical care beds went down from 5 to 4.5 per thousand inhabitants between 1989 and 2001, but their index of occupation dropped from 73.9% to 69.8%, to 56% in children's hospitals, and to 48% in maternity hospitals. The Moreover, the average stay in hospital increased from 9.9 days in 1989 to 10.4 in 1993, although it subsequently went down to 9.4 in 2001 (ONE, 1998 and 2003; MINSAP, 1995 to 2003). If the average stay had been reduced to seven days in 2001 (still high by international standards), the index of occupation would have gone down to 56.2%. The system of family

doctors has considerably aided in decentralizing medical attention and making it more personalized, but it is costly to operate (it represents half of total health expenditure) and its effectiveness has been reduced because of the lack of the most essential medicines. As infant mortality has gone down, the efforts to continue reducing it have become more difficult and costly, among other reasons, because of the cost of techniques for detecting congenital fetal problems and providing special nutrition for mothers. This is a positive development, but it requires heavy outlays of very scarce resources on a problem which has already been substantially solved, whereas there are much more serious and urgent needs, such as improving the drinking water supply infrastructure, nutrition, the low pensions paid, and housing problems. The scholarships offered to foreigners to study medicine and other disciplines, as well as the dispatch of thousands of medical professionals (including family doctors) to other countries as part of the external aid programme, are praiseworthy initiatives, but they represent a heavy fiscal burden. The existence of a separate (and superior) health system for the armed forces, internal security staff and the top political leadership is not only costly but also represents an irritating inequality for a population which has to put up with harsh restrictions (Mesa-Lago, 2003b).

^a 2002 compared with 1989.

^b Diphtheria, pertussis and tetanus.

¹⁷ This is due to the decline in the birthrate and the ageing of the population, but the hospitals which are no longer needed should be closed down in order to save resources, or should be converted into old people's homes.

7. Social security and assistance

The government unified 54 different social security pension programmes and markedly extended the coverage of the economically active population, although it has never published statistics on this latter action. The system covers all employed persons on a compulsory basis, but self-employed workers, unpaid family members and most private peasants can join the system voluntarily by paying contributions which are not paid by the vast majority of employees and are a serious obstacle to the incorporation of the groups in question. The regular retirement ages are among the lowest in Latin America: 60 for men and 55 for women, subject to 25 years' service; since the average life expectancy at retirement age in Cuba is the highest in the region (20 years for men and 26 for women), this enormously increases the cost of the system. The situation is made still worse by the fact that Cuba has the oldest population in the region after Uruguay and, according to CELADE-ECLAC Population Division, it will occupy the first place in this respect before 2025. The situation will become more acute from 2010 on, when more persons will retire than those entering the EAP, and it will get still worse in 2020-2030, when the baby boomers of the 1960s reach retirement age (ECLAC, 2000a).

Table 9 summarizes the financial aspects of the system, comparing 1989 and 2003. Over this period, social security pension expenditure increased from 5.3% to 6.5% of GDP and is financed by a payroll levy, increased from 10% to 12%, which is paid entirely by employers and goes directly into the State budget. A contribution payable by the workers was introduced in the 1994 tax law but was suspended until 1997, when a contribution of 5% of the salary began to be collected from workers employed in enterprises under the improvement plan (plan de perfeccionamiento empresarial), who represented only 2% of the total number of employed persons in 2002. Self-employed workers, artists and other voluntary contributors pay 12% of their declared income. The percentage levied on wages is not enough to finance the system, and results in a growing deficit which is covered by the State. The fiscal subsidy increased from 1.3% to 2.3% of GDP between 1986 and 2003 and will keep on growing with the ageing process. The ratio of active workers per pensioner went down from 3.6 in 1989 to 2.8 in 2002, and it is projected to fall to 1.5 by 2025. In 2003, a contribution of 17.9% of the payroll was required in order to balance the system, but this percentage would have to increase over the long term to 39% or even as much as 86%, according to different scenarios (Mesa-Lago, 2003b). Ramos notes cautiously

TABLE 9

Cuba: Financing, deficit, cost and level of social security pensions, 1989 and 2003

Indicators	1989	2003	Variation 2003/1989 (%)
Income (millions of pesos)	664 ^a	1 405	111
Expenditure (millions of pesos)	897 ^a	2 101	134
Deficit (millions of pesos)	233 ^a	696	198
Deficit financed by the State (% of GDP)	1.3a	2.3	77
Total cost of pensions (% of GDP)	5.3	6.6	24
Present contribution (% of payroll)	10.0	12.0	20
Contribution needed in order to eliminate deficit (% of payroll) ^b	13.5 ^a	17.9	32
Number of active workers per pensioner	3.6	2.8 ^c	-22
Nominal average monthly pension (pesos)	56	108 ^c	93
Real monthly pension (pesos per month)	56	33 ^d	-41
Average monthly pension (dollars) ^e	8.00	4.15 ^c	-48

Source: 1986-1989: Mesa-Lago (2003b); 2003: ONE (2003) and ECLAC (2004), Álvarez and Máttar (2004).

a 1986.

b In order to balance the pension system actuarially in the long term, a contribution of between 39% and 86% would be required, depending on the different scenarios.

c 2002.

d 1998.

e At the black market exchange rate in 1986 and at the rate given by Cajas de Cambio S.A. (CADECA) in 2002.

that "in spite of the fiscal implications it may have, the government's policy has been characterized by the assignment of higher priority to social objectives over economic ones, [but the sustained rise in costs] will demand fresh financial resources, so that the economic sustainability of the system could be affected" (Ramos, 2004, pp. 231 and 238). ECLAC had been more outspoken when it warned that the fiscal subsidies for social security "displace resources from investment [which has decreased] and the lower capital formation limits the prospects in terms of growth, employment and wages" (ECLAC, 2000a, pp. 270 and 271).

In spite of the enormous expenditure they have entailed, social security pensions have always been meagre, but before the crisis they were supplemented with the subsidized prices of consumer goods, transport, electricity and water, free or very low-rent housing, and free health attention of acceptable quality. Real average pensions declined by 41% between 1989 and 1998 (at 1981 prices), however, and the supplementary social protection network deteriorated. Ramos (2004, p. 228) says that the real average pension increased between 1992 and 2001 and went down in 2002, but he does not give any figures. Although it is not possible to compare real pensions in pesos in 1989 and 2002, in the latter year the average monthly pension was 108 pesos, equivalent to 4.15 dollars and 48% lower than the 1989 level (table 9).

Between 1997 and 2000, the number of cases of social assistance decreased by 1.2%, but in 2002 it rose by 42%. In that year there were 192,511 persons receiving social assistance: a figure equivalent to only 1.7% of the total population of 11.2 million (calculations based on Ramos, 2004, pp. 225-226 and 231-232). The population at risk and the poverty incidence referred to earlier amount to at least 20% of the total population, so that most poor people do not receive social assistance. Social assistance expenditure remained unchanged at 0.5-0.6% of GDP in 1989-2000, but rose to 1.2% in 2002 (Mesa-Lago, 2003b; ONE, 2003). Real social assistance expenditure per beneficiary went down by 60% between 1997 and 2002, however (calculation based on Anexo Estadístico, II-47 and II-49). The average social assistance pension in 2002 was 64 pesos per month (2.42 dollars).

Social assistance has a progressive impact on distribution, whereas social security pensions have a neutral effect, but there are two special systems separate from the general system —for the Armed Forces and the Ministry of the Interior— which have

different access conditions and levels of benefits (Ferriol, 2004a, p. 84; Ramos, 2004, p. 222). The cost of these two systems is enormous and their impact is probably regressive. A male member of the armed forces who joins at the age of 17 and accumulates 25 years of service can retire at 43 (17 years earlier than in the general system) and receives a pension equivalent to 100% of his salary in his last year of service (compared with 50% of the average wages in the last five years in the general system) for an average of 37 years (17 years more than in the general system). In 1995 the cost of the armed forces pension system, financed entirely from the State budget, was equal to the deficit on the entire general system, and in order to balance it a contribution of 118% of the member's salary would be needed (Donate, 1995).

8. Housing

A serious obstacle that prevents an accurate count of the number of dwellings built is the lack of a homogeneous statistical series for the period since the revolution. In 1959-1963, no annual figures were published; in 1964-1980 an annual series on housing construction by the civil sector of the State began; in 1981-1987 dwellings built by cooperatives, the armed forces, and the population at large were added (making a distinction between dwellings that had been inspected and certified as suitable for occupation and those that had not); and from 1988 on uncertified dwellings and those of the armed forces were excluded from the series. In 1981-1987, because of the relaxation of the restrictions on housing construction and the greater availability of building materials, the largest number of dwellings since the revolution were constructed and the percentage built by the civil population averaged 60%. The 1988 Housing Act, however, imposed stricter conditions on the construction and exchange of dwellings, did away with the sale of building materials to the population at large, strengthened the role of the State and laid down penalties for non-compliance. The crisis caused a sharp fall in the production of building materials between 1990 and 2001, with reductions of 59% in the production of cement, 64% in that of blocks, 71% in sand and stones, and 73% in bricks (Atienza, 2004a, p. 248). These two factors reduced the percentage of dwellings built by the population at large to an average of only 34% of the total in 1990-2002, while housing construction under the three five-year plans between 1981 and 1990 fell short of the target figures by 45% (Mesa-Lago, 2000).

TABLE 10 Cuba: Housing construction, 1981-2003

	1981-89	1990-94	1995-03	2003
Annual average number of dwellings built ^a	61 198	28 638	41 604	25 000
Dwellings built per 1,000 inhabitants	6.1	2.8	4.5	2.2
Housing deficit (thousands of units)	800			1 000

Source: 1981-1989 and 1990-1994: Mesa-Lago (2000); 1995-2003: ONE (1998 to 2003); 2003: ECLAC (2004). The 2003 deficit is an estimate by Mesa-Lago and Pérez-López (2005).

The average number of dwellings built per year shrank from 61,198 units in 1981-1989 to 26,638 in 1990-1994 (albeit with the above-mentioned problems), subsequently recovering to 41,604 in 1995-2003, but even so it was still 30% below the pre-crisis level, and moreover the number of dwellings built in 2003 fell to 25,000, which was below the average for the worst stage of the crisis. Over the periods and years in question, the number of dwellings built per 1,000 inhabitants decreased from 6.1 to 2.8, recovered to 4.5, but then fell to 2.2 (table 10). García Molina claims that as from 1994 "the number of dwellings built recovered significantly", whereas Atienza, more cautiously, says that the new policy giving priority to the maintenance, repair and rehabilitation of housing "prevented the collapse of the sector in the early 1990s and made it possible to continue the process" (García Molina, 2004, p. 13; Atienza, 2004a, p. 249).

According to Atienza, the housing stock grew from 1.90 to 3.13 million units between 1990 and 2002, with a reduction in the number of inhabitants per dwelling from 4.51 to 3.13, but this was not only due to the construction of new dwellings: it was also the result of the division of existing dwellings and their construction on the roofs of existing housing. Moreover, the 1991 census (the results of the 2002 census had not yet been published by the end of 2004) "showed that the housing stock was largely ageing" and that "the failure to do enough to maintain and rehabilitate the stock had caused its progressive deterioration, [so that] some 40% of dwellings were now in mediocre or bad condition" (a proportion that rose to over 50% in the eastern provinces). \text{18} In 2000-

Atienza asserts that the "real" housing deficit, taking into account the losses through deterioration or destruction, amounts to 530,000 units, but she does not give any figures or calculations in support of this statement¹⁹ (Atienza, 2004a, p. 258). Assuming an average of three persons per dwelling, this deficit would affect 1.6 million persons or 14% of the total population. Based on a conservative estimate of the number of units destroyed, the deficit in 1985 was 880,000 dwellings, and as the rate of housing construction slackened in the 1990s, the deficit must have exceeded a million units in 2003 (Mesa-Lago and Pérez-López, 2005). With regard to this topic, a Cuban economist says: "Housing [is] the most serious social problem affecting the country ... the accumulated needs are substantially greater [than the new dwellings built], among other reasons because of the serious deterioration in the existing dwellings" (Triana, 2000, p. 10). In the survey carried out in the capital in 2002,

^a Calculation based on the total number of dwellings built in 1981-1989, including those which did not have an inspection certificate, which were not reported in the 1988-2003 period.

^{2001,} three hurricanes destroyed 35,724 dwellings and damaged a further 272,105, so that resources had to be concentrated on the reconstruction of those dwellings and there was a reduction in the maintenance and rehabilitation effort (Atienza, 2004a, pp. 258-260). Lastly, the Economic Development Strategy for 1980-2000 considered that it would be necessary to build an average of 60,000 dwellings per year in that period solely in order to replace those which had been destroyed (García Díaz, Deputy Minister of the Central Planning Board, who was responsible for the housing plan at that time); but as the annual average actually built was only 48,000 dwellings in that period, the deficit must have substantially increased.

¹⁸ In Havana, 43% of the dwellings were in mediocre or bad condition in 1999, and this proportion rose to 75% in the old part of the city, while in the city as a whole, structural problems were reported in 59% of the dwellings (Pérez Villanueva, 2001).

¹⁹ Among the challenges identified by Atienza is the need for "more specific studies which will make it possible to gain a more precise idea of the magnitude of the housing deficit" (Atienza, 2004a, p. 263).

16% of those interviewed said that deterioration of their dwellings was the most serious problem affecting them, after insufficient income and food supplies; 22% described themselves as poor in terms of housing, and 19% said they were "almost poor" (Ferriol, 2003; Atienza, 2004a, p. 262).

IV

Is Cuba an integral development example for the region?

The introduction by Dhaynaut and Máttar to the book Política social y reformas estructurales: Cuba a principios del siglo XXI (Álvarez and Máttar, 2004) reaffirms a very true axiom of eclac: economic growth alone is not enough; it does not automatically give rise to greater equity, but nor is it possible to achieve social well-being without sustained growth of production, so that both these objectives must be linked together in "integral development". Said introduction also refers to the unsatisfactory economic and social results achieved by Latin America in the last decade, which make it necessary "to seek new political, social and economic balances which favour better social protection in a context of equity and development" (Dhaynaut and Máttar, 2004, pp. 11-13). For her part, Ferriol says that Cuba is "an interesting case" of "growth with justice, because of its simultaneous attention to both economic and social problems" through an integral development model which, over the last four decades, has advanced in terms of social welfare and equity in spite of the collapse of the socialist bloc, the subsequent crisis, and the external restrictions (Ferriol, 2004a, pp. 58-59). In the last chapter of the book referred to above, Dhaynaut and Máttar ratify that "The contributions ... made by the case of Cuba are very valuable for furthering international reflection on the possibilities of achieving production development with equity (Dhaynaut and Máttar, 2004, p. 306).

García Molina considers that Cuba simultaneously achieved economic growth and social equity in 1959-1989 but, because of the crisis, its GDP fell by 33% between 1989 and 1993, although it increased by an average of 3.4% per year in 1998-2002; he argues that although the growth rate went down in the last three years, this was due to exogenous factors (the drop in world sugar and nickel prices and in international tourism, and the damage done by three

hurricanes);²⁰ he adds that in 2003 Cuba's growth rate speeded up, showing the dynamism of its economy, and he concludes by saying that that rate was higher than the average of 1.3% registered for Latin America as a whole, thus contrasting favourably with a regional setting of "flattening out" and a "lost six years" (García Molina, 2004, pp. 44-48). It should be noted that his analysis does not give integrated figures for the 1989-2003 period.

Abundant evidence has been provided in the present article that contradicts the claim that Cuba has simultaneously achieved economic growth and social development in the 1990-2003 period, as well as the presentation of the Cuban model as an example for the region of balance between economic and social goals and integral development. The main conclusions on the economic and social evolution of Cuba are given below, ending with an analysis of the supposed balance between these two elements of Cuban policy.

1. Summary of economic trends

The following conclusions refute the claim that Cuba is an economic development model for the region:

i) The annual variation in the Cuban GDP averaged –1.4% over the 1991-2000 period: the lowest rate in Latin America and the Caribbean. Although the change in the base year at constant prices and the incomplete GDP series impede a proper calculation in this respect, I estimate that in 1991-2003 the average growth rate was 0.5%, but it is not possible to make comparisons with the rest of the region; in 2003 the 1989 level of per capita GDP

²⁰ I have shown that although exogenous factors aggravated the situation, the slowdown was due mainly to an internal factor: the interruption of the economic reforms (a point which has also been made by various Cuban economists) (Mesa-Lago, 2003a).

- had probably still not been recovered, so that Cuba had lost 14 years rather than the "lost six years" of the region as a whole.
- ii) Although there are different series on gross investment, all indicate that there was a serious drop in 1989-2003 and a severe decapitalization process that will affect growth; the Cuban investment coefficient is low by regional standards.
- iii) In spite of the recovery, in 2003 the main agricultural and manufacturing products were still between 20% and 89% below the 1989 level, although important exceptions in this respect are oil and nickel production, in spite of the reduction in the latter in 2002 and 2003.
- iv) The value of exports in 2003 continued to be 70% below the 1989 level, while imports were 43% lower; exports continue to be concentrated in traditional products, while imports reflect a decline in food self-sufficiency, import substitution and industrialization. The terms of trade deteriorated by 56% between 1989 and 2003 and the trade deficit on goods in the latter year was US\$ 3 billion and has been growing since 1995. The external debt increased by 77% between 1989 and 2003, while disbursed foreign direct investment averaged only US\$ 200 million throughout the 1991-2002 period and has gone down since.
- Tourism and remittances are the main sources of foreign exchange, but they are not able to offset the severe reductions in other sources.

2. Summary of social trends

It has also been shown in this article that virtually all the social indicators deteriorated during the worst stage of the crisis, and although some of them had recovered their 1989 levels in 2003 others were still below them, while still others had suffered a continual decline.

- i) Although there are no official statistics of poverty incidence, Cuban estimates of the urban population at risk show a rise from 6% to 20% between 1988 and 2002; the poverty severity index for the total population was 0.39-0.42 in 1995 and the incidence of poverty was 61%-67% in the same year, while 31% of the population of the capital considered themselves to be poor in 2002.
- ii) Nor are there any official statistics on income distribution, but Cuban and foreign estimates indicate that this distribution has become more unequal, with

the Gini coefficient increasing from 0.22 in 1986 to 0.407 in 1999, and the ratio of the richest to the poorest income quintile rising from 3.8 to 13.5 between 1989 and 1999; inequality is increased by the segmented markets and the fact that part of the population receive remittances from abroad.

iii) The official open unemployment rate went down from 8% in 1989 to 2.3% in 2003, but these figures are dubious: the employment figures appear to include persons who are not really employed, as they are studying or receiving unemployment benefit, and they also conceal considerable underemployment: my rough estimates suggest an unemployment rate of 21% in 2000, compared with the official figure of 5.4%. The expansion of employment has mainly been in the services sector, but this is also the sector showing the biggest decrease in productivity (a decline of 3.7 points between 1991 and 2002), which is another indicator of under-utilization.

iv) Before the crisis, rationing satisfied the basic food needs of the population, but it now covers only about one week of consumption and for the rest of the month the population has to buy food in the free markets and the foreign currency stores at prices between 4 and 49 times higher than those of rationed goods; there are contradictory figures as to whether the nutritional levels of 1989 had been recovered in 2003 or not.

- v) The enrolment rate in elementary education was maintained during the crisis, but the rate for secondary education fell, although it has now virtually recovered its 1989 level. University enrolment in 2003 was still 20% below the 1989 level, however; it went down by between 32% and 57% in careers that are vital for development (agronomy, natural sciences and mathematics, technical studies) but soared up by 343% in education (although the number of students per teacher was already the lowest in the region) and by 565% in the humanities and social sciences. The attempt to universalize higher education in 2002-2003 raises serious doubts about its efficiency and results.
- vi) In 1989 the levels of health in Cuba were the highest in the region, but the crisis adversely affected all of them except infant mortality, which continued to decline and by 2003 was the second lowest in the entire continent. The maternal mortality rate rose from 29 to 42 per 100,000 live births in 1989-2002, and the mortality among the population aged 65 or more rose up to 1996 but subsequently started to go down again, although in 2001 it had still not recovered its 1989 level. Morbidity indicators show an uneven evolution;

immunization against transmissible diseases has gone down, there has been a deterioration in the quality of health and drinking water supply, and there are some signs of inefficiency, such as a reduction in the hospital bed occupation, while the average period spent in hospital continues to be high.

vii) The Cuban population is the second oldest in the region, but retirement ages are among the lowest, while Cuba comes second in life expectancy: this means a longer period of retirement, at a cost to the country equivalent to 6.5% of GDP in 2003 that continues to rise; the 12% pension contribution is paid by the enterprises (only 2% of employed workers pay contributions) and is insufficient to cover expenditure: the deficit is financed by the State and rose from 1.3% to 2.3% of GDP between 1986 and 2003. In order to balance the pension system in the long term, it would be necessary to increase the current contribution to between 39% and 86% of the payroll. The real pension paid decreased by half over the period studied and social assistance only covers 1.7% of the population, although at least 20% are considered to be poor or at risk. The pension scheme for the armed forces and Ministry of the Interior, however, has much more advantageous conditions and benefits than the general system, to such an extent that balancing it would require a contribution of 118% of the payroll.

viii) Housing is the most serious social problem in Cuba; although there is no systematic statistical series in this respect, housing construction per thousand inhabitants averaged 6.1 in 1981-1989, fell to 2.8 in the worst stage of the crisis, but subsequently recovered to 4.5 in 1995-2002 (although falling back to 2.2 in the last year), which is still far below the average for the 1980s. There are contradictory figures on the housing deficit, but it probably exceeded one million units in 2003.

The imbalance between social and economic objectives

This article has also shown the often excessive priority given in Cuba to social over economic goals, and the adverse results this policy has had, a problem referred to in Álvarez and Máttar (2004), although from divergent points of view. Ferriol (2004a, pp. 59 and 88) says that one of "the central objectives [of Cuban policy] has been the improvement of social welfare and equity, sometimes even at the expense of postponing economic goals, [but] in order to reduce the problems of poverty, inequality and vulnerability it is necessary

to achieve advances in economic conditions, because growth is also a necessary condition for social development". García Molina (2004, p. 19) states that at the dawn of the twenty-first century, "Cuba confronts the challenge of achieving the economic sustainability of the social results obtained in the last few decades" and suggests, without going into detail, that "this situation has given rise to insufficient growth of the product". Dhaynaut and Máttar, in contrast, argue that although "there has not always been a balance between social and economic goals" there has nevertheless been "a strong capacity to adapt policies to limit their adverse effects" and conclude that the Cuban strategy "is based on constant appraisal ... in order to achieve results simultaneously in the fields of ... equity, development and welfare" (Dhaynaut and Máttar, 2004, pp. 305-307).

In a previous study, I showed that the excessive emphasis of Cuban policy on social objectives to the detriment of economic considerations —especially in the 1966-1970 and 1986-1990 periods— led to imbalances and adverse effects (Mesa-Lago, 2000). The present article comes to the same conclusions for the 1991-2003 period, due to:

- i) the priority given to the creation of jobs, at the expense of a drop in labour productivity;
- ii) the plan for the universalization of higher education, with emphasis on the humanities, social sciences and education (although Cuba has long had the lowest number of students per teacher in the region), while the careers which are of fundamental importance for development have suffered considerable drops in enrolment; and without taking into account the need to give productive employment to the resulting graduates;
- iii) the costly effort to reduce infant mortality still further —even though Cuba already attained the lowest rate in the region and the second lowest in the continent years ago— while serious shortcomings persist in terms of nutrition, housing, drinking water supply and sanitation infrastructure, etc.;
- iv) the resistance to the closure of hospitals which are no longer needed (especially in the areas of gynecology and pediatrics) or their conversion into old people's homes, in spite of the fall in the index of occupation of hospital beds;
- the maintenance of retirement ages of 55 for women and 60 for men (the lowest in the region, after Haiti), at the cost of enormous and growing

- outlays on social security pensions and the reduction of the resources available for investment and growth; and
- vi) the persistence of price subsidies and the provision of social services totally free of charge, regardless of income, which results in subsidies for high-income groups, rather than the

establishment of a universal social assistance system focused on the poor population.²¹

This is my appraisal of the current situation in Cuba. The economic and social policies needed to improve that situation would be a suitable topic for another article.

(Original: Spanish)

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²¹ Ferriol (2004b, p. 148) rightly notes that price subsidies through rationing are given to all members of the population, regardless of their income, which implies inefficient social policy that increases income inequality.

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