

Monitoring the Socio-Economic Conditions in Paraguay

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Abstract

This report documents the socio-economic situation in Paraguay. The document is mainly based on a wide range of distributional, labor and social statistics computed from microdata collected since 1995 by household surveys with national coverage: the Household – Workforce Survey (EH-MO) (1995), the Integrated Household Survey (EIH) (1997-1998 and 2000-2001) and the Permanent Household Survey (EPH) (1999, 2002, 2003 and 2004). Paraguay is one of the poorest and most unequal countries in the region. The combination of sustained income inequality, stagnation and high population growth led to increasing poverty throughout the second half of the 1990s and the early 2000s. Poverty has significantly decreased since 2002 due to the economic recovery and a reduction in income inequality.

Keywords: poverty, inequality, education, labor, wages, employment, Paraguay

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1. Introduction

Paraguay stands out as one of the poorest Latin American countries, with high inequality in incomes, access to education, health and basic infrastructure services. In addition, there are large disparities in human development between rural and urban areas. Over the last decades, social and labor protection has been weak.¹ Several assessments suggest that it is unlikely that Paraguay will be able to meet most of the Millennium Development Goals by the year 2015. One of the main constraints is that a large fraction of the work force is functionally illiterate due to low investment in education over decades.

Paraguay is emerging from a prolonged period of political and economic instability. In 1989, Paraguayans recovered democracy after 35 years of dictatorship. However, the following years were characterized by political instability, including the assassination of the Vice President in 1999, the resignation of the then President, and a four-year interim presidency. In such political setting, Paraguay's economy was also characterized by volatility. While in the 1970s Paraguay had the second per capita growth rate in the region, in the 1980s per capita levels decreased at an annual rate of 0.1%. During the early 1990s, with the new democratic administration there were new attempts to implement structural, macroeconomic and market-oriented reforms. However, in the first half of the decade per capita GDP growth remained at the level it had in the 1980s. Moreover, since 1995 a combination of factors - both domestic and external - has led to economic recession and rising poverty. In 1995, Paraguay experienced a severe banking crisis, which lasted until 1998. From 1999 on, difficulties were exacerbated by external shocks from two Mercosur neighbors. First, Brazil's devaluations in 1999 and 2001 and then, Argentina's crisis in 2002 have further weakened Paraguay's economy, undermining prospects for growth and competitiveness, which were already vulnerable in a context of depression, fiscal deficits and structural fragilities. The political situation stabilized during 2003 with the election of a new president. Increased domestic confidence and more favorable external conditions gave economy a boost - GDP grew 3.8% and 4.1% during 2003 and 2004, respectively.²

This document shows evidence on the socio-economic performance of Paraguay in the last decade. The report, mostly focused on the 1995-2004 period, presents evidence mainly drawn from microdata of the national household surveys collected over the period - the Household - Workforce Survey (EH-MO, 1995), the Integrated Household Survey (EIH, 1997-1998 and 2000-2001) and the Permanent Household Survey (EPH, 1999, 2002, 2003 and 2004). Unfortunately, fully comparable time series are not available to assess the evolution of poverty and inequality before 1995 in Paraguay, since household surveys were conducted mainly in the Asunción Metropolitan Area (AMA hereafter).

¹ See for instance, World Bank (2003a), World Bank (2003b), and ILO (2003).

² Source: "Indicadores Económicos Seleccionados", Banco Central del Paraguay.

All statistics presented in this report and computed by our team can be downloaded from www.depeco.econo.unlp.edu.ar/cedlas/monitoreo.htm. All indicators are updated as new information is released.

The rest of the document is organized as follows. Section 2 presents the main sources of information used in this report. The following 8 sections show and analyze information on incomes, poverty, inequality, aggregate welfare, the labor market, education, housing and social services, and demographics. Section 11 presents a poverty profile, and section 12 closes with an assessment of the main findings.

2. The data

The Household - Workforce Survey (EH-MO), the Integrated Household Survey (EIH) and the Permanent Household Survey (EPH) are household surveys with national coverage that allow us to trace the distributional, labor and social situation in Paraguay since 1995. From 1983 to 1994, the EH-MO was conducted annually only in the AMA. In 1995, with the technical assistance of the World Bank, there was a significant reform in the EH-MO. Its geographic coverage was extended to rural and additional urban areas and its thematic scope added more information on living standard conditions (education, housing, migration, demographics). In 1996, under the technical and financial support of the MECOVI program, the survey changed substantially in conceptual and methodological aspects. However, on that year the survey was carried out only in the AMA and the remaining urban areas. Since then, the EIH (1997-1998 and 2000-2001) and EPH (1999, 2002, 2003 and 2004) are the most relevant sources for the analysis of the living standards of the Paraguayan population.

The EIH is carried out since 1997. The first EIH was conducted from August 1997 to July 1998 and the last one available covers the period from September 2000 to August 2001. The EPH is carried out from August to December by the General Directorate of Statistics and Census (DGEEC). The first four national EPH surveys were performed in 1999, 2002, 2003 and 2004.³

Although the EPH 1996 did not cover rural areas, it was the first household survey that extended the thematic coverage to household expenditures. In the EIH 1997-1998 there were further improvements in the estimation of expenditures, which allowed the construction of basic consumption baskets and poverty lines for different geographic regions. In this first round of the EIH there were also new sections on incomes and expenditures of independent workers. This survey also included a section on health for children under 5 years of age. The DGEEC also implemented a new methodology to aggregate total household income. This methodology mainly includes (i) estimating

³ The EPH 2002 was carried out from November to December and the EPH was conducted from August to November.

misreported incomes with other reported information and (ii) considering implicit rent from self-owned housing as part of total household income. With the exception of the EIH 1997-1998, which includes the departments of Boquerón and Alto Paraguay, all surveys considered in this study include the same 15 departments.

In the 2000-2001 round, new sections were included on civil participation, other transactions of the household, adverse situations, security and extra-family violence, perceptions on basic services and child labor. Moreover, concerning sample size, the 2000-2001 round of the EIH almost doubles the first one.

The EPH 1999 has the same thematic coverage as the first EIH, and only includes a new section on tourism. The EPH 2002 has been modified in terms of the sampling selection based on the preceding census information gathered by the National Census on Population and Housing (CNPV, 2002). It also includes new sections on social capital, such as social nets, civil participation, charity, empowerment, political participation, access to information and social cohesion, which were financially supported by the World Bank. Unfortunately, since social protection has been weak for many years and a national strategy has only recently emerged, the surveys do not include information on specific social programs.⁴ The results of the EPH 2002 are not readily comparable with those of the previous surveys. The survey is based on a new frame, and it is known to have sampling problems, particularly in rural areas. Additionally, the EPH suffered a large reduction in the number of observations in 2002 compared to the previous surveys. The sampling selection for EPH 2003 and EPH 2004 is also based on the CNPV 2002, but the sample size of these surveys doubles the one of 2002. The EPH 2004 includes new sections on child labor.

Summarizing, the EH-MO (1995), the EIH (1997-1998 and 2000-2001) and the EPH (1999, 2002, 2003 and 2004) are not strictly comparable due to their variability in methodologies, reference periods, sampling and thematic coverage. Nonetheless, they are the most suitable data sources to monitor distributional, labor and social conditions in Paraguay.

3. Incomes

Since real incomes are the arguments of poverty, inequality, polarization and welfare measures, before computing indicators of these distributional dimensions, in this section we present some basic statistics on real incomes. All nominal incomes have been deflated by the consumer price index of the month when incomes reported on the survey were earned.

⁴ National Strategy for Poverty Reduction, ENREPD (2002). For an exhaustive analysis on social protection in Paraguay, see World Bank (2003a).

Table 3.1 shows real incomes⁵ by deciles between 1995 and 2004. On average, real income went down 8.5% between 1995 and 1999, fell 0.4% between 1999 and 2001, and 10.4% in the following three-year period. Overall, real income reported in the household surveys fell 18.4% (20%) between 1995 (1997) and 2004. In the same period, per capita GDP declined 9.4% (8.4%).⁶ Discrepancies with National Accounts could arise from changes caused by under-reporting on the household surveys, or overestimation in the GDP. They could also be the consequence of an increase in the share of sources such as capital income, benefits, and rents, which were not well-captured by household surveys.

The second panel of Table 3.1 suggests that over the 1995 – 2004 period income changes were not uniform across deciles. Only the 2 poorest deciles have experienced a small increase in their incomes. The growth incidence curves of Figure 3.1 present a more detailed picture of income change patterns. Each curve shows the proportional income change of each percentile in a given time period. They are used to study the extent to which different segments of the population participate in the growth process (or suffer from a recession). It is interesting to notice that each curve shows a decrease in real incomes for almost all percentiles. The curve for 1995 - 2004 is decreasing, implying equalizing income changes. That growth-incidence curve is located below the horizontal axis for percentiles 20 to 100, showing that the country has suffered a deep crisis that translated into large income falls. The Pen's parade curves in figure 3.2 present another view on the same facts. Each curve shows real income by percentiles. To make the figure clearer, the curves for different percentile groups are shown in panels A to D. The order of the curves indicates falling real incomes between 1995 and 2002 for the whole distribution. The 2004 curve lies well below the 1995 curve, except for percentiles 1 to 20. However, the curve for the last year of the period is always located above the curve for 2002. The order of 1995 and 1999 depends on the specific income strata.

The income changes shown in the figures in this section suggest an increasing pattern for poverty. The non-uniform fall in income over the 1995 – 2004 period surely implied a decrease in inequality. All the evidence suggests that 2002 was the worst year in the period. The next three sections provide more evidence on these issues.

4. Poverty

In this section, poverty is computed with the most widely used poverty lines and indicators to identify and aggregate the poor. The USD 1 a day and USD 2 a day at PPP prices are international poverty lines extensively used by the World Bank (see World Bank

⁵ In guaraníes of 2000. Previous versions of this report present real incomes in guaraníes of 1990. Other differences with former versions are explained by two facts: firstly, more detailed analysis of inconsistent answers; secondly, in previous versions we made a few minor mistakes in the construction of income variables in 1999 and 2002.

⁶ Source: "Sistema de Cuentas Nacionales del Paraguay, Serie 1991-2004", Banco Central del Paraguay.

Indicators, 2004).⁷ Most Latin American countries, including Paraguay, compute official moderate and extreme poverty lines using the cost of a basic food basket and the Engel/Orshansky ratio of food expenditures.⁸ Table 4.1 shows the value of these monthly poverty lines in local currency units for the period 1995-2004 and for five different regions in the case of official poverty. Finally, another line considered is set at 50% of the median of the household per capita income distribution, which captures a relative rather than an absolute concept of poverty. For each poverty line, three poverty indicators are computed - the headcount ratio, the poverty gap, and the FGT (2).⁹ We also calculate the number of poor people by expanding the survey to the population covered by it. Tables 4.2 to 4.6 present these poverty measures with alternative poverty lines.

Tables 4.2 and 4.3 and Figure 4.1 show poverty estimates using poverty lines set at USD1 and USD2 a day for the whole country, and urban and rural areas separately. All three poverty measures for USD1 line (headcount ratio, FGT (1) and FGT (2)) show a small decrease in national poverty between 1995 and 2004. The trend was not uniform in the period. The headcount ratio went up from 11% to 20% between 1995 and 1999. After a temporary reduction in 2001, poverty increased again in 2002, reaching a level of 17.2%. The last available value (2004 with data from the EPH) show an important reduction in poverty, which nonetheless remains at a very high level (10.2%). Notice that there are large disparities in poverty between rural and urban areas.¹⁰ The headcount ratio for the USD1 a day line was always lower than 8% in urban areas, while it was always larger than 18% in rural areas. However, the gap in poverty between areas for USD1 line has narrowed from 17 points in 1995 to 14.4 points in 2004. The patterns for the other indicators (poverty gap and FGT (2)) are similar.

When using the USD-2 line the results are slightly different: national poverty has increased between 1995 and 2004. The headcount ratio rose from 24.6% in 1995 to 30.4% in 1999. After a decreased of 4.7 points between 1999 and 2001, poverty increased substantially in 2002, reaching the record level of 34.7%, which means that the estimated number of poor increased in around 550,000. During 2004 poverty fell to 26%. Between 1995 and 2004 around 420,000 Paraguayans (out a population of 6 millions) crossed the USD2-a-day poverty line. Again, the difference between the poverty levels in urban and rural areas is very large but it is narrowing in the last years.

Tables 4.4 and 4.5 and Figure 4.2 show official poverty estimates. Although we could compute our own poverty estimates using the official methodology, it was not possible to apply this procedure to the income data available for 1995.¹¹ Table 4.4 shows changes in

⁷ See the methodological document for details.

⁸ See the methodological document, DGEEC (2003) and Robles (1999).

⁹ See Foster, Greer and Thorbecke (1984) for references.

¹⁰ The large gaps between urban and rural poverty were also found in previous studies by Miranda (1982) and Sauma (1993). The authors analyze rural poverty in the 1980s and early 1990s using unique data since national household surveys with rural coverage were not available until 1995.

¹¹ As stated above, national household surveys in Paraguay are not fully homogeneous yet. Among the different surveys there were methodological changes, re-sampling, and inclusion of different income

extreme poverty recorded over the period. The incidence of extreme poverty in Paraguay grew from 15.5% in 1999 to 21.7% in 2002. These changes imply that nearly 325,000 more individuals¹² fell into extreme poverty between 1999 and 2002. In 2004 the incidence of extreme poverty experienced a slightly fall to 17.1%.

As it has been already noticed, there is considerable heterogeneity in poverty between the urban and the rural population. Over the period 1995 - 2003, extreme poverty was more than 15 points higher in rural regions. This is so despite the fact that official poverty lines in urban areas more than duplicate rural official poverty lines, according to regional basic food basket estimates. In fact, Morley (2001) and the ENREPD (2002) argue that in Paraguay, poverty, and particularly extreme poverty, is predominantly a rural problem, since 3 out of 4 indigent people lived in rural areas by 2001. In 2004, as extreme poverty increased relatively more in urban areas, this ratio declined to 3 out of 5 people in extreme poverty. According to ILO (2003), urban poverty is mostly due to rural poverty, since a large share of the poor population in urban areas are rural migrants searching for better opportunities. Figure 4.3 shows that extreme poverty is concentrated on rural areas, while moderate poverty is mostly represented by urban people. Over the total number of poor people, 25.1% are rural extreme poor, while 18.5% are urban extreme poor. The ENREPD (2002) also points out that rural extreme poverty is concentrated mainly on six departments in the Central and North regions of the country, far from Asunción. However, over the period 1997 – 2004 the gap in extreme poverty significantly narrowed from 21.6 points to 10 points. Between 1997 and 2002, extreme poverty in rural areas grew from 28.7% to 31.1%. In that period the incidence of extreme poverty also increased in urban areas from 7.1% to 14.6%. From 2002 to 2004, Paraguay experienced a fall in extreme poverty to 22.8% in rural areas and 12.8% in urban ones.¹³ By 2005, there is preliminary evidence that extreme poverty declined around 1.2 and 2 points in urban and rural areas, respectively.

The headcount ratio for the moderate poverty line also went up over the last half of the 1990s and the early 2000s, both in rural and urban areas (see Table 4.5 and Figure 4.2). National poverty incidence rose from 32.3% to 33.8% over the 1997-2001 period, while by 2002 the headcount ratio jumped to 46.4%.¹⁴ This means around 2.6 million

sources. For instance, although the EIH (1997-1998 and 2000-2001) and the EPH (1999, 2002, 2003 and 2004) allow estimating the corrected measure of disposable income used to compute official poverty, the EH-MO (1995) does not include certain income sources which are later included in other surveys. For this reason the DGEEC adjusts the 1995 incomes to make this year comparable to the rest. Unfortunately, in this report we can not make that adjustment. We compute official poverty in that year using incomes without adjustments.

¹² There are some differences in the number of poor people with previous versions because in this version we decide to expand surveys just to the population covered by it; following the methodology used by the DGEEC. In previous versions the surveys were expanded to all the population.

¹³ Between 2002 and 2003, this change may not be significant if the mentioned sampling variability problems of the EPH (2002) are considered.

¹⁴ Part of this large increase could have been due to re-sampling in the EPH (2002). Therefore, the level should be taken with caution and only as informative of the trend. See the methodological report (CEDLAS, 2004).

Paraguayans living in income poverty conditions. The number of poor people rose by around a quarter of million between 1997 and 2001 and by an even larger figure between 2001 and 2002. During 2003 and 2004, a period of slight recovery in economic conditions, poverty decreased around 7.2 points. In the countryside, the incidence of poverty fell from 42.8% to 41.2% between 1997 and 2001 and grew to 50.5% in 2002. In urban areas poverty increased from 23.2% in 1997 to 27.6% in 2001, and reached 43.2% by 2002, which implies a relatively higher increase than in rural regions. The results for 2003 indicate a decline in rural and urban poverty of 7 and 3.5 points, respectively. The evidence for 2004 shows a decline in rural and urban moderate poverty to 40.1% and 38.4%, respectively. Prospects for 2005 suggest an interesting change: there is a reversal in the gap between rural and urban poverty driven by both a fall in rural poverty to 36.6% and an increase in urban poverty to 39.4%.

According to the existing literature, the increase in total poverty between 1995 and 2001 was mainly driven by the economic recession.¹⁵ One of the explanations of the particularly huge increase in urban poverty experienced by 2002 is due to the fact that in this area poverty is more sensitive to current income changes than rural poverty (DGEEC, 2003). In this sense, Robles (1999) argues that, keeping income distribution constant, if per capita GDP declined 5%, then the percentage of urban poor would rise in 6.7 points, while the percentage of rural poverty would rise in 4.7 points. Another feasible reason for this relative poverty jump in urban areas could also be the migration phenomenon of population moving from rural to urban regions searching for better opportunities.¹⁶

Figure 4.4, which is drawn from official estimates, shows the poverty headcount ratio in the AMA from 1983 to 2002.¹⁷ Poverty substantially declined during the 1980s and in the first half of the 1990s. It started to climb in 1998, and in 2002 it reached similar levels to those recorded in the early 1990s. From 2002 to 2004 poverty in AMA experienced a small decrease. The last 10 years have been a “lost decade” in terms of poverty reduction in Paraguay.

There is a wide dispersion of poverty estimates for Paraguay in the literature. ECLAC (2002) reports a headcount ratio of 61% around 2002. Using a methodology proposed by Londoño and Székely (2000) that sets a USD 2 a day poverty line and compares it with income measures adjusted by private consumption, Székely (2001) finds a headcount ratio of 52.1% in 1995 and 61% in 1999. Even when poverty is computed following the official methodology, differences with official estimates could arise from the way the DGEEC and

¹⁵ Some examples are the World Bank (2002), DGEEC (2003), ILO (2003), Robles (2000), and Morley (2001).

¹⁶ According to the World Bank (2002), between 1995 and 2001, around 140,000 people migrated from rural areas to urban areas, representing 6% of the urban population.

¹⁷ Although the AMA is not fully representative of the poverty profile of the whole country, it is interesting to notice that national poverty followed a similar trend between 1995 and 2002. This suggests that looking at this conglomerate could be a good proxy of the path followed by national statistics.

different authors treat individuals with misreported information, and some income items.¹⁸ For instance, the DGEEC adds the implicit rent from self-owned housing to total household income, while some authors do not. These methodological issues are especially relevant for Paraguay, where national household surveys are far from being fully comparable. For instance, Lee, Mejía and Vos (1997) show that different conclusions on poverty trends in Paraguay can be reached depending on the information source used.

ECLAC (2002) shows that in Paraguay, the percentage of households below the extreme poverty line almost doubles the average for 18 Latin American countries. Figure 4.5, which is based on data from ECLAC (2003) for around 1990, shows Paraguay as one of the five countries with the highest poverty rates in the region. Poverty in Paraguay has been considerably larger than in its Mercosur neighbors. Figure 4.6 presents evidence from Székely (2001). Using data for 1998, the author also ranks Paraguay as one of the six countries with the highest poverty rates along with Colombia, Bolivia, El Salvador, Nicaragua and Honduras.

Some countries (e.g. those in the European Union) use a relative rather than an absolute measure of poverty. According to this view, since social perceptions of poverty change as the country develops and living standards go up, the poverty line should increase along with economic growth. Probably the most popular relative poverty line is 50% of median income. The relevant scenario to justify this kind of poverty measure does not apply to Paraguay, since the economy has been stagnant in the period under analysis. In contrast to official estimates, all poverty measures computed with the 50% median income line shown on Table 4.5 indicate that poverty did not increase between 1997 and 2003. Figure 4.7 also documents this fact.

Poverty implies difficulties beyond insufficient income to afford a basic basket of goods.¹⁹ This is particularly relevant in Paraguay, where many poor households lack access to basic health, education and infrastructure services. Given the availability of information for the countries in the region, we constructed a poverty indicator according to the characteristics of the dwelling, access to water, sanitation, education (of the household head and children) and dependency rates.²⁰ Table 4.7 and Figure 4.8 suggest that poverty in basic needs slightly declined over the period, which is consistent with similar indicators available in the literature. Indicators of endowments or basic needs usually fall, driven by urbanization

¹⁸ This fact is stressed by Lustig and Deutsch (1998), who argue that depending on the author's approach, the poverty and inequality estimates that correct under-reporting can have results that are several orders of magnitude different from and sometimes even opposite to uncorrected estimates, even if the same survey and poverty line are used.

¹⁹ Bourguignon (2003) discusses the need and the problem of going from income poverty to a multidimensional approach of endowments. Attanasio and Székely (eds.) (2001) show evidence of poverty as lack of certain assets for Latin American countries.

²⁰ A person is defined as poor if she lives in a household that meets at least one of the following conditions: (i) 4 or more people per room, (ii) dwelling in a shantytown or other inadequate place, (iii) walls of *estaqueo* or *adobe*, (iv) unavailability of water in the lot, (v) unavailability of hygienic restroom, (vi) children aged 7 to 11 not attending school, (vii) household head without a primary education degree, (viii) household head with no more than a primary education degree, and more than 4 people per income earner.

(which has a positive impact on both monetary and non-monetary indicators), households' efforts to improve their dwellings over time and governments investments in water, sanitation and education, even in stagnant economies.

5. Inequality and polarization

Most comparative studies for Latin America coincide in characterizing Paraguay as one of the most unequal countries in the region (IADB, 1999, Székely, 2000, Masi, 2000, Morley and Vos, 1997, Gasparini, 2003). The evolution of the Gini coefficient over the distribution of household per capita income is depicted in Figure 5.1 for the Greater Asunción area, due to lack of national evidence until 1995. After a considerable fall in the late 1980s, inequality in Asunción increased in the early 1990s, reaching its highest historical level in 1994. After a drop from 1994 to 1997, inequality increased again and in 2001 it reached levels just slightly lower than those recorded for 1994. Morley and Vos (1997) find that the evolution of the Gini coefficient reaches a maximum level in 1995.²¹ Our estimates from national household survey data reveal a fall in the Gini coefficient from 1995 to 1999, followed by a sharp increase until 2003, and a dramatic drop in 2004. The high variability of the estimates casts some doubts on the robustness of the results. It is likely that, as our estimates suggest, inequality increased during the crisis and it is decreasing in the current economic recovery. However, as the high variability of the estimates suggest, the magnitudes of these changes may be distorted by noise in the surveys.

In Table 5.1 we present our own estimates of the most tangible measures of inequality - the shares of each decile and some income ratios. These measures are computed over the distribution of household per capita income. The differences in shares between the bottom decile and the upper decile are considerably large compared to other countries in the region. For instance, in 2003, while the poorest 40% of the population received 8.8% of the total income, the richest 10% received 46.1%. Between 1995 and 2002, the income share of the poorest decile declined from 0.77% to 0.66%, and the income share of the richest decile also declined from 46.5% to 44.4%. But the share of deciles 3 to 9 increased over the period. In 2004, the poorest and middle-income deciles gained participation against the richest decile.

Table 5.2 presents some inequality indices – the Gini coefficient, the Theil index, the coefficient of variation, the Atkinson index, and the generalized entropy index with different parameters. The Gini coefficient decreased from 0.584 in 1995 to 0.555 in 1999 and went back to 0.581 in 2003. But in 2004 it reached the lowest level in the period: 0.552. According to the Gini, today inequality would be similar to that of 1999. However,

²¹ These authors report considerable differences with official estimates. Ignoring the procedure to adjust incomes applied by DGEEC, they find a Gini coefficient nearly 9 points higher than the official result for 1995.

the inequality rank between 1995, 1999 and 2004 depends on the specific index used to compare, for example the coefficient of variation and the generalized entropy index with parameter 2 rank 2004 as a worst year than 1999.

Tables 5.3 and 5.4 report an extension of the analysis to the distribution of equivalized household income. Equivalized income takes into account the fact that food needs are different across age groups – leading to adjustments for adult equivalent scales – and that there are household economies of scale.²² The introduction of these adjustments does not imply significant changes in the assessments of the inequality results. Again, the Gini does not change between 1995 and 2003, while inequality measured by any other indicator goes up. And in 2004 there is a very significant improvement in the distributional situation driven by both an increase in the income share of the 8 poorest deciles and a decrease in the participation of the 2 richest deciles.

On Tables 5.5 and 5.6, the distribution of a more restricted income variable is considered – the equivalized household labor monetary income. By focusing on labor income, capital income and transfers are ignored. Changes seem small without a clear pattern over time.

Tables 5.7 and 5.8 assess the robustness of results by presenting the Gini coefficient over the distribution of several income variables. Each column considers different adult equivalent scales, restrict income to labor sources, consider total household income without adjusting for family size, and restrict the analysis to people in the same age bracket to control life-cycle factors. All the main results drawn from previous tables hold on Table 5.7 when these adjustments are made.

Table 5.8 shows that inequality, measured by the Gini coefficient for the distribution of household per capita income, fell in urban areas but remained very high in rural ones between 1995 and 1999. Similarly to the national statistics, the Gini also went up in both areas between 1999 and 2003.²³ In both areas the Gini decreased in 2004. Inequality in rural areas is always higher than in urban areas. This fact is probably related to the concentration of land among rural inhabitants. Land is a key determinant of per capita farm income in rural areas (López and Thomas, 2000), and, according to the assessment of the World Bank (2002), Paraguay has one of the most unequal land distributions in Latin America. For instance, while two thirds of the farmers have less than 5% of the land, the top 1% of the farmers has two thirds of the land. This gap in land ownership has led to the organization of a peasant political force (*campesinos*) that demands access to land, among other claims.

Table 5.9 suggests significant income gaps between urban and rural areas. Indart (2000) and Gonzalez (2000) argue that regional inequality is a distinctive phenomenon in

²² See Deaton and Zaidi (2003).

²³ The recorded change in the Gini in rural areas in 2002 should be taken very cautiously. Part of that increase in inequality is probably the consequence of the sampling problems mentioned in section 2.

Paraguay. According to Indart (2000), in 1999 rural families represented 73% of the total number of families in the two poorest deciles and only 13% in the richest decile. However, the table shows a downward trend in the income gap, from 2.5 in 1995 to 1.7 in 2004.

Polarization is a dimension of equity that has recently received attention in the literature. It refers to homogeneous clusters that antagonize each other. Table 5.10 shows the Wolfson (1994) and Esteban, Gradín and Ray (1999) indices of bipolarization. Polarization and inequality can go in different directions, as it was the case in Paraguay. Although the Gini coefficient decreased during the 1995-1999 period, polarization rose according to both indices. Conversely, all polarization indices fell between 1999 and 2003, while inequality increased at the national level. In 2004 polarization and inequality indices go in the same direction showing a significant decrease.

6. Aggregate welfare

Rather than just maximizing mean income, or minimizing poverty or inequality, in principle societies seek the maximization of aggregate welfare. Welfare is usually analyzed with the help of growth incidence curves, generalized Lorenz curves, Pen's parade curves and aggregate welfare functions. In section 3 we presented growth incidence curves and Pen's parade curves that suggest unambiguous welfare changes over the last half of the decade. The same conclusion arises from the generalized Lorenz curves in Figure 6.1. The curve for 2002 lies well below the corresponding curves for 1997 and 2004. Therefore, any social welfare function would rank 2002 worse than 1997 and 2004. Comparing 1997 and 2004, the result is ambiguous –while the curve for 1997 seems to dominate along the entire distribution, the curve for 2004 dominates if the analysis is restricted to the lower tail of the income distribution. Therefore, the rank between these two years depends on the welfare function used.

A welfare analysis was also performed in terms of abbreviated welfare functions (See Figure 6.2). Four functions were considered. The first one is represented by the average income of the population, and according to this value judgment inequality is irrelevant. The other functions do take inequality into account. These are the ones proposed by Sen (equal to the mean times 1 minus the Gini coefficient) and Atkinson (CES functions with two alternative parameters of inequality aversion).²⁴ For this exercise, we take real per capita GDP from the National Accounts as the average income measure, and combine it with the inequality indices shown above.²⁵ Given that most assessments of the performance of an economy are made by looking at per capita GDP, we use this variable and complement it with inequality indices from our study to obtain rough estimates of the value of aggregate welfare according to different value judgments.²⁶

²⁴ See Lambert (1993) for technical details.

²⁵ The source for GDP figures is “Sistema de Cuentas Nacionales del Paraguay, Serie 1991-2004”, Banco Central del Paraguay.

²⁶ See Gasparini and Sosa Escudero (2001) for a more complete justification of this kind of study.

Between 1995 and 2004, GDP per capita went down 9.4 %. Table 6.1 and Figure 6.2 show that aggregate welfare according to the Sen function also fell but only 2.5%, while according to an Atkinson function with parameter 1 welfare fell even less (1.6%). According to the Atkinson (2) function, which captures a more Rawlsian value judgment, welfare increased 4.8% over the period under analysis driven by the decrease in inequality experienced in 2004.

7. The labor market

This section summarizes the structure and changes of the labor market during Paraguay's economic downturn in the last half of the 1990s and early 2000s.²⁷ Table 7.1 reports hourly wages, work hours and labor income for the working population. Real hourly wages (deflated by the CPI) decreased over the period. Between 1997 and 2004 the mean real wage declined 25.6%, while work hours remained roughly unchanged. Labor income evolution was mainly explained by wage behavior –in 2004, mean labor income was just 72% of the value observed in 1997.

Tables 7.2 to 7.4 present real hourly wages, work hours and real labor incomes by gender, age and education. An average male worker earns more than an average woman. In addition, men work more hours, which implies higher labor incomes. In 1997, men earned 11.4% more per hour than women, and worked 11.3% more hours per week. The wage gap remained constant until 2001, but widened in 2002 reaching a record level of 1.24. In 2004, the wage gap narrowed to 7% but the hour gap grew to 18%.

Table 7.3 shows that people between 25 and 64 years old earn higher hourly wages than those aged 15 to 24, and more than 65 years old. However, the wage gap between age groups declined from 1997 to 2003. While hourly wages for people aged 25 to 64 was 80% higher than hourly wages for people aged 15 to 24 in 1997 that difference narrowed to 57% in 2004. Changes in work hours were similar across age groups. Again, prime-age people work more hours than elderly and young people.

Formal education has been shown to be very important as an income determinant. Although this fact is also true for Paraguay, returns to education do not appear to be as large as in other countries in the region, for example, in Argentina. Table 7.4 shows labor variables by educational groups. People are classified into low, middle and high education categories, according to their years of formal education.²⁸ The gains from education decreased between 1997 and 2004. Skilled workers earned 4.8 times more per hour than those with incomplete high school or less in 1997. The gap narrowed to 2.7 by 2004. In turn, the hourly wage gap between the skilled and the semi-skilled declined from 2.5 to 2 over the same period. The changes in hours of work were slightly unequalizing: hours

²⁷ The information about labor characteristics collected in the EH-MO (1995) is not comparable with the information gathered for the rest of the years.

²⁸ See the methodological notes for a description of the construction of these educational groups.

worked by low-educated persons fell from 46 to 45.5 between 1997 and 2004, while in the same period high-educated workers has experienced a rose in hours worked from 45.6 to 45.9

Table 7.5 shows that real hourly wages and labor income decreased for all types of workers, although the fall was more dramatic for the self-employed and for wage earners. In the period 1997 – 2003 the gap between salaried and self-employed workers widened in terms of both hourly wages and hours worked. While in 1997 the average real wage of a typical self-employed worker was 91% of the hourly wage of a typical salaried worker, by 2002 it was only 68%. By 2004, the wage of self-employed workers reached a 93% of a wage of salaried workers. The real hourly wage gap between wage earners and entrepreneurs increased from 2.7 to 3.3 times over the 1997-2004 period. Table 7.6 shows a more detailed assessment of the evolution of labor variables by labor groups. The decrease in real hourly wages has been widespread.

Table 7.7 shows labor variables across economic sectors. Falls in real hourly wages have been proportionally larger for skilled services, utilities and transportation and education and health sectors. The only sector where labor income significantly increased was primary activities, while in high tech industries labor income suffered a small decrease between 1999 and 2004. Work hours remained roughly unchanged over the period for almost all sectors; the only exceptions were skilled services and construction: in these sectors there was an increase of around 10%.

Table 7.8 shows that in rural areas, where there is a predominance of employment in primary activities, real hourly wages, hours of work and labor income stayed unchanged over the period. On contrary, in urban areas the mean wage and labor income suffered a large drop and hours of work remained almost without changes.

Table 7.9 divides total labor income into earnings of salaried workers, self-employed workers and employers. The share of the earnings of salaried workers has always been greater than 47%. The shares of these three labor income categories change across surveys, probably as a consequence of sample variability and changes in the questionnaires.

Since labor income is the main income source in the economy, and it is easier to capture in household surveys, inequality in labor outcomes is the main source of inequality in household income. Table 7.10 records the Gini coefficient computed over the distribution of hourly wages. Wage inequality substantially increased until 2003, decreasing by a little in 2004. When the analysis is restricted to gender or educational groups, results are very unstable.

In order to analyze if the differences in hourly wages among workers are reinforced by the differences in work hours, Table 7.11 records the correlations between work hours and

hourly wages. Results suggest that correlations are negative and significant for all years. After 1999, the correlation has fallen –in absolute values– meaning that there has been an unequalizing effect on the earnings distribution. The conclusion would be the opposite if the analysis was restricted to urban salaried workers.

On Table 7.12 we compute wage gaps among three educational groups for prime age men. On Table 7.4 a slightly decreasing wage premium for skilled workers was observed within the group of all workers. On Table 7.12 the wage gaps in favor of the skilled also seem to have decreased between 1997 and 2004. In 1997 a skilled prime-age male worker earned per hour in his primary job on average 5 times more than a similar unskilled worker. That value decreased to 3.25 by 2004. Similarly, it seems that the wage gap between semi-skilled and unskilled workers has narrowed in the last years.

To further assess the relationship between education and hourly wages, we run regressions of the logarithm of the hourly wage in the primary job on educational dummies and other control variables (age, age squared, regional dummies, and an urban/rural dummy) for men and women separately.²⁹ Table 7.13 shows the results of these *Mincer* equations. For instance, in 2004 a male worker aged between 25 and 55 with a primary education degree on average earned 15% more than a similar worker without that degree. Having secondary school complete implied a wage increase of 50% over the earnings of a worker with only primary school –the *marginal* return of completing secondary school versus completing primary and not having started secondary school is 50%. The wage premium for a college education was another 68%. The returns to primary school did not significantly change over the period 1997 - 2003, while the returns to secondary education increased, and the returns to college education went down. However, over time the large fluctuations recorded on Table 7.13 suggest that the returns are not estimated with precision.

The Mincer equation is also informative on two interesting factors –the role of unobservable variables and the gender wage gap. The error term in the Mincer regression is usually interpreted as capturing the effect of factors that are unobservable in household surveys, like natural ability and contacts on hourly wages. An increase in the dispersion of this error term may reflect an increase in the returns to these unobservable factors in terms of hourly wages (Juhn *et al.* (1993)). Table 7.14 shows the standard deviation of the error term in each Mincer equation. The returns to unobservable factors have significantly risen in Paraguay since 1997. Again, the results are different if the analysis is restricted to urban salaried workers.

The coefficients in the Mincer regressions are different for men and women, indicating that they are paid differently even when having the same observable characteristics (education, age, location). To further investigate this point we simulate the counterfactual wage that men would earn if they were paid like women. The last column in Table 7.14

²⁹ See Wodon (2000), and Duryea and Pages (2002) for estimates of returns to years of education in several Latin American countries.

reports the ratio between the average of this simulated wage and the actual average wage for men. In all cases this ratio is less than one, reflecting the fact that women earn less than men even when controlling for observable characteristics. This result has two main alternative interpretations: it can be either the consequence of gender discrimination against women, or the result of men having more valuable unobservable factors than women (e.g. be more attached to work). It seems that the gender wage gap has increased during the last decade.

Table 7.15 shows basic statistics on labor force shares by gender, age, education and geographical area. Over the considered period, labor participation has been larger for males, for the group aged 25 to 64, and for the most skilled. According to available data, labor force participation rose between 1997 and 2004. This fact is the result of the increasing participation of women, prime age people, unskilled workers and workers in rural areas and decreasing participation of young people and skilled workers. While in 1997 around 55.4% (95.9%) of prime age women (men) were in the labor market, in 2004 that proportion rose (fell) to 67.5% (95%).

The employment rate in Paraguay rose around 4 points between 1997 and 2004 (Table 7.16). Again, this change is the result of changes in the participation of different groups. Employment grew for women, prime age and elderly people, unskilled workers and workers in rural areas; while men, people aged 15 to 24 and semi-skilled and skilled workers living in urban areas have experienced a decrease in employment. The fall in employment by 2002 and 2003 has been mainly explained by the economic recession. The significant economic recovery is the main explanation for the high employment rate in observed in 2004.

As Table 7.17 shows, the share of unemployed adults increased 2.3 points between 1997 and 2001, and another 3.1 points by 2002, but it decreased 3.3 points by 2004. The proportion of unemployed people is greater in the groups of youngsters (15-24), semi-skilled workers, and workers in urban areas.³⁰ The latter group was particularly more affected in terms of unemployment in 2002. The factors explaining these results seem to be different. Employment increased for women, but not enough to absorb all women who entered the labor market. In contrast, some youngsters and semi-skilled workers left the labor market, but the employment for these groups fell at a higher rate, thus increasing unemployment.

The analysis of unemployment spells gives more information on the well-being of the unemployed. The duration of unemployment, as reported at the moment when the surveys were collected, fell around 1 month between 1997 and 2001 and increased 2.3 months by

³⁰ It is argued in the literature that the minimum wage has been set high compared to other Latin American countries. For instance, according to Robles (2002) and to the poverty assessment of the World Bank (2002) for Paraguay, the fact that the minimum wage has been set high explains its adverse effects over the demand for younger workers. Angel-Urdinola and Wodon (2002) suggest that younger workers are much more likely to be affected by the minimum wage than older workers.

2004 (Table 7.18). This implies that, despite persistent unemployment has not been very significant on average, recession has exacerbated the spells, especially for the unskilled. According to Robles (2002), unemployment in Paraguay is mainly a short run situation since 70% of the unemployed reported a spell duration of about 3 months or less in the EIH (2000-2001). The author also argues this can be explained by the fact that the prevailing employment in the labor market is mainly generated by many occasional new micro firms that offer low quality jobs. Table 7.18 shows that the duration is higher for the most educated group. This can be explained by the fact that the less skilled tend to accept lower quality jobs. Moreover, as this kind of jobs generally lacks unemployment insurance, unprotected workers have more incentives to find a new job sooner.

Tables 7.19 to 7.24 show the structure of employment in Paraguay. Although there are significantly more male than female workers employed, the gender gap in shares has been narrowing down. While in 1997 35% of the working population were women, in 2004 that share grew to 39%. Throughout the 1997-2004 period, the group of workers aged 41 to 64 gained participation in the labor market, while the share of the group aged between 25 and 40 decreased. Finally, the last three columns on Table 7.19 show the change in the educational structure of the working population in favor of the most skilled. According to the results on Table 7.20, the share of rural areas in total employment has increased by 2.2 points. AMA has lost participation in employment, particularly after 1999, while the Resto Rural has consolidated its position as the region with the largest share in total employment. Table 7.21 reports changes in the structure of employment by type of work. The workers with zero income and the self-employed have increased their participation. Employment in small firms and the public sector also grew, but employment in large firms diminished.

Sizeable levels of informality have shaped Paraguay's economy. According to the assessment by ILO (2003), the labor market is characterized by a low compliance with laws and regulations. The study also argues that informality is mainly the outcome of several factors such as inadequate or rigid laws for the development of firms and an ineffective system of incentives. In addition, informality has been exacerbated in the last half of the 1990s, since the economic downturn led workers to accept lower quality jobs. Table 7.22 presents the formal-informal structure of the labor market. Unfortunately, there is not a single definition of informality. Following Gasparini (2003), two definitions are implemented with the information available in the EH-MO, EIH and EPH. According to the first one, entrepreneurs, salaried workers in large firms and in the public sector, and self-employed professionals are considered formal workers. Considering the second definition, formal workers are those who have the right to receive pensions when they retire. According to both definitions, informality in the labor market has remained roughly unchanged and at very high levels.

The sector structure of the economy has changed (see Tables 7.23 and 7.24). During the period 1997 - 2004 there was a significant increase in the share of primary activities and a

1.3 point increase in the participation of Education and Health. On the contrary, commerce and industry has lost participation in total employment.

Child labor is a social issue of particular concern in Paraguay. Table 7.25 shows the proportion of working children between 10 and 14 years of age. In 2004, 25.3% of the children in the first equivalized household income quintile reported that they worked. The proportion of working children significantly declined in the richest quintile. UNICEF and ILO (2003) document that working children aged 10 to 17 amount to 241,945. Among them, 40% work in primary sector activities and 30% in unskilled jobs. According to the same study, child labor implies worse prospects for intergenerational poverty since 40% of the children aged between 10 and 17 are not enrolled in school.

The last two tables in this section are aimed at assessing different dimensions of the quality of employment. Table 7.26 shows that the access to social security remained roughly unchanged. However, the behavior was very different between groups: the access decreased for workers with low and medium education, and increased for skilled workers. Instead, the access to labor health insurance dropped for all the skills groups (see Table 7.27).

8. Education

In this section we assess the changes in the educational structure of the population. Although Paraguay has made progress in education, it still lags behind in terms of literacy, years of education and enrollment compared to other countries in the region. The rate of illiteracy has been reduced by half, and years of education among the population aged over 9 have doubled over the last two decades. From recent national household surveys we can trace the evolution of educational indicators in Paraguay.³¹ The proportion of high-educated people increased during the last half of the 1990s and the early 2000s (Table 8.1).³² While in 1995, 7.6% of adults aged 25 to 65 had more than 13 years of education, that share rose to 11.2% in 2004. The rise was higher for women (around 4 points) than for men (around 1 point). Despite this increasing trend, it is worth noting that the proportion of skilled people is relatively low compared to the other countries in the region.

Table 8.2 records average years of education by age and gender. Notice that years of education increased for all groups between 1995 and 2004. The gender gap in years of education in favor of men has remained quite stable for the working-age population (25 to 65). A remarkable fact is the gap reversion in years of education between men and women. While men older than 30 have more years of education than women of the same age, the difference for people in their 20s has recently turned.

³¹ The EIH (2000-2001) is the first survey that includes the outcomes of an education reform that extended the number of years of primary education from 6 to 9.

³² However, by 2002 a curious decrease in the share of high-skilled is found. This change can be attributed to the sampling variability problems in the EPH (2002) that have already been mentioned.

Information on Table 8.3 suggests that the gap in years of education between the rich and the poor has been stable. It is worth noting that national household surveys do not allow us to capture years of education in graduate programs, so the variable is truncated at 18 years. Presumably, if years of graduate education had been reported, the gap between the rich and the poor would have been higher than on Table 8.3.

Table 8.4 shows people divided by age and household income quintiles. The widest gap in years of education between top and bottom quintiles corresponds to adults aged 31-50. The gap is somewhat narrower for younger and older people. For instance, in 2004 while the educational gap between poor and rich was 6.2 years for people aged 31 to 50, for people in their 20s it was 5.6, and 5.2 for individuals older than 60.

Table 8.5 presents the gap in years of education between the rural and the urban population. The first column shows that the difference has remained quite stable and in 2004 there is still a gap of 2.4 years of education between the urban and the rural population. This gap becomes larger when only adults aged between 25 to 65 are considered. Again, the difference remained stable around 3.5 years.

There have been recent efforts to gather educational information from most countries in the world and to compute measures of inequality in access to education and education outcomes.³³ Paraguay stands out as one of the most unequal countries in the region in terms of years of education. According to Table 8.6, educational Ginis have fallen during the last decade, mainly from 2001 to 2004.

Tables 8.7 and 8.8 show a rough measure of education - the self-reported literacy rate. Paraguay fares poorly compared to Argentina, Chile and Uruguay. There has not been much progress between 1997 and 2004. The greatest increase in literacy occurred in quintile 2. In only 7 years literacy rates climbed from 94% to 97%, for people aged 15 to 24 and from 81% to 86% for the working-age population. Literacy rates are near 99% for quintiles 4 and 5, the same as 7 years ago.

Table 8.9 depicts literacy rates by area of residence and age groups. The gap between the rural and the urban population is around 10 points in favor of urban adults aged between 25 and 65, and 24 points for the elderly. However, this gap has been narrowing and it is just 2 points for people in their 20s.

Guaranteeing equality of access to formal education is one of the goals of most societies. Tables 8.10 and 8.11 show school enrollment rates by equalized income quintiles. Attendance rates have sharply increased for children in primary-school age. While in 1995 89% of these children attended a school, in 2004 96% of them did. Despite the economic

³³ For instance, Thomas, Wang and Fan (2002) calculate Ginis over the distribution of years of education for 140 countries in the period 1960-2000.

downturn, which left more people impoverished, schooling was not affected by its negative consequences. By 2004, attendance decreased from 96% in the group aged 6 to 12 to 77% in the group aged 13 to 17. This is directly related to the fact that poor children who have to work tend to leave school early. In fact, half of the children between 12 and 15 years of age report that they are not attending school because of lack of resources. Another reason is early pregnancies. The lack of proximity of schools in rural areas is also cited as a reason for dropping out (World Bank, 2002). Nonetheless, school attendance increased over the crisis period. In terms of gender, girls are more prone to attend high school than boys. The increase in attendance of young people aged 18 to 23 has also been noticeable, although it has had a somewhat lower pace. Again, enrollment considerably decreases with age compared to other countries in the region.

Attendance rates increased in the whole distribution for children aged 3 to 5. The enrollment rates of children aged between 6 and 12 increased for all income quintiles and are more equal among quintiles than the attendance of other age groups. The rises in enrollment rates for youth aged between 13 and 17 were larger in poor and middle-income quintiles. The gap in attendance rates between the rich and the poor has slightly narrowed for youths aged 18 to 23. In summary, it seems that educational disparities in terms of school attendance have decreased in primary and high school but have remained stable for college.

Table 8.12 presents enrollment rates by rural or urban location and by age groups. Attendance has increased for all age groups and areas. The increase was especially higher for youth between 13 and 17 years in rural areas. While in 1995 only 49% of rural youth in that age group attended school, by 2004 the rate rose to 66%. Although this rate also increased for urban children of the same age, the gap between rural and urban substantially decreased from 25 points to 20 points. The regional gap in enrollment also decreased for children in primary school age. In fact, by 2004, while 94% of the children aged between 6 and 12 in rural areas were enrolled, in urban areas the enrollment rate was 97%. For older groups, regional disparities are still important. For youth in college attendance age, the enrollment rate in urban areas (37%) almost doubles the enrollment rate in the countryside (22%).

Educational Mobility

In this section we follow the methodology developed in Andersen (2001) to provide estimates of educational mobility, i.e. the degree to which parental education and income determine a child's education. The dependent variable is the schooling gap, defined as the difference between (i) years of education that a child would have completed had she entered school at normal age and advanced one grade each year, and (ii) the actual years of education. In other words, the schooling gap measures years of missing education. The

Educational Mobility Index (EMI) is defined as 1 minus the proportion of the variance of the school gap that is explained by family background. In an economy with low mobility, family background would be important and thus the index would be small.³⁴ Table 8.13 shows the EMI for teenagers (aged 13 to 19) and young adults (aged 20 to 25). It seems that there has been a significant increase in educational mobility, especially in 2002 and 2003 for teenagers aged 13 to 19 and in 2003 and 2004 for young people between 20 and 25 years of age.

9. Housing and social services

Housing is probably the main asset that most people own. Table 9.1 shows the share of families owning a house (the building and the lot) for each income quintile. Housing ownership is widespread along the income distribution. Actually, the share of poor people who reports that they own a dwelling is higher than the corresponding share for the rich. The gap decreased over the period. In fact, while the difference between bottom and upper income quintiles was 16 points in 1995, it reached 9 points in 2004. We will analyze the characteristics of the houses later in this section. Table 9.1 suggests that housing ownership remained quite stable between 1995 and 2004.

The number of rooms in the house is smaller for poor families than for richer households. Since poor families are also larger in size, the number of people per room is considerably larger. The gap is about 2 more people per room in the poorest household, compared to the richest. The number of people per room has decreased for all quintiles.

We have constructed an indicator of poor dwelling. This variable takes a value of 1 if the family lives in a shantytown, *inquilinato*, *pensión*, or other space not meant to be used as a house. By 2004 around 16% of the population lived in poor dwellings. This proportion is 11 points lower than in 1995. Between 1999 and 2004, the share of people living in poor dwellings in the first quintile experienced a significant decrease from 64% to 34%. In any case, the level is significantly higher than the indicator for other countries in the region. The share of people living in houses of “low-quality” materials, *i.e.* houses whose walls are made of waste materials, is small. In 2004 these houses were approximately 2% of total dwellings.

Table 9.2 shows housing statistics by age groups. Housing ownership has remained rather constant for all age groups. Ownership and the number of rooms in the house increase with age. In contrast, the indicators of poor dwellings and people per room decrease with age. Between 1995 and 2004 the share of low-quality dwellings declined for all ages.

³⁴ For technical details see Andersen (2001).

It is interesting to notice the regional disparities among rural and urban households on Table 9.3. While the share of house ownership is greater for rural families, quality indicators (number of people per room and poor dwelling) reflect that urban families live in better quality houses. Over the period considered, house ownership was stable and quality indicators improved in both areas.

Table 9.4 shows housing statistics by education group. Housing ownership has remained stable for all education groups. But, while ownership decreases with education, quality indicators show that households with mid-educated and high-educated heads live in houses of better quality.

Table 9.5 shows statistics on the access to some basic services – water, hygienic restrooms, sewerage, and electricity – by income strata.³⁵ Gaps are large between upper and bottom income quintiles, which have very low coverage of basic services. Public sewerage and telephone are the services with less incidence for all quintiles, especially the poorer. Increases in use were more widespread across quintiles for electricity.³⁶ Instead, the improvement in telephone coverage was mainly restricted to the richest quintiles.

Table 9.6 shows that although the increase in coverage has been widespread for the rural and the urban population, regional gaps still remain high. In rural areas, the coverage pattern almost mimics the pattern for the first income quintiles. While sewerage and telephone coverage is low in urban areas, in rural areas it is almost null.

10. Demographics

Resources available to each person depend on the number of people among whom total household resources are shared. The size and composition of the household are key determinants of an individual's economic well-being. Table 10.1 shows household size by residence area, by income quintiles and by education of the household head. Rural households tend to be larger than urban ones. Family size is also larger for poorer and less educated families. A similar phenomenon is observed on Table 10.2, which reports the number of children by quintile of parental income. Rural households have larger shares of children under 12 years of age. On the other hand, the number of children under 12 decreases with income and education. There were no considerable changes in family size

³⁵ Water refers to the availability of a source of water in the house or lot. The variable restroom is equal to 1 when the household has a restroom with a toilet connected to the sewerage system or to a septic tank. The variable sewerage is 1 when the house is connected to a public sewerage system. The variable electricity includes all sources of electricity.

³⁶ The decline in water coverage levels in 2002 could be due to the fact that the question about water coverage was modified in the EPH (2002).

but there was a downward trend in the number of children across all quintiles between 1995 and 2004.

Dependency rates have stayed quite stable during the period. Again, dependency rates are larger in rural areas, for poor people and less educated families. Table 10.3 shows this result by presenting the ratio between the number of income earners and the household size, by residence area, by income quintiles and by education of the household head.

Paraguay has a high proportion of young population. In comparison to other Southern Cone countries, Paraguay's population has not suffered a significant aging process. By 2004, the mean age of the population was 25.8 years, 40% was under 15, and 3.5% were over 64. Mean age is almost two years higher in urban areas. On average, it increased 1.5 years over the last half of the 1990s (see Table 10.4). However, it is interesting to see heterogeneous changes across areas and quintiles again. While the mean age of the rural population increased 2 years, the mean age of the urban population increased 1 year. Between 1995 and 2004 the average age rose in all quintiles.

Inequality is reinforced if marriages take place between people of similar income potential. Table 10.5 presents some simple linear correlations that suggest the existence of assortative mating in Paraguay.³⁷ Men with more years of formal education tend to marry women with a similar educational background (column (i)). This is one of the factors that contribute to a positive correlation of hourly wages within couples shown on column (ii). According to these simple statistics, there are no signs of changes in the degree of assortative mating between 1995 and 2004. Finally, columns (iii) and (iv) show positive - though small - correlations in work hours, both considering and excluding people who do not work.

11. A poverty profile

This section presents a poverty profile based on information from the latest available EPH conducted in 2004. A poverty profile gives a characterization of the poor population, often compared to the non-poor population. The poor population was identified using the 2USD a day and the official moderate poverty lines criteria. To make reading more fluent, in general we discuss the results for the USD2-a-day poverty line (columns (i) and (ii) on each table), except when a significant difference justifies discussing the alternative poverty definitions.

Table 11.1 shows some basic demographic characterization of the poor and non-poor populations. According to the USD2 poverty line, 26% of the total population is poor. The incidence of poverty is higher among the group of children under 15 (33.8%). The share of poor population decreases monotonically with age. Furthermore, almost half of the poor

³⁷ See also Fernández, Guner and Knowles (2001).

population (47.7%) consists of children aged under 15, while only 4.3% are people over 65. On average, age is higher in the non-poor group. It is 27.1 for the non-poor and falls to 22.4 for the poor.

These patterns illustrate the relevance of the correlation of demographic factors with poverty. Poor households tend to be larger compared to the non-poor. While a typical non-poor household has 4.1 members, a typical poor household has 5.4. That gap is largely explained by the difference in children under 12. On average, there is 1.6 children in each non-poor family where the head is aged 25 to 45, while in poor households led by a prime age head there are 3 children. Dependency rates (number of income earners per person) are also dramatically different - 0.34 in poor households and 0.56 in non-poor households.

It is interesting to notice that the share of female-headed households is the same for the poor and the non-poor regardless of the poverty line used to define them.

As it was already mentioned, there are important regional disparities in social conditions. While the incidence of poverty in rural areas is 40.6%, in urban areas it drops to 14.8%. Table 11.2 shows that there is a difference in the regional distribution of the poor depending on the line used. According to the USD2 line, 67.8% of the poor are rural inhabitants, while using the official line, the proportion is reduced to 44.2%. As it was mentioned before, this is explained by the fact that the USD2 line is higher than the official poverty line defined for rural areas and lower than the poverty line for urban regions.

More specifically, poverty is particularly high in the Resto rural region (43.5%, compared to a country average of 26%). While in Asunción the incidence amounts to 7.2% according to the USD2 line. In fact, only 2.4% of the poor live in Asunción and 64.4% are located in the Resto rural region.

In Paraguay, reported housing ownership is widespread along the income distribution. Table 11.3 shows that the share of poor people who reports that they own a dwelling is higher than the corresponding share for the non-poor. The poor live in smaller houses of a worse quality and with fewer services. In an average poor household there are 2.7 people per room, while in a non-poor household the value is 1.6. Furthermore, 33% of the poor population lives in shantytowns and other inadequate places, while just 6% have dwellings with walls of *estaqueo* and adobe. The access to water and sewerage is low compared to other countries, especially for the poor - 2% of the poor and 10% of the non-poor are connected to the public sewerage system. Only 47% of the poor report having water in their lots. Access to electricity is more widespread - 85% of the poor report that they have that service. The main difference with the non-poor appears to lie in access to hygienic restrooms. In fact, while 70% of the non-poor are connected to the sewerage system, the share drops to 28% for the poor.

The poor have fewer years of formal education than the rest of the population for any age group. The educational gap is slightly wider for the [21, 50] age group.³⁸ These differences are shown in the second panel of Table 11.4. While 59.9% of non-poor adults are unskilled, that share rises to 90% for the poor. Skills are not very widespread among the non-poor. Only 13.9% of non-poor adults are skilled, while 1% of the poor are.

The literacy rate is 7 points lower for the poor - 86% of those who are older than 10 report that they are able to read and write. That share rises to 93% for the non-poor. The last panel on Table 11.4 indicates that school attendance is more widespread for those children aged 6 to 12 (97% for the non-poor and 93% for the poor). The gap in attendance rates significantly increases in the secondary and tertiary levels. While the rate of attendance is 68% for the poor aged 13 to 17 and 19% for the 18-23 age group, it is 82% for the non-poor between 13 to 17 and 33% for those aged 18 to 23.

The poor participate in the labor market in smaller rates than the non-poor. The gap is particularly large for women - while the rate for poor women is 58%, for the non-poor it is 72%. Moreover, the gap is also considerable between people aged 25 to 55. Employment is significantly higher for the non-poor, while unemployment is substantially larger for the poor. The unemployment rate of the poor is more than double the rate of the non-poor. That gap is wider for the elderly, while unemployment rates are similar for the poor and non-poor between 16 and 24 years of age. Again, the unemployment spell of the poor is on average roughly higher than for the non-poor. Finally, Table 11.5 reports that child labor is high in Paraguay, especially among the poor. Around 5 out of 20 poor children aged 10 to 14 worked at least one hour in 2004.

From Table 11.6 it can be inferred that the poor not only have more difficulties in finding a job, but even when they have one, they work fewer hours and get lower hourly wages. On average a non-poor employed person works 6.8 hours a week more than a poor person. That gap is smaller for prime age men (4.3 hours) and larger for prime age women (10.5 hours). The hourly wage of a non-poor person is on average 3.5 times that of a poor worker. The gap is larger for the elderly and for male workers aged 25 to 55.

Table 11.7 presents a characterization of the employment structure. Compared to the non-poor, the working poor are more prone to be self-employed unskilled workers, who were mostly affected by economic downturn. Compared to the poor, the non-poor are relatively much more concentrated on salaried jobs. According to a definition of informality based on labor groups, almost 95% of the poor are informal workers, while 67% of the non-poor are in that category. Proportions are similar when informality is defined on the basis of access to social security.

³⁸ Naturally, the gap is smaller for the [10, 20] age group, when the educational process is still not complete for many individuals, especially the non-poor.

There is also evidence of some disparities in the sector structure of employment between the poor and the rest. Compared to the non-poor, the poor are relatively much more concentrated on primary labor activities, while non-poor are more prone to work in construction, commerce, industry, skilled services, public administration and education and health. The rest of the sectors have quite similar shares of poor and non-poor.

Table 11.7 also shows substantial differences in the access to stable jobs with social security rights. The share of jobs with rights to pensions is 27 points higher for the non-poor. For instance, while 29% of the working non-poor report that they will have access to pensions when they retire, only 2% of the poor are entitled to that right. The results are similar regarding the access to labor health insurance.

Table 11.8 summarizes mean income, and the income structure of the poor and the rest of the population. It also shows that inequality, as measured by the Gini coefficient for the distribution of household per capita income, is much lower with the poor than within the non-poor (0.25 and 0.48 respectively). Also, the difference is not so large when the poor and the non-poor defined by the official line are compared. Finally, the table shows that, compared to the non-poor, the poor rely relatively more on income from self-employment and transfers.

Table 11.9 shows the results of performing a simple simulation to characterize the difference in per capita income between a typical poor person and the rest. Panel B of the table indicates the per capita income of a typical poor if a particular variable (e.g. household size) takes the mean value for the non-poor. The actual per capita income of a typical poor person is G 83,372 a month. If household size for the poor were the same as for the non-poor and other variables were kept constant, per capita income would grow to G 102,304. Of course, this exercise is helpful just as a preliminary characterization of the differences between the poor and the non-poor. The poor have less per capita income than the rest because of several reasons. For instance, they have fewer income earners in the household, lower non-labor income, and larger household size, but especially because they earn substantially less in the labor market.

Table 11.10 shows that according to our indicator of household endowments, while 55% of the non-poor have deficiencies in at least one variable (water, education, housing, etc.), that share amounts to 91% in the case of the poor.

12. Final remarks

In contrast to the strong economic growth of the 1970s and part of the 1980s, Paraguay's economy was stagnant during the 1990s. GDP grew at a low pace over the decade, and the combination of domestic vulnerability and external shocks led to stagnation throughout the second half of the 1990s and the early 2000s. The economic downturn by the mid 1990s exacerbated social problems in a context of weak protection mechanisms for the most

vulnerable. The outcome has been increasing poverty and sustained inequality. Stagnation in per capita income combined with inequality led to a fall in aggregate welfare. In contrast to this poor performance, the economy has been recovering in the last few years. Poverty has significantly decreased since 2002, due to the economic recovery and a reduction in income inequality.

As a direct consequence of the recession, labor market conditions have deteriorated in the 1990s and early 2000s. Unemployment and underemployment increased, being men, the unskilled and young adults the most affected groups. Although transition across educational levels is still difficult for many students, pre-school, primary school and secondary school attendance has increased, particularly in poor income strata. This does not seem to be the case for college, where inequality in the access to this educational level across quintiles has increased. Disparities are still considerably high in the housing markets in terms of access to basic services and the quality of dwellings. Finally, demographic variables have remained roughly constant over the period under analysis.

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Table 3.1
Real income
Paraguay, 1995-2004

Deciles	1995	1997	1999	2001	2002	2003	2004
1	31,567	24,551	24,572	25,224	18,512	24,735	33,111
2	68,231	63,522	63,444	63,673	46,572	57,304	69,847
3	104,753	105,874	107,820	103,557	73,840	89,063	101,599
4	144,473	154,821	148,954	142,205	103,932	122,967	134,052
5	192,473	214,386	192,730	189,388	139,129	160,143	167,865
6	250,132	280,403	250,137	239,609	181,333	202,253	214,210
7	324,551	364,633	319,310	307,564	233,583	260,828	274,618
8	434,160	481,395	427,956	397,938	306,396	359,025	363,558
9	637,782	705,762	625,487	590,712	443,474	524,224	522,715
10	1,902,889	1,778,483	1,580,805	1,666,589	1,242,623	1,539,172	1,456,744
average	409,154	417,457	374,335	372,661	279,038	334,000	333,877

Proportional changes

Deciles	1995-1999	1999-2001	2001-2004	1995-2004	1997-2004
1	-22.2	2.7	31.3	4.9	34.9
2	-7.0	0.4	9.7	2.4	10.0
3	2.9	-4.0	-1.9	-3.0	-4.0
4	3.1	-4.5	-5.7	-7.2	-13.4
5	0.1	-1.7	-11.4	-12.8	-21.7
6	0.0	-4.2	-10.6	-14.4	-23.6
7	-1.6	-3.7	-10.7	-15.4	-24.7
8	-1.4	-7.0	-8.6	-16.3	-24.5
9	-1.9	-5.6	-11.5	-18.0	-25.9
10	-16.9	5.4	-12.6	-23.4	-18.1
average	-8.5	-0.4	-10.4	-18.4	-20.0

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 4.1
Monthly poverty lines in local currency

	International PL (LCU per capita)	
	USD 1 a day	USD 2 a day
	(i)	(ii)
1995	34,165	68,330
1997	41,292	82,584
1999	47,823	95,645
2001	54,464	108,928
2002	65,062	130,125
2003	69,555	139,110
2004	72,046	144,093

	Official Extreme PL (LCU per capita)				
	Asunción	Central Urbano	Central Rural	Resto Urbano	Resto Rural
	(iii)	(iv)	(v)	(vi)	(vii)
1995	83,589	82,654	43,173	62,733	43,173
1997	96,192	95,116	49,682	72,192	49,682
1999	105,995	104,810	54,745	79,549	54,745
2001	122,027	120,662	63,026	91,581	63,026
2002	142,308	140,717	73,501	106,802	73,501
2003	162,831	161,010	84,101	122,205	84,101
2004	168,964	167,074	87,269	126,807	87,269

Official Moderate PL (LCU per capita)					
	Asunción (viii)	Central Urbano (ix)	Central Rural (x)	Resto Urbano (xi)	Resto Rural (xii)
1995	170,394	168,658	64,996	106,928	64,996
1997	205,475	203,391	77,157	127,831	77,157
1999	235,359	232,981	87,269	145,412	87,269
2001	269,694	266,967	100,151	166,762	100,151
2002	321,229	317,998	118,483	197,895	118,483
2003	346,334	342,821	130,235	215,631	130,235
2004	358,822	355,181	135,000	223,469	135,000

Source: Own calculations and DGEEC.

Table 4.2
Poverty
Paraguay, 1995-2004
USD 1 a day poverty line
National, Urban and Rural

	National				Urban				Rural			
	Number of poor people (i)	Headcount FGT(0) (ii)	Poverty gap FGT(1) (iii)	FGT(2) (iv)	Number of poor people (v)	Headcount FGT(0) (vi)	Poverty gap FGT(1) (vii)	FGT(2) (viii)	Number of poor people (ix)	Headcount FGT(0) (x)	Poverty gap FGT(1) (xi)	FGT(2) (xii)
1995	526,482	11.0	4.5	2.6	63,103	2.6	1.2	0.8	463,379	19.6	7.9	4.5
1997	988,145	18.8	12.8	11.0	116,875	4.2	1.8	1.2	871,270	35.4	25.3	22.0
1999	1,097,993	20.0	13.9	12.0	113,991	3.9	2.2	1.8	984,002	38.3	27.3	23.6
2001	722,290	12.6	6.0	3.9	113,540	3.7	1.9	1.4	608,750	22.9	10.6	6.9
2002	1,004,665	17.2	8.2	5.3	268,412	7.9	3.5	2.3	736,253	30.2	14.7	9.5
2003	790,382	13.1	5.7	3.5	187,620	5.6	2.2	1.3	602,762	22.7	10.1	6.2
2004	632,181	10.2	4.2	2.5	139,716	4.0	1.8	1.2	492,465	18.4	7.3	4.2

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 4.3
Poverty
Paraguay, 1995-2004
USD 2 a day poverty line
National, Urban and Rural

	National				Urban				Rural			
	Number of poor people (i)	Headcount FGT(0) (ii)	Poverty gap FGT(1) (iii)	FGT(2) (iv)	Number of poor people (v)	Headcount FGT(0) (vi)	Poverty gap FGT(1) (vii)	FGT(2) (viii)	Number of poor people (ix)	Headcount FGT(0) (x)	Poverty gap FGT(1) (xi)	FGT(2) (xii)
1995	1,182,716	24.6	11.2	6.8	198,277	8.1	3.3	1.9	984,439	41.7	19.3	11.8
1997	1,593,163	30.3	18.7	14.8	310,631	11.1	4.6	2.8	1,282,532	52.1	34.8	28.5
1999	1,674,645	30.4	19.7	15.9	301,100	10.3	4.6	3.0	1,373,545	53.5	37.0	30.6
2001	1,467,639	25.7	12.4	8.2	308,535	10.1	4.3	2.7	1,159,104	43.6	21.7	14.4
2002	2,029,504	34.7	17.1	11.2	694,470	20.3	8.6	5.2	1,335,034	54.6	29.0	19.6
2003	1,759,353	29.3	13.6	8.4	552,573	16.4	6.4	3.6	1,206,779	45.5	22.6	14.4
2004	1,603,964	26.0	11.0	6.5	515,955	14.8	5.2	2.9	1,088,009	40.6	18.4	11.1

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 4.4
Poverty
Paraguay, 1995-2004
Official extreme poverty line
National, Urban and Rural

	National				Urban				Rural			
	Number of poor people (i)	Headcount FGT(0) (ii)	Poverty gap FGT(1) (iii)	FGT(2) (iv)	Number of poor people (v)	Headcount FGT(0) (vi)	Poverty gap FGT(1) (vii)	FGT(2) (viii)	Number of poor people (ix)	Headcount FGT(0) (x)	Poverty gap FGT(1) (xi)	FGT(2) (xii)
1995	1,044,771	21.1	9.0	5.4	252,207	9.9	3.7	2.1	792,564	32.7	14.6	8.8
1997	924,138	17.1	7.6	4.5	205,985	7.1	2.6	1.3	718,153	28.7	13.3	8.2
1999	873,806	15.5	6.4	3.6	184,315	6.1	2.1	1.2	689,491	26.5	11.4	6.4
2001	895,927	15.4	6.2	3.4	222,546	7.1	2.5	1.4	673,381	25.1	10.4	5.8
2002	1,198,721	21.7	8.4	4.5	457,539	14.6	4.9	2.5	741,182	31.1	12.9	7.1
2003	1,137,613	20.1	7.4	3.9	425,907	13.4	4.4	2.2	711,706	28.7	11.3	6.2
2004	974,403	17.1	5.8	2.9	413,470	12.8	3.8	1.8	560,933	22.8	8.4	4.3

Source: Based on DGEEC and microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 4.5
Poverty
Paraguay, 1995-2004
Official moderate poverty line
National, Urban and Rural

	National				Urban				Rural			
	Number of poor people (i)	Headcount FGT(0) (ii)	Poverty gap FGT(1) (iii)	FGT(2) (iv)	Number of poor people (v)	Headcount FGT(0) (vi)	Poverty gap FGT(1) (vii)	FGT(2) (viii)	Number of poor people (ix)	Headcount FGT(0) (x)	Poverty gap FGT(1) (xi)	FGT(2) (xii)
1995	1,965,845	39.6	17.3	10.3	782,363	30.8	11.5	6.1	1,183,482	48.8	23.4	14.7
1997	1,743,361	32.3	14.3	8.6	672,596	23.2	8.2	4.2	1,070,765	42.8	21.4	13.7
1999	1,900,430	33.7	14.1	8.0	809,758	26.7	8.9	4.3	1,090,672	42.0	20.2	12.4
2001	1,971,875	33.8	13.6	7.8	867,558	27.6	9.2	4.7	1,104,317	41.2	18.8	11.4
2002	2,557,572	46.4	20.2	11.6	1,354,998	43.2	17.6	9.6	1,202,574	50.5	23.6	14.3
2003	2,346,084	41.4	17.5	9.8	1,268,818	39.8	15.4	8.1	1,077,266	43.4	20.3	12.0
2004	2,232,868	39.2	15.6	8.3	1,245,999	38.4	14.8	7.7	986,869	40.1	16.7	9.3

Source: Based on DGEEC and microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 4.6
Poverty
Paraguay, 1995-2004
50 % median income poverty line
National, Urban and Rural

	National				Urban				Rural			
	Number of poor people (i)	Headcount FGT(0) (ii)	Poverty gap FGT(1) (iii)	FGT(2) (iv)	Number of poor people (v)	Headcount FGT(0) (vi)	Poverty gap FGT(1) (vii)	FGT(2) (viii)	Number of poor people (ix)	Headcount FGT(0) (x)	Poverty gap FGT(1) (xi)	FGT(2) (xii)
1995	1,257,766	26.2	11.9	7.3	227,529	9.3	3.6	2.1	1,030,237	43.6	20.6	12.7
1997	1,655,850	31.5	19.6	15.4	339,317	12.1	5.1	3.1	1,316,533	53.4	36.0	29.5
1999	1,618,558	29.4	19.1	15.5	273,891	9.3	4.3	2.9	1,344,667	52.4	36.1	29.9
2001	1,515,441	26.5	12.8	8.4	334,262	10.9	4.5	2.8	1,181,179	44.5	22.3	14.9
2002	1,426,473	27.4	13.2	8.6	431,856	14.3	6.1	3.8	994,617	45.7	23.1	15.2
2003	1,409,435	25.4	11.7	7.2	411,223	13.2	5.3	3.0	998,212	40.7	19.9	12.5
2004	1,284,612	22.9	9.6	5.7	377,758	11.9	4.4	2.5	906,854	37.2	16.4	9.8

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 4.7
Poverty
Paraguay, 1995-2004
Endowments

	Headcount ratio			Basic needs + income poverty		
	National	Urban	Rural	National	Urban	Rural
1995	0.77	0.60	0.96	0.24	0.08	0.42
1997	0.74	0.58	0.94	0.29	0.10	0.52
1999	0.73	0.56	0.94	0.30	0.09	0.53
2001	0.71	0.53	0.93	0.25	0.09	0.43
2002	0.71	0.55	0.93	0.32	0.18	0.53
2003	0.67	0.50	0.91	0.27	0.14	0.45
2004	0.68	0.50	0.91	0.24	0.12	0.40

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 5.1
Distribution of household per capita income
Share of deciles and income ratios
Paraguay, 1995-2004

	Share of deciles										Income ratios		
	1	2	3	4	5	6	7	8	9	10	10/1	90/10	95/80
1995	0.8	1.7	2.6	3.5	4.7	6.1	7.9	10.6	15.6	46.5	60.3	16.2	2.5
1997	0.6	1.5	2.5	3.7	5.1	6.7	8.7	11.5	16.9	42.6	72.4	20.1	2.3
1999	0.7	1.7	2.9	4.0	5.2	6.7	8.5	11.4	16.7	42.3	64.3	19.0	2.2
2001	0.7	1.7	2.8	3.8	5.1	6.4	8.3	10.7	15.9	44.7	66.1	17.2	2.3
2002	0.7	1.7	2.7	3.8	5.0	6.5	8.4	11.0	15.9	44.4	67.5	17.8	2.2
2003	0.7	1.7	2.7	3.7	4.8	6.1	7.8	10.8	15.7	46.1	62.2	16.1	2.3
2004	1.0	2.1	3.0	4.0	5.0	6.4	8.2	10.9	15.7	43.6	44.0	12.5	2.1

Note: Column (xi) = income ratio between deciles 10 and 1; column (xii) = income ratio between percentiles 90 and 10, and column (xiii) = income ratio between percentiles 95 and 80.

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 5.2
Distribution of household per capita income
Inequality indices
Paraguay, 1995-2004

	Gini	Theil	CV	A(.5)	A(1)	A(2)	E(0)	E(2)
1995	0.584	0.703	1.803	0.286	0.480	0.731	0.654	1.626
1997	0.564	0.620	1.606	0.269	0.481	0.805	0.657	1.290
1999	0.555	0.618	1.746	0.261	0.461	0.770	0.618	1.524
2001	0.569	0.715	2.408	0.280	0.476	0.820	0.647	2.899
2002	0.570	0.712	2.191	0.281	0.480	0.798	0.654	2.400
2003	0.581	0.752	2.510	0.290	0.482	0.799	0.658	3.149
2004	0.552	0.691	2.331	0.263	0.435	0.689	0.571	2.717

Note: CV = coefficient of variation. A (e) refers to the Atkinson index with a CES function with parameter e. E (e) refers to the generalized entropy index with parameter e. E (1) = Theil.

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 5.3
Distribution of equivalized household income
Share of deciles and income ratios
Paraguay, 1995-2004

	Share of deciles										Income ratios		
	1	2	3	4	5	6	7	8	9	10	10/1	90/10	95/80
1995	0.9	1.9	2.8	3.8	5.0	6.4	8.2	10.7	15.4	45.0	51.8	14.3	2.4
1997	0.7	1.7	2.8	4.0	5.5	7.0	9.0	11.5	16.8	41.1	62.0	17.6	2.3
1999	0.7	1.9	3.1	4.4	5.5	6.9	8.8	11.5	16.6	40.5	54.6	16.3	2.1
2001	0.8	1.9	3.1	4.2	5.4	6.8	8.6	10.9	15.8	42.6	54.9	14.8	2.3
2002	0.7	1.8	2.9	4.0	5.4	6.8	8.7	11.1	15.7	42.9	58.4	15.5	2.1
2003	0.8	1.9	2.9	4.0	5.1	6.3	8.0	10.8	15.6	44.5	53.2	14.0	2.2
2004	1.1	2.3	3.3	4.3	5.4	6.7	8.4	11.0	15.5	41.9	37.6	11.0	2.1

Note: Column (xi) = income ratio between deciles 10 and 1; column (xii) = income ratio between percentiles 90 and 10, and column (xiii) = income ratio between percentiles 95 and 80.

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 5.4
Distribution of equivalized household income
Inequality indices
Paraguay, 1995-2004

	Gini	Theil	CV	A(.5)	A(1)	A(2)	E(0)	E(2)
1995	0.565	0.664	1.771	0.269	0.454	0.706	0.604	1.568
1997	0.545	0.571	1.481	0.251	0.454	0.780	0.605	1.097
1999	0.534	0.563	1.589	0.242	0.433	0.744	0.567	1.262
2001	0.546	0.652	2.267	0.258	0.446	0.792	0.590	2.569
2002	0.552	0.666	2.079	0.265	0.455	0.779	0.607	2.162
2003	0.562	0.705	2.333	0.273	0.456	0.773	0.608	2.722
2004	0.531	0.636	2.138	0.244	0.407	0.662	0.523	2.286

CV=coefficient of variation. A (e) refers to the Atkinson index with a CES function with parameter e. E (e) refers to the generalized entropy index with parameter e. E (1) = Theil.

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 5.5
Distribution of equivalized household labor monetary income
Share of deciles and income ratios
Paraguay, 1995-2004

	Share of deciles										Income ratios		
	1	2	3	4	5	6	7	8	9	10	10/1	90/10	95/80
1995	1.3	2.6	3.6	4.5	5.6	6.9	8.4	10.8	15.3	41.0	32.4	10.0	2.3
1997	1.1	2.5	3.6	4.7	5.9	7.3	8.8	11.5	16.2	38.5	35.3	11.0	2.2
1999	1.5	3.0	3.9	4.8	5.9	7.3	8.9	11.6	15.5	37.6	24.7	7.8	2.1
2001	1.3	2.7	3.8	4.8	5.8	7.0	8.5	11.2	15.5	39.5	31.0	9.0	2.1
2002	1.2	2.6	3.8	5.0	6.2	7.5	9.1	11.4	15.8	37.4	31.8	10.2	2.0
2003	1.1	2.4	3.4	4.4	5.4	6.5	8.4	11.0	15.4	42.0	38.4	10.6	2.2
2004	1.3	2.7	3.7	4.6	5.7	7.2	8.8	11.3	15.4	39.3	31.3	9.3	2.0

Note: Column (xi) = income ratio between deciles 10 and 1; column (xii) = income ratio between percentiles 90 and 10, and column (xiii) = income ratio between percentiles 95 and 80.

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 5.6
Distribution of equivalized household labor monetary income
Inequality indices
Paraguay, 1995-2004

	Gini	Theil	CV	A(.5)	A(1)	A(2)	E(0)	E(2)
1995	0.512	0.528	1.466	0.220	0.379	0.649	0.477	1.075
1997	0.499	0.478	1.320	0.208	0.372	0.637	0.465	0.872
1999	0.479	0.469	1.497	0.194	0.337	0.569	0.411	1.121
2001	0.500	0.541	1.958	0.215	0.370	0.660	0.462	1.916
2002	0.485	0.500	1.730	0.204	0.360	0.677	0.446	1.496
2003	0.528	0.613	1.969	0.240	0.407	0.976	0.523	1.939
2004	0.500	0.540	1.771	0.216	0.370	0.632	0.463	1.568

CV = coefficient of variation. A (e) refers to the Atkinson index with a CES function with parameter e. E (e) refers to the generalized entropy index with parameter e. E (1) = Theil.

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 5.7
Distribution of household income
Gini coefficient
Paraguay, 1995-2004

	Per capita income	Equivalized income A	Equivalized income B	Equivalized income C	Equivalized income D	Equivalized income E	Total household income	Equivalized income A Age 0-10	Equivalized income A Age 20-30	Equivalized income A Age 40-50	Equivalized income A Age 60-70
1995	0.584	0.565	0.559	0.556	0.552	0.566	0.560	0.563	0.512	0.574	0.574
1997	0.564	0.545	0.538	0.536	0.531	0.546	0.536	0.553	0.493	0.567	0.563
1999	0.555	0.534	0.527	0.524	0.519	0.535	0.529	0.521	0.495	0.566	0.522
2001	0.569	0.546	0.538	0.535	0.528	0.548	0.543	0.522	0.524	0.532	0.606
2002	0.570	0.552	0.545	0.544	0.538	0.553	0.552	0.543	0.548	0.537	0.605
2003	0.581	0.562	0.555	0.554	0.548	0.565	0.558	0.550	0.503	0.582	0.567
2004	0.552	0.531	0.522	0.522	0.514	0.535	0.529	0.520	0.482	0.558	0.558

Note: Equivalized income A: theta = 0.9, alpha1 = 0.5 and alpha2 = 0.75; B: theta = 0.75, alpha1 = 0.5 and alpha2 = 0.75; C: theta = 0.9, alpha1 = 0.3 and alpha2 = 0.5; D: theta = 0.75, alpha1 = 0.3 and alpha2 = 0.5; E: Amsterdam scale. Adult equivalent equal to 0.98 for men between 14 and 17, 0.90 for women over 14, 0.52 for children under 14, and 1 for the rest.

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 5.8
Distribution of household income
Gini coefficient
Paraguay, 1995-2004

	Per capita income Only urban	Per capita income Only rural	Equivalized income Only urban	Equivalized income Only rural	Per capita income Only labor	Per capita income Only monetary	Per capita income Only labor monetary	Per capita income Urban labor monetary
1995	0.529	0.570	0.513	0.546	0.589	0.584	0.589	0.527
1997	0.515	0.549	0.497	0.527	0.564	0.565	0.564	0.516
1999	0.504	0.567	0.482	0.547	0.555	0.555	0.555	0.501
2001	0.517	0.567	0.495	0.539	0.578	0.570	0.578	0.518
2002	0.512	0.621	0.493	0.602	0.579	0.571	0.579	0.505
2003	0.536	0.615	0.518	0.594	0.596	0.581	0.596	0.543
2004	0.504	0.587	0.486	0.561	0.567	0.553	0.567	0.516

Note: Equivalized income: theta=0.9, alpha1=0.5 and alpha2=0.75.

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 5.9
Distribution of household per capita income
Rural-Urban ratios
Paraguay, 1995-2004

	Mean per capita income		Ratio urb/rural (iii)	Population (survey)		Ratio urb/rural (vi)	Total income ratio (vii)
	Rural (i)	Urban (ii)		Rural (v)	Urban (iv)		
1995	155759.0	387122.0	2.5	2,343,075	2,427,073	1.0	2.6
1997	174621.2	458791.9	2.6	2,071,540	2,771,207	1.3	3.5
1999	197620.5	461582.2	2.3	2,111,454	2,893,646	1.4	3.2
2001	230485.0	541612.4	2.3	2,633,851	3,035,829	1.2	2.7
2002	237947.5	444276.2	1.9	2,167,597	3,001,658	1.4	2.6
2003	320979.2	560020.6	1.7	2,445,344	3,094,060	1.3	2.2
2004	342084.1	569137.1	1.7	2,418,547	3,153,596	1.3	2.2

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 5.10
Polarization
EGR and Wolfson indices of bipolarization
Paraguay, 1995-2004

	Household per capita income		Equalized income		Official income	
	EGR	Wolfson	EGR	Wolfson	EGR	Wolfson
1995	0.204	0.510	0.194	0.455	0.207	0.577
1997	0.202	0.551	0.193	0.525	0.201	0.621
1999	0.211	0.564	0.200	0.524	0.212	0.622
2001	0.218	0.515	0.198	0.483	0.206	0.552
2002	0.209	0.533	0.187	0.486	0.189	0.556
2003	0.203	0.499	0.200	0.465	0.202	0.533
2004	0.195	0.483	0.186	0.440	0.186	0.498

Note: EGR=Esteban, Gradín and Ray.

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 6.1
Aggregate welfare
Paraguay, 1995-2004

	Mean income	Sen	Atk(1)	Atk(2)
	(i)	(ii)	(iii)	(iv)
1995	100.0	100.0	100.0	100.0
1997	98.9	103.6	98.6	71.6
1999	93.9	100.5	97.2	80.1
2001	88.9	92.0	89.5	59.4
2002	87.1	89.9	87.1	65.5
2003	88.7	89.2	88.3	66.4
2004	90.6	97.5	98.4	104.8

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 7.1
Wages, hours and labor income
In Guaraníes of 2000
Paraguay, 1995-2004

	Wage (i)	Hours (ii)	Labor Income (iii)
1995	5,485	39.9	934,687
1997	5,619	46.7	965,968
1999	5,175	46.2	880,329
2001	4,710	45.5	775,437
2002	3,849	47.6	655,127
2003	4,383	47.0	726,983
2004	4,178	46.4	696,700

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 7.2
Hourly Wages, hours and labor income
By gender
In Guaraníes of 2000
Paraguay, 1995-2004

	Wages		Hours of work		Labor Income	
	Female (i)	Male (ii)	Female (iii)	Male (iv)	Female (v)	Male (vi)
1995	5,225	5,631	33.2	44.5	713,070	1,060,455
1997	5,243	5,839	43.5	48.4	772,768	1,079,224
1999	4,880	5,364	43.0	48.1	725,794	978,727
2001	4,451	4,876	41.5	48.0	616,253	877,423
2002	3,350	4,158	44.4	49.5	489,548	758,914
2003	4,381	4,385	42.1	50.0	560,025	833,056
2004	4,002	4,295	41.7	49.3	523,022	811,525

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002 and 2003).

Table 7.3
Hourly Wages, hours and labor income
By age
In Guaraníes of 2000
Paraguay, 1995-2004

	Wages			Hours of Work			Labor Income		
	(15-24) (i)	(25-64) (ii)	(65 +) (iii)	(15-24) (iv)	(25-64) (v)	(65 +) (vi)	(15-24) (vii)	(25-64) (viii)	(65 +) (ix)
1995	3,779	6,079	6,630	40.4	43.5	31.4	597,922	1,086,165	613,907
1997	3,587	6,464	4,453	46.1	48.6	39.1	629,705	1,119,644	593,808
1999	3,794	5,700	4,298	44.4	48.1	39.8	571,946	993,269	717,981
2001	3,107	5,362	3,624	44.4	47.5	37.3	483,248	903,082	475,069
2002	2,642	4,322	3,177	46.0	49.8	42.2	431,238	755,364	399,416
2003	2,914	4,890	3,863	45.2	49.0	41.2	449,691	835,605	482,332
2004	2,993	4,693	2,945	44.2	48.8	40.8	457,568	801,568	417,375

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 7.4
Hourly Wages, hours and labor income
By education
In Guaraníes of 2000
Paraguay, 1995-2004

	Wages			Hours of Work			Labor Income		
	Low (i)	Mid (ii)	High (iii)	Low (iv)	Mid (v)	High (vi)	Low (vii)	Mid (viii)	High (ix)
1995	4,052	6,770	13,981	38.2	45.7	43.6	652,843	1,265,348	2,487,617
1997	3,533	6,665	16,820	46.0	49.1	45.6	625,643	1,203,959	2,561,999
1999	3,620	5,749	12,708	45.7	48.3	44.1	598,472	1,031,664	2,137,091
2001	3,069	5,710	12,275	44.9	47.9	44.0	493,299	982,821	1,990,124
2002	3,009	4,028	8,671	47.6	49.2	43.6	504,593	708,924	1,464,432
2003	3,108	4,567	10,411	46.7	48.8	44.4	498,596	756,109	1,813,174
2004	3,239	4,450	8,824	45.5	48.6	45.9	509,985	788,487	1,537,831

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 7.5
Hourly Wages, hours and labor income
By type of work
In Guaraníes of 2000
Paraguay, 1995-2004

	Wages			Hours of Work				Labor Income		
	Entrepreneurs (i)	Wage earners (ii)	Self-employed (iii)	Entrepreneurs (iv)	Wage earners (v)	Self-employed (vi)	Zero Income (vii)	Entrepreneurs (viii)	Wage earners (ix)	Self-employed (x)
1995	15,725	4,799	5,103	52.4	48.0	34.2	31.7	3,282,558	883,313	730,822
1997	13,865	5,201	4,703	54.0	48.7	45.7	38.0	2,424,384	937,991	740,065
1999	12,656	5,109	3,915	52.6	47.5	45.4	40.7	2,410,213	887,471	601,833
2001	13,900	4,904	3,042	51.5	48.0	43.6	39.1	2,401,610	841,475	442,315
2002	12,241	4,045	2,764	54.1	50.0	46.6	41.4	2,245,474	730,358	405,157
2003	12,774	4,364	3,489	52.7	49.8	45.0	41.0	2,257,952	793,000	484,907
2004	12,788	3,864	3,618	56.0	50.2	43.4	39.2	2,474,317	703,369	504,299

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 7.6
Hourly Wages, hours and labor income
By labor group
In Guaraníes of 2000
Paraguay, 1995-2004

Wages							
	Formal workers				Informal workers		
	Entrepreneurs	Salaried workers		Self-employed	Salaried	Self-employed	Zero-income
		Large firms	Public sector	professionals	Small firms	Unskilled	
(i)	(ii)	(iii)	(iv)	(v)	(vi)		
1995	15,725	5,605	8,077	19,346	3,156	4,789	.
1997	13,865	6,002	9,229	23,918	3,267	4,306	.
1999	12,656	5,916	8,677	16,051	3,092	3,611	.
2001	13,900	5,501	9,253	11,242	2,926	2,844	.
2002	12,241	4,531	6,852	7,432	2,626	2,643	.
2003	12,774	5,207	7,475	9,454	2,619	3,334	.
2004	12,788	4,565	6,238	10,332	2,580	3,455	.

Hours of Work							
	Formal workers				Informal workers		
	Entrepreneurs	Salaried workers		Self-employed	Salaried	Self-employed	Zero-income
		Large firms	Public sector	professionals	Small firms	Unskilled	
(vii)	(viii)	(ix)	(x)	(xi)	(xii)	(xiii)	
1995	52.4	50.1	43.9	43.0	47.8	34.1	31.7
1997	54.0	51.7	43.6	37.8	48.2	45.8	38.0
1999	52.6	50.6	43.6	42.8	46.4	45.4	40.7
2001	51.5	51.2	41.0	57.6	48.0	43.2	39.1
2002	54.1	52.8	43.6	44.9	50.6	46.7	41.4
2003	52.7	53.1	42.2	44.2	50.5	45.0	41.0
2004	56.0	53.4	42.8	47.0	50.5	43.3	39.2

Labor income							
	Formal workers				Informal workers		
	Entrepreneurs	Salaried workers		Self-employed	Salaried	Self-employed	Zero-income
		Large firms	Public sector	professionals	Small firms	Unskilled	
(xiv)	(xv)	(xvi)	(xvii)	(xviii)	(xix)		
1995	3,282,558	1,052,540	1,406,695	2,763,474	595,963	688,168	.
1996	2,424,384	1,161,444	1,508,199	2,940,053	565,913	696,090	.
1997	2,410,213	1,063,413	1,396,164	2,424,481	539,893	556,011	.
1998	2,401,610	1,005,830	1,457,866	2,017,680	496,855	404,354	.
1999	2,245,474	865,440	1,147,125	1,156,757	473,668	385,226	.
2000	2,257,952	985,655	1,290,313	1,438,462	476,202	460,142	.
2001	2,474,317	881,470	1,014,874	1,818,020	476,061	472,371	.

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 7.7
Hourly Wages, hours and labor income
By sector
In Guaraníes of 2000
Paraguay, 1995-2004

Wages										
	Primary activities (i)	Industry low tech (ii)	Industry high tech (iii)	Construction (iv)	Commerce (v)	Utilities & transportation (vi)	Skilled services (vii)	Public administration (viii)	Education & Health (ix)	Domestic servants (x)
1995	3,838	5,027	5,764	4,152	6,172	8,214	11,983	6,772	7,423	2,581
1997	3,081	4,186	5,819	4,532	5,020	10,869	13,895	9,291	7,973	2,932
1999	3,493	4,243	5,204	4,649	4,679	7,383	7,955	8,578	7,858	2,726
2001	3,181	4,507	4,720	3,628	4,535	7,922	9,261	8,992	6,817	2,709
2002	3,367	2,995	3,657	2,988	3,106	6,043	7,533	6,920	5,037	2,324
2003	3,898	3,321	4,180	3,238	4,062	6,141	8,535	7,230	5,876	2,167
2004	4,245	3,116	5,070	2,975	3,666	5,404	7,281	6,471	5,017	2,280

Hours of Work										
	Primary activities (xi)	Industry low tech (xii)	Industry high tech (xiii)	Construction (xiv)	Commerce (xv)	Utilities & transportation (xvi)	Skilled services (xvii)	Public administration (xviii)	Education & Health (xix)	Domestic servants (xx)
1995	30.4	46.6	46.6	49.8	48.0	50.6	44.0	46.4	38.8	46.7
1997	41.0	46.0	49.8	49.8	53.6	54.2	46.0	44.9	39.9	45.4
1999	40.4	46.2	47.8	49.3	54.7	55.2	45.9	45.5	38.4	44.1
2001	38.6	44.7	50.1	51.3	54.4	54.2	45.1	43.2	39.0	44.3
2002	42.4	45.4	51.7	52.6	55.2	52.8	45.2	46.3	40.4	50.2
2003	41.5	45.5	52.3	51.7	55.4	53.8	47.5	43.6	39.7	47.6
2004	40.0	45.3	50.6	53.4	54.2	52.9	50.0	44.7	39.8	48.0

Labor Income										
	Primary activities (xxi)	Industry low tech (xxii)	Industry high tech (xxiii)	Construction (xxiv)	Commerce (xxv)	Utilities & transportation (xxvi)	Skilled services (xxvii)	Public administration (xxviii)	Education & Health (xxix)	Domestic servants (xxx)
1995	524,451	930,190	1,222,280	853,879	1,115,061	1,537,277	1,951,584	1,217,800	1,169,281	434,519
1997	479,540	788,318	1,132,698	907,462	1,028,666	1,706,457	2,052,150	1,440,298	1,135,725	479,694
1999	548,738	772,788	952,351	903,636	910,356	1,374,529	1,341,201	1,446,090	1,055,808	450,516
2001	434,180	711,770	900,908	747,140	843,519	1,440,123	1,550,494	1,463,900	960,001	421,815
2002	529,979	537,237	707,191	602,437	592,070	1,018,802	1,213,656	1,238,361	705,293	424,688
2003	556,960	568,080	736,783	629,200	757,620	1,173,244	1,392,603	1,404,273	806,537	375,261
2004	582,165	536,654	917,591	622,118	730,294	977,436	1,293,313	1,120,936	714,772	397,981

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 7.8
Hourly Wages, hours and labor income
By area
In Guaraníes of 2000
Paraguay, 1995-2004

	Wages		Hours of work		Labor Income	
	Rural	Urban	Rural	Urban	Rural	Urban
	(i)	(ii)	(iii)	(iv)	(v)	(vi)
1995	3,977	6,499	35.2	44.9	641,614	1,139,273
1997	3,628	6,593	43.8	48.8	604,543	1,146,061
1999	3,636	5,937	43.6	48.4	597,631	1,025,114
2001	3,315	5,685	42.9	47.7	512,094	959,552
2002	3,214	4,212	45.4	49.3	524,836	730,797
2003	3,657	4,865	45.0	48.6	580,054	824,334
2004	3,696	4,498	43.6	48.6	562,383	785,744

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 7.9
Distribution of labor income
Shares
Paraguay, 1995-2004

	Salaried workers (i)	Self-employed (ii)	Entrepreneurs (iii)	Total
1995	47.6	34.9	17.6	100.0
1997	54.5	28.0	17.5	100.0
1999	57.5	25.0	17.5	100.0
2001	54.6	25.0	20.4	100.0
2002	56.9	27.6	15.5	100.0
2003	51.9	31.0	17.2	100.0
2004	48.9	34.0	17.1	100.0

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 7.10
Distribution of wages (primary activity)
Gini coefficient
Paraguay, 1995-2004

	Hourly wages in main job						
	All (i)	Monetary (ii)	Monetary salaried workers (iii)	Male workers aged 25-55			
				All (iv)	Low (v)	Mid (vi)	High (vii)
1995	0.557	0.557	0.534	0.549	0.519	0.461	0.452
1997	0.529	0.529	0.526	0.530	0.414	0.466	0.489
1999	0.508	0.508	0.492	0.499	0.483	0.394	0.432
2001	0.568	0.568	0.535	0.573	0.514	0.527	0.454
2002	0.569	0.569	0.535	0.571	0.603	0.442	0.439
2003	0.587	0.587	0.552	0.577	0.543	0.475	0.502
2004	0.563	0.563	0.527	0.550	0.522	0.474	0.475

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002 and 2003).

Table 7.11
Correlations hours of work-hourly wages
Paraguay, 1995-2004

	All workers (i)	Urban salaried workers (ii)
1995	-0.1095	-0.2051
1997	-0.1222	-0.1668
1999	-0.1391	-0.1909
2001	-0.0835	-0.2255
2002	-0.1060	-0.1804
2003	-0.1058	-0.1423
2004	-0.0858	-0.2257

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 7.12
Ratio of hourly wages by educational group
Prime-age males
Paraguay, 1995-2004

	High/Medium (i)	High/Low (ii)	Medium/Low (iii)
1995	2.20	3.72	1.69
1997	2.32	5.02	2.16
1999	2.19	3.32	1.51
2001	1.99	4.14	2.08
2002	1.97	2.57	1.30
2003	2.37	4.02	1.69
2004	1.95	3.25	1.66

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 7.13
Mincer equation
Estimated coefficients of educational dummies
Paraguay, 1995-2004

	All workers						Urban salaried workers					
	Men			Women			Men			Women		
	Primary (i)	Secondary (ii)	College (iii)	Primary (iv)	Secondary (v)	College (vi)	Primary (vii)	Secondary (viii)	College (ix)	Primary (x)	Secondary (xi)	College (xii)
1995	0.19	0.63	0.75	0.22	0.78	0.49	0.23	0.51	0.64	0.31	0.68	0.57
1997	0.26	0.61	0.86	0.21	0.57	0.74	0.13	0.63	0.83	0.19	0.56	0.58
1999	0.26	0.49	0.81	0.29	0.46	0.68	0.31	0.37	0.75	0.36	0.52	0.60
2001	0.30	0.53	0.83	0.18	0.53	0.94	0.15	0.42	0.97	-0.03	0.71	0.72
2002	0.25	0.47	0.58	0.14	0.11	-0.22	0.19	0.60	0.57	0.14	0.32	0.78
2003	0.24	0.77	0.74	0.23	0.50	0.68	0.13	0.58	0.64	0.23	0.35	0.81
2004	0.15	0.50	0.68	0.11	0.78	0.37	0.28	0.32	0.68	0.16	0.49	0.57

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 7.14
Mincer equation
Dispersion in unobservables and gender wage gap
Paraguay, 1995-2004

	Dispersion in unobservables				Gender wage gap
	All workers		Urban salaried		Urban salaried
	Men (i)	Women (ii)	Men (iii)	Women (iv)	workers (v)
1995	0.87	0.98	0.59	0.62	0.79
1997	0.81	0.80	0.62	0.51	0.81
1999	0.79	0.85	0.58	0.58	0.84
2001	0.92	1.00	0.67	0.61	0.87
2002	1.33	2.03	1.09	1.29	0.79
2003	0.97	1.05	0.67	0.61	0.87
2004	0.89	0.93	0.66	0.58	0.88

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 7.15
Share of adults in the labor force
Paraguay, 1995-2004

	Total	Age			Adults (25-64)						Youths (15-24)		
		(15-24)	(25-64)	(65 +)	Gender		Education			Area		Gender	
					Female	Male	Low	Medium	High	Rural	Urban	Female	Male
1995	0.769	0.715	0.835	0.466	0.703	0.968	0.821	0.853	0.923	0.861	0.813	0.568	0.868
1997	0.674	0.607	0.756	0.349	0.554	0.959	0.711	0.842	0.919	0.713	0.787	0.430	0.788
1999	0.665	0.560	0.758	0.375	0.570	0.949	0.717	0.831	0.896	0.734	0.775	0.394	0.730
2001	0.691	0.611	0.777	0.390	0.617	0.946	0.747	0.816	0.890	0.769	0.783	0.458	0.757
2002	0.696	0.636	0.769	0.398	0.593	0.946	0.743	0.809	0.878	0.765	0.772	0.480	0.798
2003	0.684	0.586	0.781	0.380	0.623	0.944	0.746	0.817	0.904	0.778	0.783	0.437	0.736
2004	0.719	0.621	0.813	0.404	0.675	0.950	0.790	0.838	0.897	0.813	0.812	0.476	0.769

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 7.16
Share of adults employed
Paraguay, 1997-2004

	Total	Age			Adults (25-64)						Youths (15-24)		
		(15-24)	(25-64)	(65 +)	Gender		Education			Area		Gender	
					Female	Male	Low	Medium	High	Rural	Urban	Female	Male
1995	0.743	0.671	0.816	0.455	0.685	0.947	0.804	0.825	0.905	0.853	0.785	0.527	0.821
1997	0.639	0.545	0.729	0.343	0.528	0.932	0.686	0.813	0.891	0.700	0.751	0.378	0.715
1999	0.621	0.493	0.721	0.366	0.539	0.907	0.681	0.785	0.873	0.718	0.723	0.339	0.651
2001	0.639	0.527	0.736	0.382	0.579	0.901	0.707	0.770	0.847	0.747	0.727	0.379	0.668
2002	0.621	0.518	0.710	0.378	0.537	0.884	0.685	0.736	0.841	0.740	0.691	0.362	0.679
2003	0.629	0.496	0.740	0.364	0.582	0.902	0.708	0.765	0.867	0.759	0.727	0.347	0.647
2004	0.666	0.538	0.770	0.397	0.634	0.906	0.751	0.777	0.867	0.793	0.755	0.384	0.696

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 7.17
Share of adults unemployed
Paraguay, 1995-2004

	Total	Age			Adults (25-64)						Youths (15-24)		
		(15-24)	(25-64)	(65 +)	Gender		Education			Area		Gender	
					Female	Male	Low	Medium	High	Rural	Urban	Female	Male
1995	0.034	0.062	0.023	0.024	0.026	0.021	0.021	0.032	0.020	0.010	0.035	0.073	0.055
1997	0.053	0.103	0.035	0.020	0.046	0.028	0.036	0.034	0.031	0.019	0.046	0.123	0.092
1999	0.066	0.119	0.049	0.024	0.055	0.045	0.050	0.055	0.025	0.022	0.067	0.139	0.108
2001	0.076	0.138	0.054	0.022	0.062	0.048	0.054	0.057	0.049	0.029	0.071	0.173	0.117
2002	0.107	0.186	0.077	0.051	0.096	0.065	0.078	0.090	0.041	0.033	0.105	0.246	0.148
2003	0.079	0.153	0.053	0.040	0.066	0.044	0.051	0.065	0.041	0.025	0.072	0.205	0.121
2004	0.074	0.134	0.052	0.019	0.061	0.046	0.049	0.072	0.034	0.025	0.070	0.194	0.095

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 7.18
Duration of unemployment
Paraguay, 1995-2004

	Total	Age			Gender		Adults (25-64)			Area		Youths (15-24)	
		(15-24)	(25-64)	(65 +)	Female	Male	Education			Rural	Urban	Female	Male
							Low	Medium	High				
1995	3.7	3.2	4.4	0.8	4.8	4.0	4.5	3.9	5.1	1.1	5.2	2.7	3.7
1997	4.1	4.4	4.0		3.1	4.9	2.5	7.3	7.5	5.1	3.7	4.2	4.5
1999	4.8	5.7	4.2	1.3	3.6	4.5	3.6	5.0	6.5	3.9	4.2	4.2	6.8
2001	3.1	3.6	2.6	1.9	2.6	2.7	1.6	3.4	7.4	1.2	3.1	2.6	4.4
2002	5.6	4.5	6.5		7.3	5.8	5.1	7.9		3.3	7.2	4.2	4.8
2003	5.5	5.3	5.4		4.6	6.2	3.5	7.6	9.9	4.7	5.6	4.5	6.1
2004	5.4	4.8	6.2	1.8	6.7	5.6	5.6	6.8	8.3	3.3	6.9	5.0	4.5

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 7.19
Gender, age and educational structure of employment
Paraguay, 1995-2004

	Gender		Age					Education			Area	
	Female	Male	(0-14)	(15-24)	(25-40)	(41-64)	(65 +)	Low	Medium	High	Rural	Urban
1995	40.7	59.3	11.3	23.1	35.2	25.7	4.6	76.0	17.9	6.2	51.6	48.4
1997	35.3	64.7	5.2	24.5	37.3	28.4	4.5	68.9	23.1	8.0	42.4	57.6
1999	36.5	63.5	4.3	23.6	38.8	28.8	4.6	67.3	24.4	8.3	44.9	55.1
2001	38.2	61.8	4.6	25.0	35.9	29.7	4.9	66.8	23.4	9.8	45.6	54.4
2002	36.7	63.3	5.6	24.9	34.9	29.8	4.9	67.0	24.6	8.4	44.8	55.2
2003	37.8	62.2	4.4	23.9	35.9	30.9	4.9	62.7	26.4	10.8	44.9	55.1
2004	39.0	61.0	5.5	24.5	35.2	30.4	4.4	64.2	26.0	9.8	44.6	55.4

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 7.20
Regional structure of employment
Paraguay, 1995-2004

	Area		Region				
	Rural (i)	Urban (ii)	Asunción (iii)	Central Urbano (iv)	Central Rural (v)	Resto Urbano (vi)	Resto Rural (vii)
1995	51.6	48.4	11.7	15.5	4.4	21.3	47.2
1997	42.4	57.6	12.6	20.4	5.1	24.6	37.4
1999	44.9	55.1	12.5	19.1	4.5	23.5	40.4
2001	45.6	54.4	11.5	18.8	7.0	24.1	38.5
2002	44.8	55.2	10.8	20.8	3.2	23.6	41.7
2003	44.9	55.1	11.1	20.5	3.3	23.5	41.6
2004	44.6	55.4	9.1	22.3	4.5	24.1	40.0

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 7.21
Structure of employment
By type of work
Paraguay, 1995-2004

	Labor relationship				Type of firm		
	Entrepreneurs	Wage earners	Self-employed	Zero income	Large	Small	Public
	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)
1995	3.7	37.1	54.6	4.6	13.8	80.2	5.9
1997	5.6	45.8	37.2	11.4	18.2	74.1	7.6
1999	5.2	46.4	36.5	11.9	19.1	72.8	8.0
2001	5.8	44.9	37.1	12.2	18.0	74.8	7.2
2002	3.6	42.9	38.4	15.1	16.6	75.2	8.2
2003	4.3	44.1	39.2	12.4	15.9	75.8	8.3
2004	4.2	43.0	39.8	13.1	16.1	76.7	7.2

	Labor category						
	Entrepreneurs	Salaried workers		Self-employed	Salaried	Self-employed/workers with	Zero income
		Large firms	Public sector	professionals	Small firms	Unskilled	
	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)
1995	3.8	12.4	5.9	0.7	17.2	55.2	4.7
1997	5.6	16.4	7.6	0.6	21.7	36.7	11.4
1999	5.2	17.5	8.0	0.7	20.7	36.0	12.0
2001	5.8	15.7	7.2	0.9	21.8	36.4	12.2
2002	3.7	13.5	8.2	0.9	20.5	37.9	15.3
2003	4.3	14.1	8.3	1.0	21.5	38.4	12.4
2004	4.2	14.3	7.2	0.9	21.4	38.9	13.1

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 7.22
Structure of employment
By formality
Paraguay, 1995-2004

	Total	Adults (25-64)										Youths (15-24)	
		Age			Gender		Education			Area		Gender	
		(15-24)	(25-64)	(65 +)	Female	Male	Low	Medium	High	Rural	Urban	Female	Male
1995	0.771	0.785	0.722	0.895	0.806	0.659	0.849	0.506	0.127	0.885	0.571	0.845	0.744
1997	0.697	0.743	0.652	0.859	0.706	0.621	0.798	0.471	0.121	0.849	0.519	0.783	0.721
1999	0.686	0.734	0.642	0.858	0.727	0.591	0.798	0.444	0.107	0.830	0.506	0.772	0.714
2001	0.704	0.754	0.660	0.807	0.734	0.610	0.817	0.496	0.108	0.844	0.522	0.788	0.736
2002	0.737	0.799	0.684	0.872	0.743	0.648	0.827	0.531	0.105	0.854	0.561	0.810	0.793
2003	0.723	0.776	0.680	0.837	0.736	0.643	0.837	0.587	0.136	0.839	0.566	0.822	0.751
2004	0.734	0.795	0.683	0.887	0.757	0.631	0.829	0.565	0.148	0.852	0.565	0.824	0.779

	Total	Adults (25-64)										Youths (15-24)	
		Age			Gender		Education			Area		Gender	
		(15-24)	(25-64)	(65 +)	Female	Male	Low	Medium	High	Rural	Urban	Female	Male
1995	0.690	0.829	0.593	0.661	0.591	0.593	0.773	0.409	0.232	0.747	0.532	0.834	0.826
1997	0.753	0.869	0.676	0.780	0.646	0.692	0.832	0.551	0.372	0.790	0.635	0.882	0.861
1999	0.738	0.885	0.662	0.643	0.655	0.666	0.833	0.566	0.328	0.806	0.616	0.893	0.880
2001	0.726	0.898	0.625	0.714	0.594	0.644	0.826	0.538	0.255	0.775	0.570	0.897	0.898
2002	0.738	0.892	0.652	0.688	0.624	0.668	0.845	0.575	0.253	0.745	0.625	0.888	0.894
2003	0.744	0.899	0.664	0.667	0.634	0.683	0.866	0.627	0.321	0.756	0.633	0.925	0.881
2004	0.768	0.920	0.686	0.782	0.645	0.711	0.877	0.627	0.336	0.804	0.648	0.911	0.927

Definition 1: Informal = salaried workers in small firms, non-professional self-employed and zero-income workers.

Definition 2: Absence of social security rights

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 7.23
Structure of employment
By sector
Paraguay, 1995-2004

	Primary activities	Industry low tech	Industry high tech	Construction	Commerce	Utilities & transportation	Skilled services	Public administration	Education & Health	Domestic servants
1995	41.0	6.8	4.2	4.9	22.5	3.2	2.5	2.2	7.2	5.5
1997	28.8	8.1	4.4	5.0	26.7	4.4	3.5	3.2	8.7	7.1
1999	29.9	7.9	4.5	5.3	24.2	4.6	3.6	3.3	9.8	6.9
2001	32.0	6.1	5.6	4.7	24.2	4.0	3.3	3.1	9.4	7.6
2002	34.5	5.4	4.7	4.5	23.0	4.0	3.4	3.8	9.7	6.9
2003	32.6	5.7	4.7	4.2	23.0	4.4	3.2	3.6	10.8	7.8
2004	33.4	5.9	5.4	4.5	22.8	4.4	2.8	3.2	10.0	7.6

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 7.24
Structure of employment
By sector (CIU -1 digit)
Paraguay, 1995-2004
Sector (1 digit CIU)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1995	40.7	0.1	0.2	11.0	0.4	4.9	20.1	2.4	2.8	0.6	1.8	2.2	2.3	1.7	3.2
1997	28.5	0.2	0.2	12.5	0.6	5.0	23.9	2.9	3.8	0.7	3	3.0	2.9	1.8	4.1
1999	29.6	0.2	0.2	12.4	0.5	5.3	21.3	2.9	4.1	0.7	3	3.3	3.3	2.0	4.5
2001	31.7	0.2	0.1	11.7	0.5	4.7	21.5	2.7	3.5	0.8	2	3.1	3.4	1.7	4.4
2002	34.2	0.1	0.2	10.1	0.5	4.5	20.8	2.2	3.5	0.7	3	3.8	3.8	1.3	4.6
2003	32.3	0.2	0.1	10.4	0.7	4.2	21.0	2.1	3.7	0.9	2	3.5	4.3	1.8	4.7
2004	33.2	0.1	0.1	11.3	0.6	4.5	20.2	2.6	3.7	0.6	2	3.1	3.6	1.5	4.9

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 7.25
Child labor
By gender, area and equivalized household income quintiles
Paraguay, 1995-2004

	Total	Gender		Area		Equivalized income quintile				
		Female	Male	Rural	Urban	1	2	3	4	5
1995	0.343	0.231	0.448	0.474	0.194	0.485	0.362	0.319	0.261	0.157
1997	0.152	0.082	0.218	0.173	0.130	0.166	0.164	0.109	0.163	0.110
1999	0.129	0.071	0.187	0.172	0.084	0.210	0.128	0.116	0.070	0.078
2001	0.156	0.086	0.225	0.193	0.112	0.217	0.158	0.151	0.121	0.056
2002	0.179	0.098	0.263	0.238	0.124	0.259	0.185	0.159	0.154	0.079
2003	0.147	0.073	0.220	0.207	0.090	0.234	0.138	0.116	0.116	0.070
2004	0.195	0.111	0.275	0.263	0.130	0.253	0.220	0.192	0.154	0.097

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 7.26
Right to receive social security (pensions)
By age, gender, education and area
Paraguay, 1995-2004

	Total	Adults (25-64)									
		Age			Gender		Education			Area	
		(15-24)	(25-64)	(65 +)	Female	Male	Low	Medium	High	Rural	Urban
1995	0.327	0.171	0.407	0.339	0.409	0.407	0.227	0.591	0.768	0.253	0.468
1997	0.256	0.131	0.324	0.220	0.354	0.308	0.168	0.449	0.628	0.210	0.365
1999	0.269	0.115	0.338	0.357	0.345	0.334	0.167	0.434	0.672	0.194	0.384
2001	0.281	0.102	0.375	0.286	0.406	0.356	0.174	0.462	0.745	0.225	0.430
2002	0.270	0.108	0.348	0.312	0.376	0.332	0.155	0.425	0.747	0.255	0.375
2003	0.263	0.101	0.336	0.333	0.366	0.317	0.134	0.373	0.679	0.244	0.367
2004	0.240	0.080	0.314	0.218	0.355	0.289	0.123	0.373	0.664	0.196	0.352

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 7.27
Access to labor health insurance
By gender and education
Paraguay, 1995-2004

	Total	Adults (25-64)									
		Age			Gender		Education			Area	
		(15-24)	(25-64)	(65 +)	Female	Male	Low	Medium	High	Rural	Urban
1995	0.274	0.141	0.343	0.303	0.338	0.345	0.202	0.495	0.605	0.226	0.389
1997	0.292	0.164	0.359	0.323	0.404	0.336	0.220	0.485	0.608	0.228	0.407
1999	0.285	0.159	0.341	0.401	0.356	0.332	0.217	0.444	0.519	0.222	0.379
2001	0.262	0.124	0.331	0.405	0.360	0.314	0.188	0.394	0.595	0.213	0.375
2003	0.245	0.106	0.309	0.221	0.341	0.289	0.164	0.363	0.524	0.243	0.332
2004	0.233	0.091	0.297	0.301	0.330	0.277	0.147	0.364	0.545	0.191	0.331

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2003 and 2004).

Table 8.1
Educational structure
Adults 25-65
Paraguay, 1995-2004

	All			Males			Females			Working males			Working females		
	Low	Medium	High	Low	Medium	High	Low	Medium	High	Low	Medium	High	Low	Medium	High
1995	73.8	18.6	7.6	72.1	20.2	7.7	75.4	17.1	7.5	71.8	20.3	7.9	73.8	16.8	9.3
1997	71.2	20.1	8.7	69.4	21.9	8.8	73.0	18.3	8.7	68.7	22.4	8.8	63.9	22.2	13.9
1999	69.7	21.8	8.5	68.0	23.8	8.3	71.3	19.9	8.8	67.4	24.0	8.5	63.3	23.3	13.4
2001	68.2	21.4	10.4	67.2	23.0	9.9	69.1	20.0	10.9	67.0	22.9	10.1	63.7	21.7	14.7
2002	69.2	21.8	8.9	69.1	22.5	8.4	69.3	21.2	9.5	69.2	22.3	8.5	62.7	23.3	14.0
2003	65.3	22.8	11.9	64.1	24.8	11.1	66.5	20.8	12.7	63.5	25.0	11.5	60.9	21.3	17.8
2004	66.1	22.7	11.2	65.1	25.0	9.9	67.1	20.3	12.6	64.8	25.0	10.3	64.0	20.0	16.0

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 8.2
Years of education
By age and gender
Paraguay, 1995-2004

	(25-65)			(10-20)			(21-30)			(31-40)			(41-50)			(51-60)			(61+)		
	Female	Male	All	Female	Male	All	Female	Male	All	Female	Male	All	Female	Male	All	Female	Male	All	Female	Male	All
1995	6.2	6.7	6.4	5.5	5.2	5.4	7.6	7.6	7.6	6.8	7.3	7.1	5.8	6.3	6.1	4.3	5.1	4.7	3.2	4.1	3.6
1997	6.4	6.9	6.7	6.1	5.6	5.9	8.0	8.1	8.0	6.9	7.6	7.3	5.9	6.4	6.2	4.7	5.3	5.0	3.1	3.5	3.3
1999	6.6	7.0	6.8	6.1	5.8	5.9	8.1	8.3	8.2	7.2	7.6	7.4	6.0	6.6	6.3	5.0	5.4	5.2	3.5	4.2	3.8
2001	6.9	7.2	7.0	6.4	6.2	6.3	8.6	8.4	8.5	7.4	7.7	7.6	6.5	6.8	6.7	5.0	5.9	5.5	3.7	4.5	4.1
2002	6.9	7.0	6.9	6.7	6.3	6.5	8.7	8.2	8.5	7.5	7.6	7.6	6.3	6.6	6.5	5.5	5.6	5.5	3.6	4.5	4.0
2003	7.2	7.5	7.4	6.7	6.4	6.5	8.9	8.8	8.9	7.8	8.2	8.0	6.8	7.2	7.0	5.7	6.1	5.9	4.2	4.7	4.4
2004	7.2	7.4	7.3	6.8	6.5	6.6	9.2	8.9	9.1	7.8	7.9	7.8	6.8	7.1	6.9	5.3	5.8	5.6	3.9	4.6	4.2

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 8.3
Years of education
By household equivalized income quintiles
Adults 25-65
Paraguay, 1995-2004

	1	2	3	4	5	Mean
1995	3.7	4.6	5.4	6.8	9.8	6.4
1997	3.7	4.1	5.6	7.0	10.5	6.6
1999	3.8	4.7	6.0	7.3	10.3	6.8
2001	4.0	5.0	6.0	7.3	10.8	7.0
2002	4.5	5.1	6.0	7.5	10.3	7.0
2003	4.5	5.5	6.4	7.9	11.0	7.4
2004	4.6	5.4	6.4	7.7	10.7	7.3

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 8.4
Years of education
By age and income
Paraguay, 1995-2004

	(10-20)						(21-30)						(31-40)					
	1	2	3	4	5	Mean	1	2	3	4	5	Mean	1	2	3	4	5	Mean
1995	4.2	4.7	5.4	5.9	7.1	5.4	4.9	5.6	6.4	8.1	10.5	7.6	4.0	5.1	6.2	7.6	10.7	7.1
1997	4.8	4.7	5.9	6.7	7.6	5.8	4.8	5.6	6.9	8.4	11.3	8.0	4.1	4.7	6.2	7.8	11.3	7.2
1999	4.8	5.2	6.0	6.5	7.7	5.9	5.1	6.0	7.0	8.8	11.7	8.2	4.3	5.4	6.8	8.2	11.1	7.4
2001	4.9	5.4	6.2	7.2	8.2	6.3	5.2	6.3	7.6	9.2	11.5	8.5	4.5	5.6	6.5	8.3	11.7	7.6
2002	5.5	6.0	6.5	7.3	7.8	6.5	6.0	6.7	7.7	9.2	11.5	8.5	5.0	5.7	6.4	8.2	10.8	7.6
2003	5.5	6.1	6.7	7.1	7.7	6.5	6.1	7.3	8.0	9.5	11.7	8.9	5.0	6.1	7.3	8.8	11.7	8.0
2004	5.7	6.2	6.6	7.3	7.9	6.6	6.3	7.1	8.2	9.6	11.9	9.1	5.0	6.0	7.0	8.6	11.2	7.8

	(41-50)						(51-60)						(61+)					
	1	2	3	4	5	Mean	1	2	3	4	5	Mean	1	2	3	4	5	Mean
1995	3.4	4.1	5.2	6.4	9.6	6.1	2.6	3.5	3.5	4.6	8.1	4.7	2.2	2.4	2.8	3.4	6.5	3.6
1997	3.6	3.8	5.0	6.4	10.3	6.2	2.4	2.9	4.4	4.6	8.7	5.0	2.1	2.0	2.5	3.1	6.5	3.3
1999	3.4	4.2	5.4	6.6	10.2	6.3	3.0	3.1	4.5	5.3	8.3	5.2	2.1	2.5	3.0	3.9	6.7	3.8
2001	3.7	4.6	5.5	6.5	10.8	6.6	3.0	3.9	4.6	4.8	9.2	5.5	2.1	2.6	2.9	4.1	7.1	4.1
2002	4.4	5.1	5.8	6.8	9.8	6.5	3.4	3.5	4.6	5.7	9.1	5.6	2.5	3.0	3.4	3.9	6.8	4.1
2003	4.1	5.1	6.2	7.4	10.7	7.0	3.3	4.0	4.4	6.0	9.7	5.9	2.3	2.8	3.4	4.3	7.8	4.4
2004	4.4	5.2	6.0	7.2	10.6	7.0	3.6	3.7	4.5	5.7	8.8	5.6	2.5	2.6	3.4	4.2	7.7	4.2

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 8.5
Years of education
By area
Paraguay, 1995-2004

	All		Adults (25-65)		Male adults (25-65)		Female adults (25-65)	
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(v)	(vi)
1995	3.1	5.5	4.5	8.0	4.7	8.4	4.3	7.6
1997	3.3	5.8	4.6	8.2	4.8	8.6	4.4	7.8
1999	3.5	5.9	4.6	8.4	4.9	8.7	4.4	8.1
2001	3.7	6.2	4.9	8.5	5.1	8.8	4.7	8.3
2002	3.9	6.2	4.9	8.3	5.0	8.5	4.8	8.1
2003	4.1	6.4	5.2	8.9	5.4	9.1	5.0	8.7
2004	4.3	6.7	5.2	8.7	5.3	8.9	4.9	8.6

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 8.6
Gini coefficient
Years of education
By age
Paraguay, 1995-2004

	(25-65)	(10-20)	(21-30)	(31-40)	(41-50)	(51-60)	(61+)
1995	0.361	0.288	0.281	0.335	0.374	0.424	0.498
1997	0.362	0.265	0.282	0.327	0.370	0.433	0.508
1999	0.348	0.270	0.280	0.310	0.359	0.407	0.479
2001	0.355	0.272	0.283	0.327	0.364	0.406	0.507
2002	0.339	0.246	0.272	0.303	0.338	0.405	0.491
2003	0.340	0.256	0.264	0.304	0.353	0.401	0.481
2004	0.336	0.245	0.261	0.304	0.333	0.397	0.479

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 8.7
Literacy
By age and gender
Paraguay, 1997-2004

	(15-24)			(25-65)			(65 +)		
	Female	Male	Mean	Female	Male	Mean	Female	Male	Mean
1997	0.97	0.97	0.97	0.88	0.93	0.91	0.59	0.78	0.68
1999	0.97	0.96	0.97	0.88	0.93	0.91	0.63	0.77	0.69
2001	0.96	0.95	0.96	0.89	0.92	0.91	0.65	0.78	0.71
2002	0.97	0.98	0.97	0.90	0.92	0.91	0.58	0.73	0.65
2003	0.98	0.97	0.97	0.90	0.92	0.91	0.63	0.73	0.68
2004	0.97	0.97	0.97	0.90	0.92	0.91	0.60	0.73	0.66

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 8.8
Literacy
By household equivalized income quintiles
Paraguay, 1997-2004

	Age 15 to 24						Age 25 to 65					
	1	2	3	4	5	Mean	1	2	3	4	5	Mean
1997	0.93	0.94	0.98	0.99	1.00	0.97	0.81	0.81	0.91	0.96	0.98	0.91
1999	0.92	0.95	0.98	0.98	1.00	0.97	0.78	0.83	0.92	0.95	0.98	0.91
2001	0.89	0.94	0.95	0.99	1.00	0.96	0.79	0.86	0.90	0.94	0.98	0.91
2002	0.94	0.97	0.98	0.99	0.99	0.98	0.82	0.86	0.91	0.96	0.98	0.91
2003	0.95	0.97	0.98	0.98	0.99	0.97	0.81	0.87	0.92	0.95	0.98	0.91
2004	0.94	0.97	0.97	0.99	0.99	0.97	0.80	0.86	0.92	0.94	0.98	0.91

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 8.9
Literacy
By area
Paraguay, 1997-2004

	(15-24)		(25-65)		(65 +)	
	Rural	Urban	Rural	Urban	Rural	Urban
1997	0.94	0.99	0.85	0.95	0.61	0.75
1999	0.95	0.98	0.83	0.96	0.57	0.79
2001	0.92	0.98	0.85	0.95	0.62	0.78
2002	0.95	0.99	0.85	0.95	0.55	0.72
2003	0.96	0.99	0.85	0.96	0.54	0.77
2004	0.96	0.98	0.85	0.95	0.52	0.76

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 8.10
Enrollment rates
By age and gender
Paraguay, 1995-2004

	3 to 5 years-old			6 to 12 years-old			13 to 17 years-old			18 to 23 years old		
	Female	Male	Mean	Female	Male	Mean	Female	Male	Mean	Female	Male	Mean
1995	0.10	0.09	0.10	0.89	0.89	0.89	0.59	0.63	0.61	0.24	0.21	0.22
1997	0.17	0.14	0.15	0.94	0.94	0.94	0.68	0.68	0.68	0.25	0.22	0.23
1999	0.16	0.14	0.15	0.94	0.93	0.94	0.72	0.70	0.71	0.31	0.28	0.30
2001	0.18	0.17	0.17	0.95	0.94	0.94	0.74	0.71	0.73	0.32	0.31	0.31
2002	0.14	0.14	0.14	0.94	0.93	0.94	0.72	0.72	0.72	0.31	0.24	0.28
2003	0.19	0.17	0.18	0.95	0.94	0.94	0.76	0.76	0.76	0.37	0.32	0.35
2004	0.23	0.19	0.21	0.96	0.95	0.96	0.76	0.78	0.77	0.32	0.30	0.31

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 8.11
Enrollment rates
By household equivalized income quintiles
Paraguay, 1995-2004

	3 to 5 years-old					6 to 12 years-old					13 to 17 years-old					18 to 23 years old							
	1	2	3	4	Mean	1	2	3	4	5	Mean	1	2	3	4	5	Mean	1	2	3	4	5	Mean
1995	0.03	0.06	0.12	0.13	0.09	0.83	0.90	0.89	0.92	0.97	0.89	0.49	0.53	0.65	0.68	0.84	0.63	0.10	0.15	0.20	0.23	0.40	0.23
1997	0.09	0.12	0.16	0.19	0.15	0.91	0.90	0.95	0.98	0.99	0.94	0.55	0.59	0.74	0.79	0.89	0.70	0.14	0.10	0.16	0.24	0.44	0.24
1999	0.12	0.14	0.16	0.17	0.15	0.90	0.90	0.97	0.98	0.99	0.94	0.54	0.67	0.74	0.82	0.92	0.72	0.11	0.23	0.21	0.29	0.56	0.30
2001	0.17	0.12	0.17	0.23	0.17	0.92	0.91	0.96	0.97	0.99	0.94	0.57	0.69	0.74	0.85	0.93	0.74	0.16	0.21	0.31	0.33	0.50	0.32
2002	0.11	0.10	0.11	0.16	0.14	0.89	0.94	0.95	0.98	0.97	0.94	0.61	0.71	0.73	0.80	0.86	0.73	0.18	0.22	0.25	0.24	0.47	0.28
2003	0.11	0.17	0.17	0.25	0.18	0.90	0.95	0.95	0.98	0.98	0.95	0.65	0.74	0.81	0.82	0.86	0.77	0.23	0.28	0.32	0.37	0.54	0.36
2004	0.17	0.21	0.22	0.21	0.21	0.93	0.95	0.97	0.97	0.99	0.96	0.66	0.76	0.75	0.86	0.92	0.78	0.19	0.28	0.28	0.33	0.46	0.32

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 8.12
Enrollment rates
By age group and area
Paraguay, 1995-2004

	3 to 5 years-old		6 to 12 years-old		13 to 17 years-old		18 to 23 years old	
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
1995	0.05	0.15	0.85	0.94	0.49	0.74	0.11	0.31
1997	0.12	0.19	0.92	0.95	0.57	0.79	0.12	0.30
1999	0.13	0.16	0.91	0.97	0.61	0.82	0.17	0.38
2001	0.15	0.20	0.92	0.97	0.61	0.83	0.18	0.40
2002	0.11	0.16	0.92	0.95	0.60	0.83	0.18	0.33
2003	0.15	0.21	0.92	0.97	0.66	0.84	0.23	0.43
2004	0.17	0.24	0.94	0.97	0.66	0.86	0.22	0.37

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 8.13
Educational mobility
By age group
Paraguay, 1995-2004

	13-19	20-25
1995	0.783	0.721
1997	0.821	0.762
1999	0.798	0.709
2001	0.794	0.742
2002	0.845	0.752
2003	0.848	0.797
2004	0.828	0.797

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 9.1
Housing
By household equivalized income quintiles
Paraguay, 1995-2004

	Share of housing owners						Number of rooms						Persons per room					
	1	2	3	4	5	Mean	1	2	3	4	5	Mean	1	2	3	4	5	Mean
1995	0.87	0.81	0.76	0.74	0.71	0.77	2.2	2.4	2.7	3.1	3.9	2.9	3.3	2.6	2.2	1.7	1.1	2.1
1997	0.87	0.83	0.76	0.72	0.73	0.77	2.2	2.4	2.6	2.9	3.8	2.9	3.2	2.7	2.2	1.7	1.1	2.1
1999	0.88	0.84	0.77	0.82	0.77	0.81	2.2	2.6	2.6	3.0	3.7	2.9	3.0	2.5	2.2	1.7	1.1	2.0
2001	0.82	0.80	0.75	0.75	0.74	0.77	2.2	2.5	2.7	3.2	3.9	3.0	3.2	2.5	2.1	1.7	1.1	2.0
2002	0.86	0.84	0.80	0.76	0.76	0.80	2.4	2.6	3.0	3.2	4.0	3.1	2.8	2.4	1.9	1.6	1.1	1.9
2003	0.82	0.79	0.77	0.76	0.77	0.78	2.5	2.8	3.0	3.4	4.2	3.3	2.8	2.2	1.9	1.4	1.0	1.8
2004	0.82	0.79	0.77	0.75	0.73	0.77	2.4	2.7	2.8	3.1	3.9	3.1	2.6	2.3	2.0	1.6	1.0	1.8

	Share of "poor" dwellings						Share of dwellings of low-quality materials					
	1	2	3	4	5	Mean	1	2	3	4	5	Mean
1995	0.62	0.42	0.24	0.15	0.07	0.27	0.14	0.08	0.03	0.03	0.01	0.05
1997	0.63	0.42	0.23	0.15	0.07	0.27	0.08	0.07	0.02	0.01	0.00	0.03
1999	0.64	0.34	0.18	0.10	0.05	0.24	0.06	0.06	0.04	0.01	0.01	0.03
2001	0.51	0.27	0.15	0.09	0.06	0.20	0.11	0.06	0.03	0.01	0.00	0.04
2002	0.41	0.29	0.16	0.10	0.07	0.19	0.06	0.05	0.02	0.02	0.01	0.03
2003	0.37	0.21	0.14	0.09	0.04	0.15	0.07	0.04	0.02	0.01	0.01	0.03
2004	0.34	0.23	0.15	0.10	0.04	0.16	0.06	0.03	0.02	0.01	0.00	0.02

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 9.2
Housing
By age
Paraguay, 1995-2004

	Share of housing owners					Number of rooms					Persons per room				
	[15,24]	[25,40]	[41,64]	[65+]	Mean	[15,24]	[25,40]	[41,64]	[65+]	Mean	[15,24]	[25,40]	[41,64]	[65+]	Mean
1995	0.36	0.69	0.85	0.93	0.77	2.0	2.6	3.3	3.1	3.0	1.7	2.4	2.0	1.5	2.1
1997	0.33	0.68	0.86	0.92	0.77	1.9	2.5	3.2	3.2	2.9	1.9	2.4	2.1	1.5	2.1
1999	0.42	0.76	0.87	0.92	0.81	1.9	2.5	3.3	3.1	2.9	1.9	2.4	1.9	1.4	2.0
2001	0.34	0.66	0.85	0.92	0.77	1.9	2.5	3.4	3.4	3.0	1.9	2.5	1.9	1.3	2.0
2002	0.50	0.71	0.86	0.92	0.80	2.1	2.7	3.5	3.4	3.1	1.7	2.2	1.9	1.3	1.9
2003	0.37	0.69	0.85	0.91	0.78	2.4	2.8	3.6	3.6	3.3	1.6	2.1	1.7	1.2	1.8
2004	0.46	0.66	0.86	0.87	0.77	2.2	2.6	3.4	3.3	3.1	1.6	2.1	1.8	1.3	1.8

	Share of "poor" dwellings					Share of dwellings of low-quality materials				
	[15,24]	[25,40]	[41,64]	[65+]	Mean	[15,24]	[25,40]	[41,64]	[65+]	Mean
1995	0.38	0.28	0.26	0.27	0.27	0.05	0.04	0.05	0.08	0.05
1997	0.38	0.27	0.26	0.24	0.27	0.02	0.03	0.04	0.04	0.03
1999	0.36	0.21	0.23	0.26	0.23	0.03	0.03	0.04	0.04	0.03
2001	0.37	0.21	0.18	0.16	0.20	0.03	0.04	0.04	0.03	0.04
2002	0.29	0.19	0.18	0.18	0.19	0.02	0.03	0.03	0.05	0.03
2003	0.22	0.15	0.15	0.16	0.15	0.02	0.02	0.03	0.04	0.03
2004	0.22	0.17	0.14	0.18	0.16	0.03	0.02	0.02	0.04	0.02

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 9.3
Housing
By area
Paraguay, 1995-2004

	Ownership of housing			Number of rooms			Persons per room		
	Rural	Urban	Mean	Rural	Urban	Mean	Rural	Urban	Mean
1995	0.85	0.71	0.77	2.48	3.35	2.95	2.55	1.65	2.06
1997	0.86	0.71	0.77	2.43	3.21	2.88	2.60	1.70	2.09
1999	0.88	0.76	0.81	2.48	3.21	2.90	2.49	1.67	2.02
2001	0.83	0.72	0.77	2.50	3.37	2.99	2.51	1.64	2.02
2002	0.86	0.76	0.80	2.70	3.42	3.13	2.31	1.58	1.87
2003	0.83	0.74	0.78	2.79	3.58	3.26	2.15	1.50	1.77
2004	0.85	0.71	0.77	2.65	3.34	3.06	2.19	1.56	1.81

	Poor dwellings			Low-quality materials		
	Rural	Urban	Mean	Rural	Urban	Mean
1995	0.46	0.12	0.27	0.10	0.01	0.05
1997	0.45	0.14	0.27	0.07	0.01	0.03
1999	0.45	0.07	0.23	0.07	0.00	0.03
2001	0.33	0.10	0.20	0.08	0.01	0.04
2002	0.34	0.08	0.19	0.05	0.01	0.03
2003	0.28	0.07	0.15	0.06	0.01	0.03
2004	0.28	0.08	0.16	0.05	0.01	0.02

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 9.4
Housing
By education of the household head
Paraguay, 1995-2004

	Share of housing owners				Number of rooms				Persons per room			
	Low	Medium	High	Mean	Low	Medium	High	Mean	Low	Medium	High	Mean
1995	0.80	0.68	0.63	0.77	2.7	3.5	4.5	3.0	2.3	1.5	1.0	2.1
1997	0.81	0.67	0.66	0.77	2.6	3.3	4.5	2.9	2.3	1.5	1.0	2.1
1999	0.84	0.76	0.70	0.81	2.7	3.2	4.3	2.9	2.2	1.6	1.1	2.0
2001	0.80	0.66	0.74	0.77	2.7	3.3	4.4	3.0	2.3	1.5	1.0	2.0
2002	0.83	0.70	0.75	0.80	2.9	3.4	4.9	3.1	2.1	1.5	1.0	1.9
2003	0.81	0.70	0.72	0.78	3.0	3.5	4.7	3.3	2.0	1.4	1.0	1.8
2004	0.81	0.68	0.66	0.77	2.8	3.4	4.0	3.1	2.0	1.5	1.1	1.8

	Share of "poor" dwellings				Low-quality materials			
	Low	Medium	High	Mean	Low	Medium	High	Mean
1995	0.33	0.10	0.02	0.27	0.06	0.00	0.01	0.05
1997	0.33	0.11	0.02	0.27	0.04	0.00	0.00	0.03
1999	0.30	0.06	0.03	0.23	0.04	0.01	0.00	0.03
2001	0.25	0.09	0.01	0.20	0.05	0.00	0.00	0.04
2002	0.23	0.09	0.03	0.19	0.04	0.01	0.00	0.03
2003	0.20	0.06	0.02	0.15	0.04	0.01	0.00	0.03
2004	0.20	0.07	0.03	0.16	0.03	0.00	0.00	0.02

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 9.5
Social services
By household equivalized income quintiles
Paraguay, 1995-2004

	Water						Hygienic restrooms						Sewerage					
	1	2	3	4	5	Mean	1	2	3	4	5	Mean	1	2	3	4	5	Mean
1995	0.13	0.27	0.47	0.63	0.81	0.50	0.10	0.25	0.45	0.66	0.84	0.50	0.01	0.02	0.04	0.08	0.28	0.10
1997	0.13	0.28	0.56	0.70	0.89	0.56	0.09	0.24	0.52	0.70	0.89	0.53	0.01	0.00	0.03	0.06	0.24	0.08
1999	0.16	0.39	0.64	0.71	0.85	0.58	0.11	0.31	0.57	0.71	0.87	0.55	0.01	0.01	0.03	0.09	0.23	0.08
2001	0.30	0.46	0.67	0.78	0.89	0.65	0.18	0.32	0.53	0.74	0.89	0.57	0.01	0.02	0.05	0.11	0.26	0.10
2002	0.37	0.47	0.67	0.81	0.89	0.67	0.23	0.35	0.56	0.74	0.88	0.58	0.02	0.02	0.05	0.09	0.25	0.10
2003	0.42	0.58	0.73	0.78	0.90	0.71	0.24	0.42	0.60	0.70	0.88	0.60	0.02	0.04	0.07	0.11	0.26	0.11
2004	0.44	0.58	0.69	0.79	0.90	0.70	0.24	0.44	0.60	0.73	0.89	0.61	0.02	0.02	0.04	0.08	0.20	0.08

	Electricity						Telephone					
	1	2	3	4	5	Mean	1	2	3	4	5	Mean
1995	0.44	0.63	0.80	0.90	0.96	0.77	0.01	0.01	0.04	0.09	0.35	0.12
1997	0.60	0.76	0.92	0.97	0.98	0.86	0.01	0.02	0.06	0.15	0.48	0.17
1999	0.67	0.83	0.92	0.96	0.97	0.89	0.02	0.05	0.12	0.30	0.57	0.24
2001	0.73	0.89	0.93	0.96	0.99	0.91	0.07	0.17	0.29	0.47	0.74	0.38
2002	0.79	0.87	0.93	0.96	0.99	0.92	0.10	0.17	0.29	0.47	0.70	0.38
2003	0.81	0.89	0.94	0.96	0.98	0.93	0.10	0.20	0.33	0.45	0.74	0.40
2004	0.84	0.91	0.94	0.96	0.99	0.93	0.14	0.26	0.35	0.51	0.77	0.44

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 9.6
Social services
By area
Paraguay, 1995-2004

	Water			Restrooms			Sewerage			Electricity			Telephone		
	Rural	Urban	Mean	Rural	Urban	Mean	Rural	Urban	Mean	Rural	Urban	Mean	Rural	Urban	Mean
1995	0.17	0.78	0.50	0.21	0.75	0.50	0.00	0.19	0.10	0.55	0.96	0.77	0.01	0.21	0.12
1997	0.22	0.81	0.56	0.23	0.76	0.53	0.00	0.14	0.08	0.72	0.98	0.86	0.02	0.29	0.17
1999	0.25	0.83	0.58	0.22	0.80	0.55	0.00	0.15	0.08	0.77	0.98	0.89	0.04	0.39	0.24
2001	0.34	0.89	0.65	0.27	0.80	0.57	0.00	0.18	0.10	0.82	0.98	0.91	0.16	0.55	0.38
2002	0.35	0.86	0.66	0.25	0.79	0.57	0.00	0.16	0.10	0.83	0.98	0.92	0.17	0.50	0.37
2003	0.44	0.89	0.71	0.30	0.81	0.60	0.00	0.19	0.11	0.85	0.98	0.93	0.20	0.53	0.40
2004	0.43	0.89	0.70	0.30	0.83	0.61	0.00	0.14	0.08	0.87	0.98	0.93	0.22	0.59	0.44

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 10.1
Household size
Paraguay, 1995-2004

	Area			Equivalent income quintile						Education of household head			
	Rural	Urban	Total	1	2	3	4	5	Mean	Low	Medium	High	Mean
1995	4.9	4.3	4.6	5.6	5.1	4.7	4.4	3.6	4.6	4.7	4.1	3.9	4.6
1997	5.0	4.3	4.6	5.6	5.3	4.7	4.3	3.6	4.6	4.8	4.1	3.8	4.6
1999	4.9	4.3	4.6	5.5	5.1	4.8	4.2	3.7	4.6	4.8	4.1	4.0	4.6
2001	4.9	4.3	4.6	5.7	5.1	4.7	4.5	3.6	4.6	4.8	4.1	3.9	4.6
2002	4.9	4.3	4.5	5.4	5.0	4.7	4.2	3.6	4.5	4.7	4.0	4.1	4.5
2003	4.8	4.2	4.4	5.6	4.9	4.5	4.1	3.6	4.4	4.7	4.0	3.8	4.4
2004	4.7	4.1	4.4	5.1	4.9	4.5	4.1	3.5	4.4	4.6	3.9	3.6	4.4

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 10.2
Number of children
Paraguay, 1995-2004

	Area			Equivalent income quintile						Education of household head			
	Rural	Urban	Total	1	2	3	4	5	Mean	Low	Medium	High	Mean
1995	2.6	1.9	2.3	2.7	2.5	2.2	2.1	1.9	2.3	2.5	1.8	1.6	2.3
1997	2.7	1.8	2.2	2.8	2.6	2.0	1.9	1.8	2.2	2.5	1.7	1.5	2.2
1999	2.5	2.0	2.2	2.6	2.3	2.2	2.1	1.8	2.2	2.4	1.9	1.5	2.2
2001	2.5	1.8	2.1	2.5	2.3	2.2	1.8	1.7	2.1	2.4	1.6	1.5	2.1
2002	2.4	1.8	2.1	2.4	2.2	2.0	1.8	1.8	2.0	2.3	1.6	1.5	2.1
2003	2.3	1.8	2.0	2.3	2.2	2.0	1.9	1.5	2.0	2.2	1.6	1.3	2.0
2004	2.2	1.6	1.9	2.0	2.1	1.9	1.7	1.5	1.9	2.1	1.6	1.3	1.9

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 10.3
Dependency rates
Income earners over household size
Paraguay, 1995-2004

	Area			Equivalent income quintile						Education of household head			
	Rural	Urban	Total	1	2	3	4	5	Mean	Low	Medium	High	Mean
1995	2.3	1.9	2.0	3.3	2.5	2.1	1.8	1.5	2.0	2.1	1.9	1.8	2.0
1997	2.7	1.9	2.2	6.2	2.7	2.3	1.8	1.5	2.2	2.3	1.9	1.8	2.2
1999	2.9	1.9	2.3	7.6	2.7	2.4	1.9	1.5	2.3	2.4	2.0	1.9	2.3
2001	2.2	1.9	2.0	3.2	2.3	2.1	1.8	1.5	2.0	2.0	1.9	1.8	2.0
2002	2.4	2.0	2.1	3.3	2.5	2.2	1.9	1.6	2.1	2.2	2.0	1.8	2.1
2003	2.1	1.9	2.0	3.0	2.3	2.1	1.8	1.5	2.0	2.0	1.9	1.7	2.0
2004	2.1	1.9	1.9	2.8	2.3	2.0	1.8	1.5	1.9	2.0	1.9	1.8	1.9

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 10.4
Mean age
Paraguay, 1995-2004

	Area			Equivalent income quintile					
	Rural	Urban	Mean	1	2	3	4	5	Mean
1995	23.0	25.5	24.3	21.4	22.5	24.1	25.4	28.4	24.4
1997	23.6	25.4	24.6	21.7	23.0	24.3	25.8	28.4	24.6
1999	23.7	25.4	24.6	22.3	22.9	23.3	26.0	28.8	24.7
2001	23.8	26.5	25.3	22.2	23.6	24.7	26.1	30.2	25.3
2002	24.7	26.2	25.5	23.2	23.8	25.1	26.0	29.7	25.5
2003	24.7	26.7	25.8	22.6	24.1	25.1	27.2	30.2	25.8
2004	25.0	26.5	25.8	23.7	24.2	25.1	26.7	29.5	25.9

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 10.5
Correlation between couples
Paraguay, 1995-2004

	Years of education	Hourly wages	Hours of work	
			All couples	Workers
1995	0.73	0.37	0.08	0.24
1997	0.75	0.17	0.07	0.17
1999	0.73	0.32	0.09	0.23
2001	0.72	0.29	0.09	0.18
2002	0.70	0.18	0.00	0.19
2003	0.72	0.60	0.03	0.15
2004	0.71	0.43	0.06	0.18

Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Table 11.1
Poverty profile
Demographics

	USD 2		Official moderate	
	Non-poor (i)	Poor (ii)	Non-poor (iii)	Poor (iv)
Population share	74.0	26.0	60.8	39.2
Population share by age				
[0,15]	66.2	33.8	50.5	49.5
[16,25]	77.1	22.9	64.6	35.4
[26,40]	79.7	20.3	66.1	33.9
[41,64]	79.1	20.9	68.5	31.5
[65+]	77.7	22.3	71.2	28.8
Age distribution				
[0,15]	32.7	47.7	30.1	45.8
[16,25]	20.8	17.6	21.8	18.5
[26,40]	21.7	15.8	21.9	17.4
[41,64]	19.5	14.7	20.4	14.6
[65+]	5.3	4.3	5.9	3.7
Total	100.0	100.0	100.0	100.0
Mean age	27.1	22.4	28.1	22.4
Gender				
Share males	0.50	0.50	0.51	0.49
Household size and structure				
Family size	4.1	5.4	3.8	5.5
Children (<12)	1.6	3.0	1.4	2.7
Dependency rate	0.56	0.34	0.59	0.35
Female-headed hh.	0.26	0.27	0.25	0.27

Source: Own calculations based on microdata from the EPH (2004).

Table 11.2
Poverty profile
Regions

	USD 2		Official moderate	
	Non-poor (i)	Poor (ii)	Non-poor (iii)	Poor (iv)
Urban-rural				
<u>Population share</u>				
Rural	59.4	40.6	59.9	40.1
Urban	85.2	14.8	61.6	38.4
<u>Distribution</u>				
Rural	34.9	67.8	42.5	44.2
Urban	65.1	32.2	57.5	55.8
Total	100	100	100	100
Regions				
<u>Population share</u>				
Asunción	92.8	7.2	73.3	26.7
Central Urbano	87.7	12.3	50.7	49.3
Central Rural	82.2	17.8	83.2	16.8
Resto Urbano	80.2	19.8	67.6	32.4
Resto Rural	56.5	43.5	56.9	43.1
<u>Distribution</u>				
Asunción	11.0	2.4	10.8	6.1
Central Urbano	27.7	11.1	19.5	29.4
Central Rural	5.5	3.4	6.7	2.1
Resto Urbano	26.5	18.7	27.3	20.3
Resto Rural	29.4	64.4	35.8	42.1
Total	100.0	100.0	100.0	100.0

Source: Own calculations based on microdata from the EPH (2004).

Table 11.3
Poverty profile
Housing

	USD 2		Official moderate	
	Non-poor (i)	Poor (ii)	Non-poor (iii)	Poor (iv)
Home ownership	0.76	0.80	0.76	0.78
Number of rooms	3.2	2.4	3.3	2.5
Persons per room	1.6	2.7	1.4	2.7
Poor housing	0.11	0.33	0.12	0.26
Low-quality materials	0.02	0.06	0.02	0.04
Water	0.76	0.47	0.74	0.62
Hygienic restrooms	0.70	0.28	0.68	0.45
Sewerage	0.10	0.02	0.10	0.04
Electricity	0.95	0.85	0.95	0.90

Source: Own calculations based on microdata from the EPH (2004).

Table 11.4
Poverty profile
Education

	USD 2		Official moderate	
	Non-poor (i)	Poor (ii)	Non-poor (iii)	Poor (iv)
<u>Years of education</u>				
Total	6.3	3.8	6.5	4.3
[10,20]	7.0	5.6	7.1	6.0
[21,30]	9.7	6.4	9.9	7.3
[31,40]	8.6	5.2	8.7	6.2
[41,50]	7.6	4.5	7.8	5.2
[51,60]	6.1	3.6	6.2	4.1
[61+]	4.7	2.5	4.8	2.5
<u>Educational groups</u>				
<u>Adults</u>				
Low	59.9	90.0	58.7	81.3
Medium	26.2	9.0	25.7	16.5
High	13.9	1.0	15.6	2.2
Total	100.0	100.0	100.0	100.0
<u>Male adults</u>				
Low	59.0	88.9	58.8	78.7
Medium	28.8	10.0	27.9	18.7
High	12.2	1.1	13.3	2.6
Total	100.0	100.0	100.0	100.0
<u>Female adults</u>				
Low	60.7	91.1	58.7	83.8
Medium	23.6	8.0	23.4	14.4
High	15.8	0.9	18.0	1.9
Total	100.0	100.0	100.0	100.0
<u>Household heads</u>				
Low	63.5	91.0	63.1	82.5
Medium	25.3	8.2	24.7	15.2
High	11.3	0.8	12.2	2.3
Total	100.0	100.0	100.0	100.0
<u>Literacy rate</u>	0.93	0.86	0.93	0.89
<u>School attendance</u>				
[3,5]	0.22	0.19	0.22	0.20
[6,12]	0.97	0.93	0.97	0.94
[13,17]	0.82	0.68	0.80	0.74
[18,23]	0.33	0.19	0.34	0.21

Source: Own calculations based on microdata from the EPH (2004).

Table 11.5
Poverty profile
Employment

	USD 2		Official moderate	
	Non-poor (i)	Poor (ii)	Non-poor (iii)	Poor (iv)
<u>In the labor force</u>				
Total	0.51	0.40	0.54	0.40
[16,24]	0.63	0.64	0.66	0.60
[25,55]	0.85	0.76	0.86	0.77
[56+]	0.55	0.52	0.56	0.50
Men [25,55]	0.97	0.94	0.97	0.94
Women [25,55]	0.72	0.58	0.74	0.61
<u>Employed</u>				
Total	0.47	0.36	0.51	0.36
[16,24]	0.54	0.56	0.58	0.49
[25,55]	0.81	0.69	0.83	0.70
[56+]	0.53	0.50	0.55	0.47
Men [25,55]	0.94	0.85	0.95	0.86
Women [25,55]	0.68	0.53	0.70	0.55
<u>Unemployment rate</u>				
Total	0.07	0.09	0.06	0.11
[16,24]	0.15	0.14	0.12	0.18
[25,55]	0.05	0.09	0.04	0.09
[56+]	0.03	0.04	0.03	0.06
Men [25,55]	0.03	0.09	0.03	0.09
Women [25,55]	0.06	0.08	0.05	0.10
<u>Unemployment spell (months)</u>				
	5.8	6.0	5.6	6.1
<u>Child labor</u>				
	0.16	0.26	0.17	0.22

Source: Own calculations based on microdata from the EPH (2004).

Table 11.6
Poverty profile
Hours, wages and earnings

	USD 2		Official moderate	
	Non-poor (i)	Poor (ii)	Non-poor (iii)	Poor (iv)
<u>Worked hours</u>				
Total	47.7	40.9	47.9	43.1
[16,24]	45.5	41.3	46.4	42.4
[25,55]	50.3	43.8	50.5	46.2
[56+]	45.1	40.1	44.9	42.1
Men [25,55]	54.4	50.1	54.2	52.0
Women [25,55]	44.5	34.0	45.2	37.5
<u>Hourly wages</u>				
Total	6,781	1,924	7,212	2,494
[16,24]	4,810	1,758	5,003	2,160
[25,55]	7,465	2,099	8,052	2,750
[56+]	7,370	1,509	7,642	1,960
Men [25,55]	7,782	1,818	8,372	2,676
Women [25,55]	6,999	2,552	7,585	2,862
<u>Earnings</u>				
Total	1,133,002	257,359	1,207,393	387,020
[16,24]	717,918	220,550	761,744	320,195
[25,55]	1,307,790	288,998	1,412,452	439,540
[56+]	1,079,028	199,527	1,113,896	291,324
Men [25,55]	1,552,397	332,337	1,665,905	525,086
Women [25,55]	950,929	219,149	1,043,462	311,703

Source: Own calculations based on microdata from the EPH (2004).

Table 11.7
Poverty profile
Employment structure

	USD 2		Official moderate	
	Non-poor (i)	Poor (ii)	Non-poor (iii)	Poor (iv)
<u>Labor relationship</u>				
Entrepreneur	4.8	0.9	5.2	1.1
Salaried worker	45.5	14.0	45.9	27.4
Self-employed	34.5	48.9	34.8	41.3
Zero income	8.2	27.0	8.6	19.5
Unemployed	7.0	9.1	5.6	10.8
Total	100.0	100.0	100.0	100.0
<u>Labor group</u>				
Entrepreneurs	5.1	1.0	5.5	1.3
Salaried-large firms	17.5	3.4	16.8	8.9
Salaried-public sector	9.1	0.7	9.3	2.5
Self-employed professionals	1.2	0.1	1.3	0.2
Salaried-small firms	22.2	11.4	22.4	19.2
Self-employed unskilled	36.0	53.8	35.6	46.1
Zero income	8.9	29.7	9.1	21.8
Total	100.0	100.0	100.0	100.0
<u>Formality (based on labor group)</u>				
Formal	33.0	5.1	32.9	12.8
Informal	67.0	94.9	67.2	87.2
Total	100.0	100.0	100.0	100.0
<u>Formality (based on social security rights)</u>				
Formal	26.1	1.9	26.7	11.1
Informal	73.9	98.1	73.3	89.0
Total	100.0	100.0	100.0	100.0
<u>Sectors</u>				
Primary activities	24.9	67.1	27.7	45.9
Industry-labor intensive	6.4	4.6	6.1	5.5
Industry-capital intensive	6.2	2.9	5.6	4.9
Construction	5.2	2.1	4.3	4.7
Commerce	26.1	12.4	24.4	19.4
Utilities & transportation	5.3	1.2	5.1	2.8
Skilled services	3.5	0.4	3.7	0.8
Public administration	4.2	0.2	4.1	1.5
Education & Health	11.5	5.2	11.2	7.4
Domestic servants	6.8	3.8	7.8	7.3
Total	100.0	100.0	100.0	100.0
<u>Contract</u>	n.a	n.a	n.a	n.a
<u>Permanent job</u>	n.a	n.a	n.a	n.a
<u>Right to pensions</u>	0.29	0.02	0.29	0.13
<u>Labor health insurance</u>	0.27	0.04	0.27	0.14
<u>Unionized</u>	n.a	n.a	n.a	n.a

Source: Own calculations based on microdata from the EPH (2004).

Table 11.8
Poverty profile
Income

	USD 2		Official moderate	
	Non-poor (i)	Poor (ii)	Non-poor (iii)	Poor (iv)
<u>Household per capita income</u>	602,265	83,372	686,223	133,411
<u>Household total income</u>	2,454,291	450,615	2,634,658	729,958
<u>Gini per capita income</u>	0.479	0.248	0.472	0.331
<u>Individual income</u>				
Labor	88.0	86.6	88.0	88.5
Non-labor	12.0	13.4	12.0	11.5
Total	100.0	100.0	100.0	100.0
<u>Labor income</u>				
Salaried work	48.6	30.4	48.2	54.1
Self-employment	33.2	67.5	32.9	43.0
Own firm	18.2	2.1	18.9	2.9
Total	100.0	100.0	100.0	100.0
<u>Non-labor income</u>				
Capital	17.0	1.7	17.7	3.0
Pensions	31.5	6.4	32.4	9.2
Transfers	51.5	91.9	49.9	87.8
Total	100.0	100.0	100.0	100.0

Source: Own calculations based on microdata from the EPH (2004).

Table 11.9
Poverty profile
Simulations

A. Household incomes and size

	Non-poor (i)	Poor (ii)
Household total income	2,454,291	416,899
Household per capita income	602,265	77,134
Household size	4.08	5.40
Individual labor income	1,133,002	257,359
Number of labor income earners	1.77	1.40
Household non-labor income	273,418	55,411

B. Simulations

	\$
Poor's per capita income	77,134
Poor's per capita income with the non-poor's	
1. Household size	102,304
2. Individual labor income	304,694
3. Number of labor income earners	94,466
4. Household non-labor income	117,469
5. Household total income	421,333
6. Household total income and size	558,821

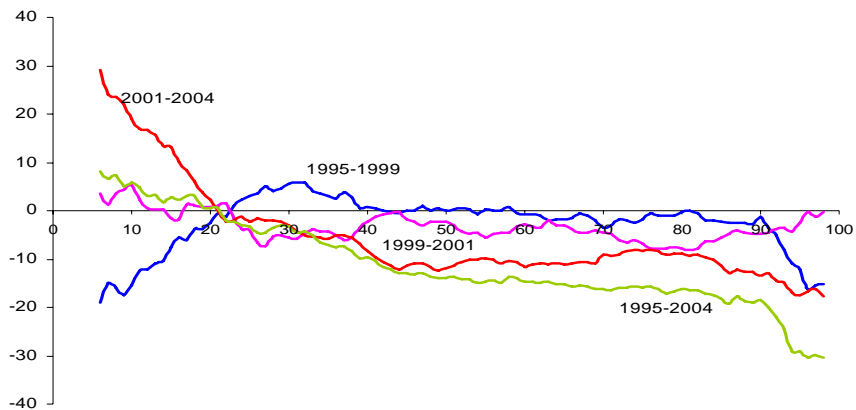
Source: Own calculations based on microdata from the EPH (2004).

Table 11.10
Poverty profile
NBI

	USD 2		Official moderate	
	Non-poor (i)	Poor (ii)	Non-poor (iii)	Poor (iv)
Poor as				
Lack of endowments	0.55	0.91	0.54	0.80
Lack of endowments and income less than 2USD	0.00	0.91	0.02	0.55

Source: Own calculations based on microdata from the EPH (2004).

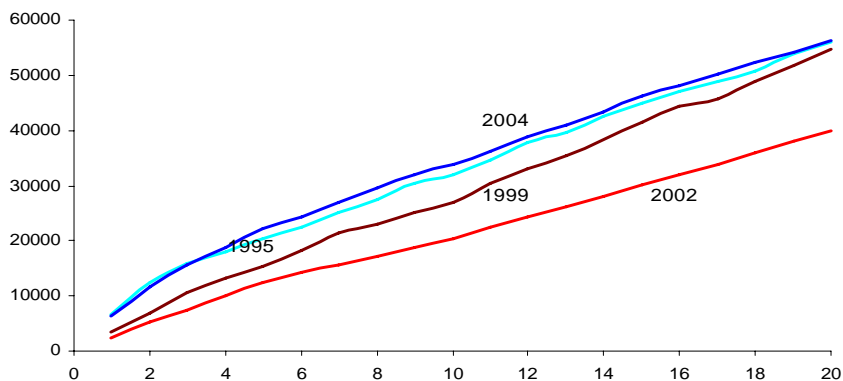
Figure 3.1
Growth-incidence curves
Household per capita income proportional changes by percentile
Paraguay, 1995-2004



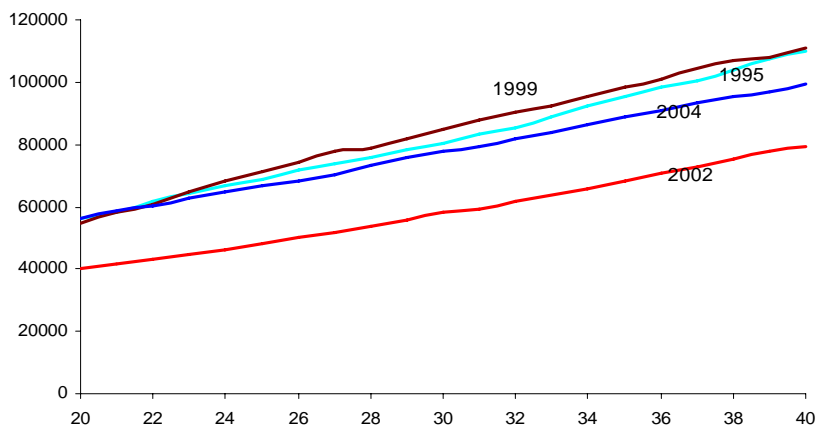
Source: Own calculations based on microdata from the EH-MO (1995) and EPH (1999, 2001 and 2004).

Figure 3.2
Pen Parade's curves
Paraguay, 1995-2004

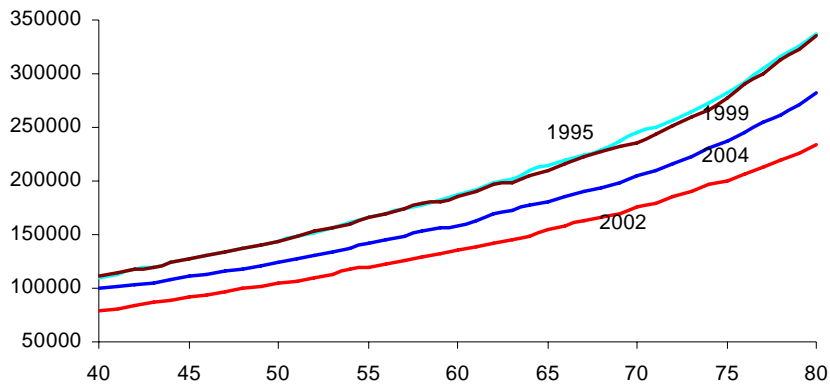
A. Percentiles 1 to 20



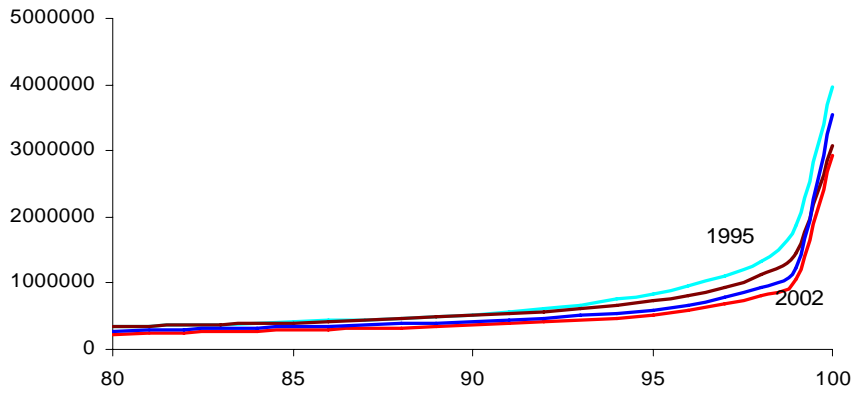
B. Percentiles 20 to 40



C. Percentiles 40 to 80



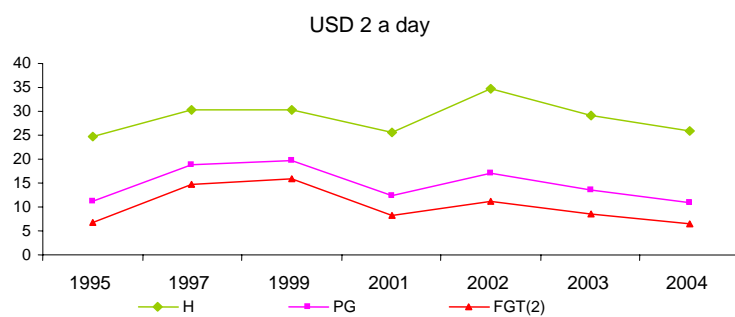
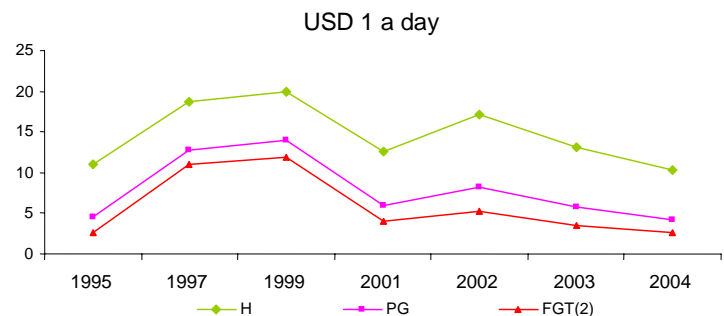
D. Percentiles 80 to 100



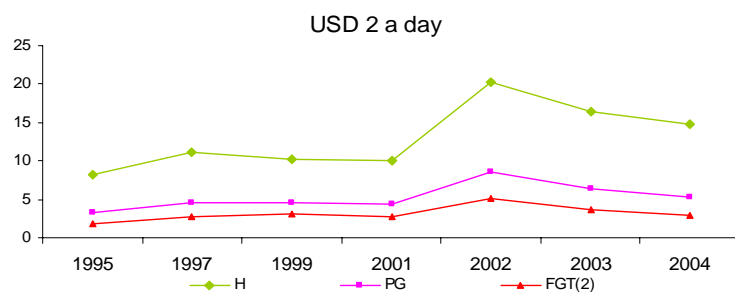
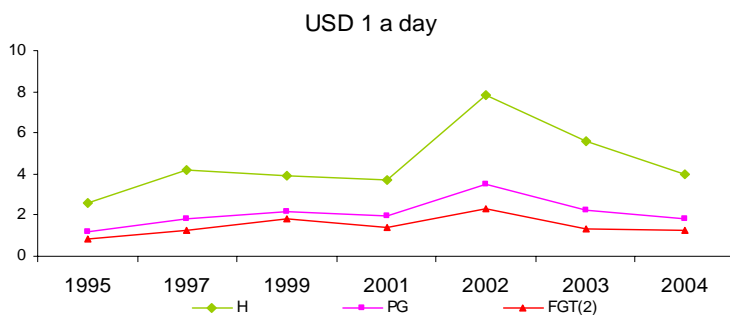
Source: Own calculations based on microdata from the EH-MO (1995) and EPH (1999, 2002 and 2004).

Figures 4.1
Poverty
Paraguay, 1995-2004
USD 1 and USD 2 poverty lines

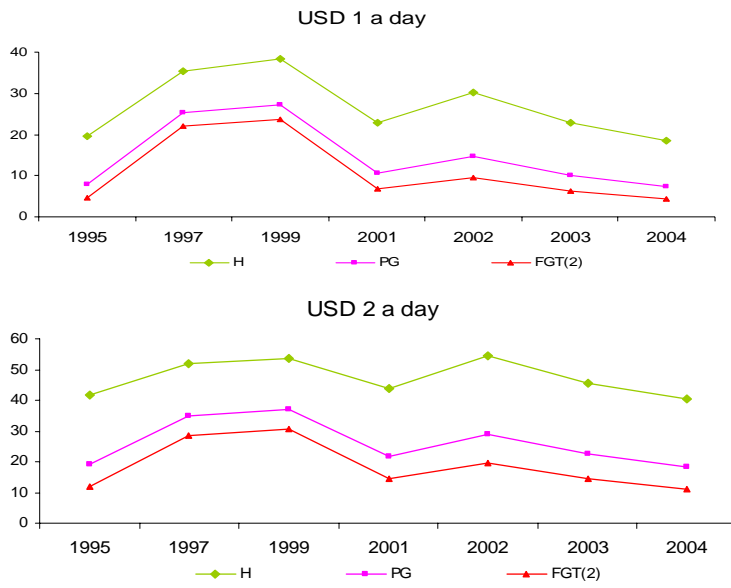
National



Urban Areas



Rural Areas

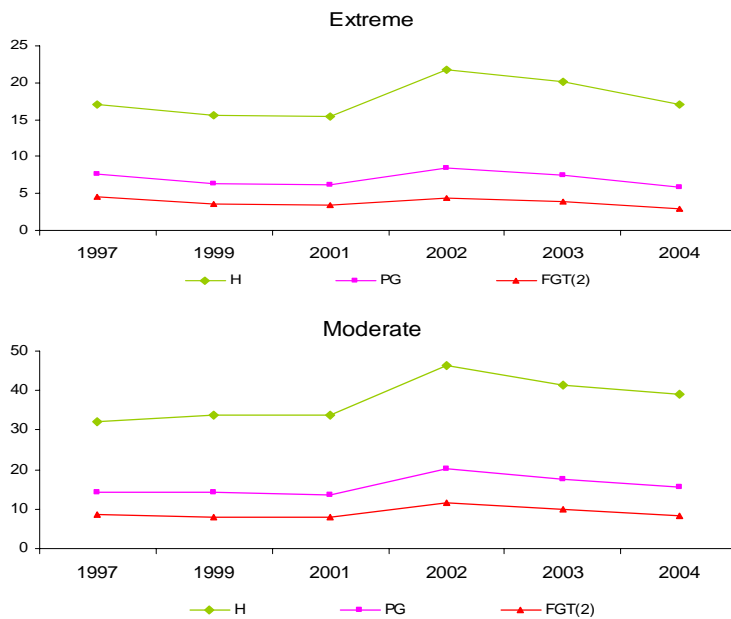


Note: $FGT(x)$ = Foster, Greer and Thorbecke index with parameter x .

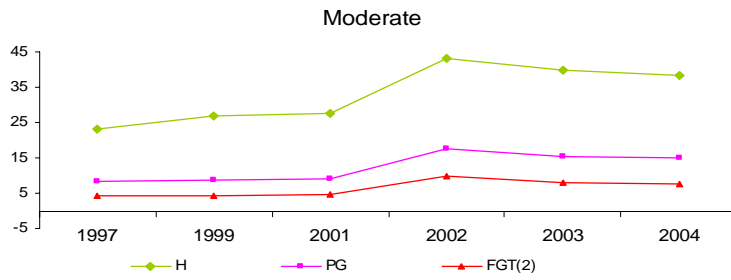
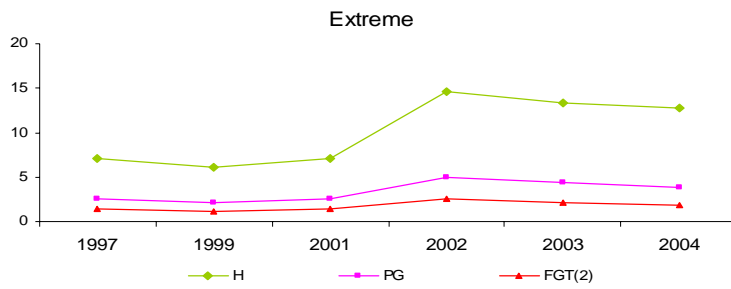
Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Figures 4.2
Poverty
Paraguay, 1997-2004
Extreme and Moderate poverty lines

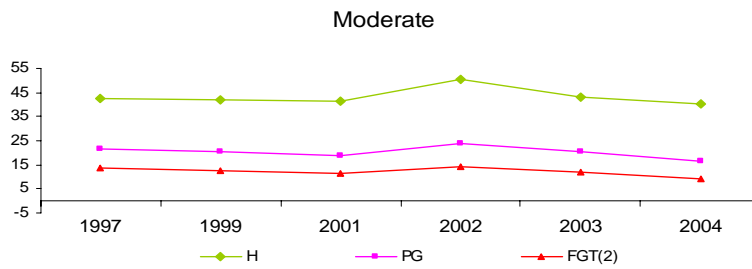
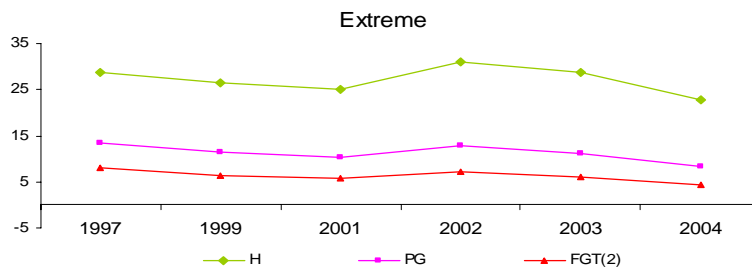
National



Urban Areas



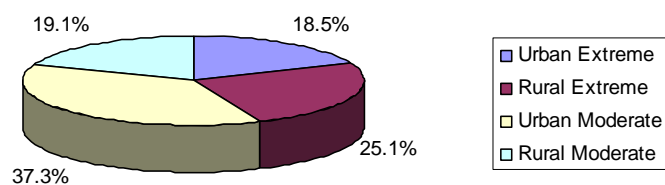
Rural Areas



Note: $FGT(x)$ = Foster, Greer and Thorbecke index with parameter x .

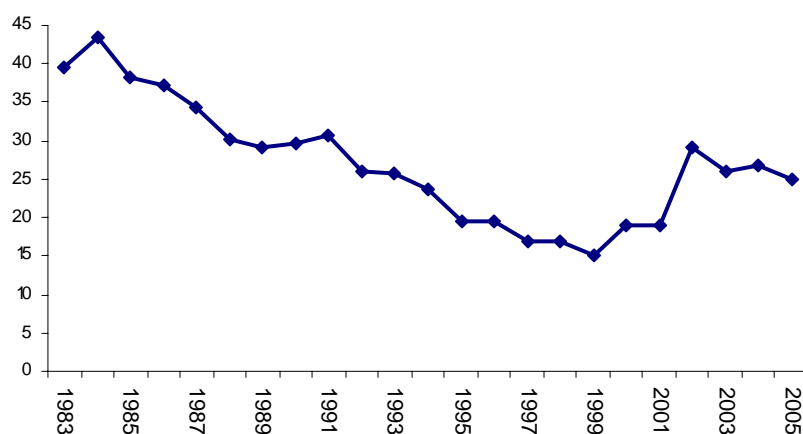
Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Figure 4.3
Proportion of extreme and moderate poor
By area
Paraguay, 2004



Source: Own calculations based on microdata from the EPH (2004).

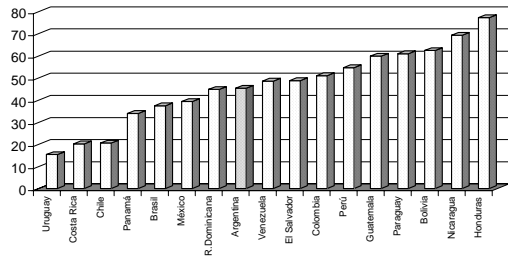
Figure 4.4
Poverty headcount ratio
Official poverty line
AMA 1983-2002



Source: MECOVI (2001), DGEEC (2002), World Bank (2003) and own calculations based on microdata from the EPH (1999, 2002, 2003 and 2004).

Figure 4.5
Poverty headcount ratio
LAC countries
Around 2002 and 1990
ECLAC estimates

Around 2002



Around 1990

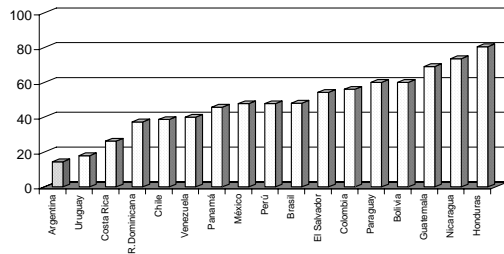
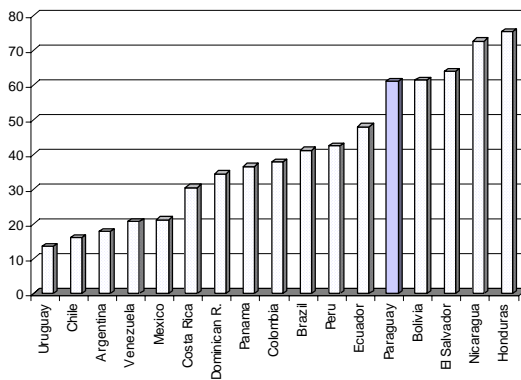
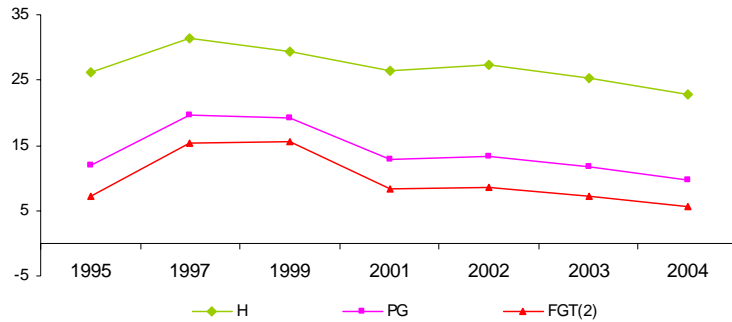


Figure 4.6
Poverty headcount ratio
LAC countries
Late 1990s, early 2000s



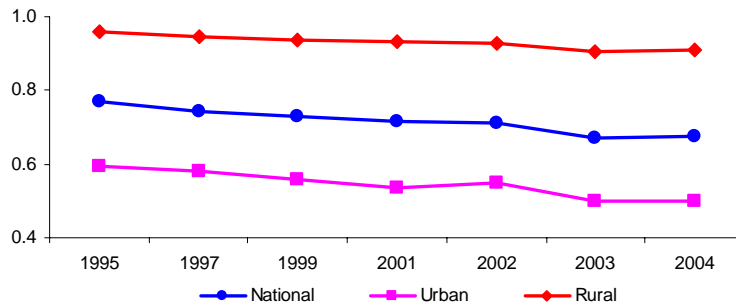
Source: Székely (2001).

Figure 4.7
Poverty
Paraguay, 1995-2004
50% median poverty line
National



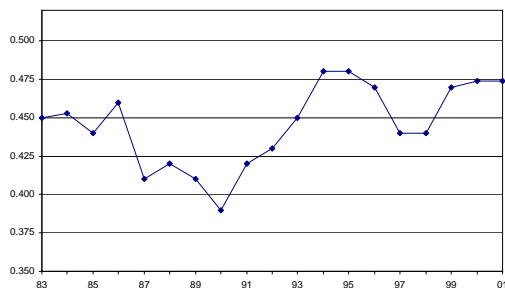
Note: FGT(x) = Foster, Greer and Thorbecke index with parameter x.
 Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Figure 4.8
Poverty indicator
Endowments
Paraguay, 1995-2004



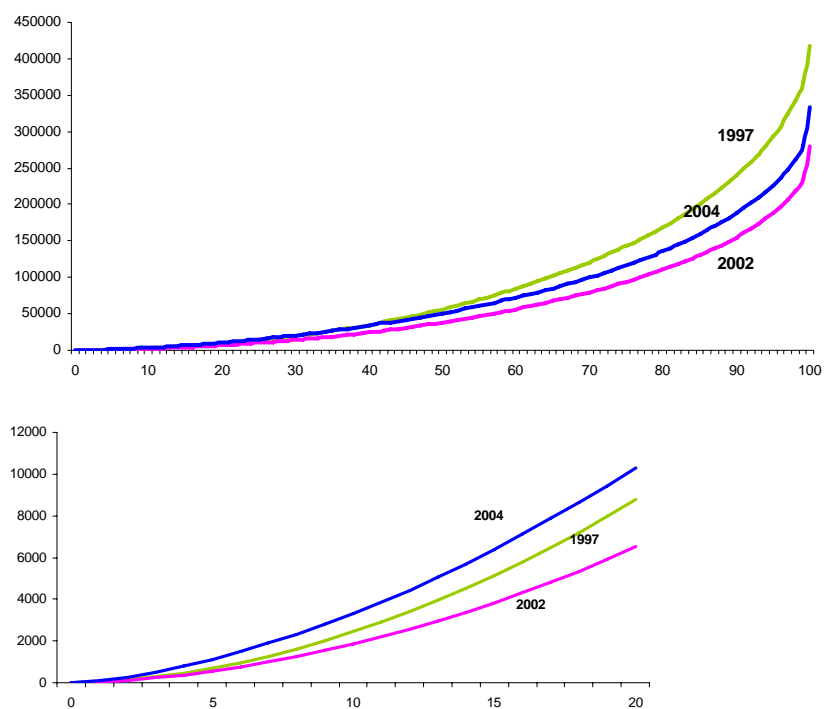
Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).

Figure 5.1
Gini coefficient
Distribution of equivalized household income
AMA, 1983-2002



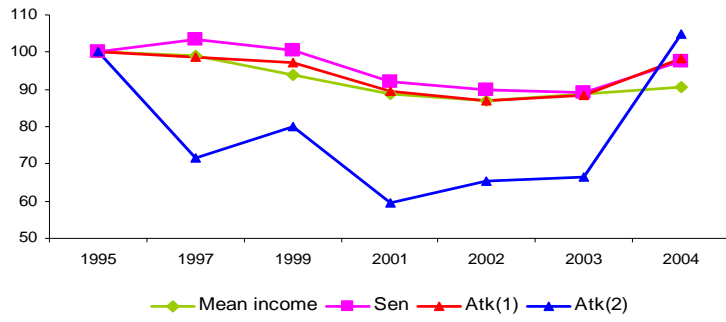
Source: Based on Robles (1999) and DGEEC (2003).

Figure 6.1
Generalized Lorenz curves
Paraguay, 1997-2004



Source: Own calculations based on microdata from the EIH (1997/98) and EPH (2002 and 2004).

Figure 6.2
Aggregate welfare, 1995-2004
Inequality from household surveys and mean income from national accounts



Source: Own calculations based on microdata from the EH-MO (1995), EIH (1997/98 and 2000/01) and EPH (1999, 2002, 2003 and 2004).