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Poverty and Inequality in Argentina:

Methodological Issues and a Literature Review

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Abstract

This paper has two main objectives. On the one hand, it is aimed at assessing the reliability of poverty and inequality measures in Argentina, and their robustness to methodological changes. In particular, we evaluate the impact on the measurement of poverty and inequality of adjustments for non-response, missing values, zero income, under-report, implicit rent from own-housing, and regional prices. The second objective of the paper is to review the poverty and inequality literature in Argentina. In particular, we focus on the contributions on the level, trends and characteristics of poverty and inequality, and the development of anti-poverty programs, highlighting the main gaps remaining in the literature.

Keywords: poverty, inequality, measurement, Argentina

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1. Introduction

In a companion paper (CEDLAS, 2004) we present and discuss a wide range of poverty and social development indicators for Argentina. In the present paper we complement that report by (i) assessing the robustness of poverty and inequality measures to several methodological decisions, and by (ii) reviewing the poverty and inequality literature.

The measurement of poverty and inequality requires taking a large number of methodological decisions. Some of these decisions are linked to theoretical issues. The measurement of poverty requires choosing a dimension in which to define poverty (income/consumption, basic needs, endowments), selecting a poverty line, and an aggregation method, *i.e.* a poverty index. Similar decisions should be taken in order to measure inequality. The large literature on poverty and inequality indices reflects the complexity of this issue.¹ A second level of methodological decisions refers to practical matters. Even when we agree in the way poverty and inequality should be measured, the empirical implementation is usually not trivial. In Latin America poverty and inequality are measured based on incomes reported in household surveys. Statistics are then subject to potential biases coming from income non-response and misreport. Another problem is generated by the fact that the items included in household income differ across countries, and sometimes even within a country over time. In fact, household surveys in Latin America are constantly evolving, a fact that, although certainly welcome, adds a significant problem of comparability.

While in CEDLAS (2004) we tackle the first methodological issue by assessing the robustness of poverty and inequality measures to changes in poverty lines, and poverty and inequality indices, section 2 of the present document is aimed at analyzing the second type of methodological issues, *i.e.* those related to the practical implementation of poverty and inequality measures. We first assess the effect on the measurement of distributional indicators of changes in the characteristics of the main household survey in Argentina- the EPH. We then analyze the issues of non-response, misreport, non-monetary incomes, and implicit rent from own-housing. One separate subsection is devoted to the discussion of regional issues: adjustment for regional prices, and the bias for ignoring the rural population. We also investigate the impact of the sample variability problem on the distributional statistics. The main conclusion in section 2 is that while the *level* of poverty and inequality is sensible to some methodological changes, the trends are in general quite robust.

In section 3 we present a survey of the poverty and inequality literature in Argentina, and the cross-country international literature that includes Argentina. There is not a long tradition in studying distributional issues in Argentina. At least two reasons contribute

¹ See Lambert (1993), Deaton (1997) and Cowell (2000).

to this fact. On the one hand, poverty was not a very relevant problem in the country. In fact, Argentina was traditionally one of the countries with the lowest poverty rates in Latin America. Inequality was also low compared to other Latin American economies. On the other hand, poverty and inequality measurement and analysis requires microdata from household surveys, which is available since not too long. Even when Argentina has carried out household surveys since the early 1970s, empirical studies were not common given the difficulties in accessing and processing the information. The distributional literature flourished in the 1990s stimulated by the substantial poverty and inequality growth, and the increasing availability of household surveys. Argentina has now well-established systems of surveys, and although there remain several limitations, researchers have access to micro datasets to study poverty and inequality issues.

In reviewing the literature, we particularly focus on the contributions on the level, trends and characteristics of poverty and inequality, and the development of anti-poverty programs, highlighting the main gaps remaining in the literature. We do not try to make a comprehensive list of all the contributions, but instead to single out the main strands of the literature. All studies reviewed agree on stressing the disappointing performance of Argentina in terms of poverty and inequality.

2. Methodological issues

Most poverty and inequality statistics in Argentina are computed from microdata of the Encuesta Permanente de Hogares (EPH). Besides the usual problems of all household surveys in Latin America (*e.g.* lack of consumption data, poor information on capital income), the EPH has several particular limitations: lack of rural data, lack of data on small urban areas, significant variations of non-response over time, lack of data on the implicit rent from own-housing and non-current income, and substantial recent methodological changes in the design of the survey. The rest of this chapter explores the impact of these issues on the measurement of poverty and inequality.

2.1. Changes in the survey

The Encuesta Permanente de Hogares (EPH) is the main household survey in Argentina. The EPH is carried out since the early 1970s by the Instituto Nacional de Estadística y Censos (INDEC). It covers 31 large urban areas which are home of 71% of the Argentine urban population. Since the share of urban areas in Argentina is 87.1% (one of the largest in the world), the sample of the EPH represents around 62% of the total population of the country.

The microdata of the EPH is available for the Greater Buenos Aires (GBA) since October, 1974. Since then, two major changes have been implemented by INDEC. First, the survey has extended to cover all large urban areas in the country, with at least one observation in each province. The second major change is the recent implementation of

the Encuesta Permanente de Hogares Continua: the survey is now carried out over the whole year, and not in two rounds (May and October) as before.

Changes in geographical coverage

As mentioned above, the EPH was extended from the GBA to 31 large urban areas in the country. This geographical extension has taken place gradually over time. Some conglomerates were included in the 1980s, while others have been added in the 1990s. The last conglomerates to join the EPH were San Nicolás-Villa Constitución, Trelew-Rawson and Viedma-Patagones in 2002.

This process of progressively adding urban areas calls for a careful treatment of the data. Comparisons of statistics should take into account that a different number of urban areas is available at each point in time. Given this problem, several studies have taken an extreme solution: restricting the analysis to the Greater Buenos Aires. In fact, this is the only possibility if one wants to construct a series starting in the mid 1970s. Our study is mainly focused on the distributional statistics since the early 1990s, so we can be more ambitious in including more conglomerates. We select a set of 16 urban areas with consistent EPH microdata since 1992: Capital Federal, Conurbano Bonaerense, Comodoro Rivadavia, Córdoba, Jujuy, La Plata, Neuquén, Paraná, Río Gallegos, Salta, San Luis, San Juan, Santa Rosa, Santa Fe, Santiago del Estero and Tierra del Fuego.² From 1998 on, we extend the analysis to 29 urban areas, including data on Bahía Blanca, Catamarca, Concordia, Corrientes, Formosa, La Rioja, Mar del Plata, Mendoza, Posadas, Resistencia, Río Cuarto, Rosario and Tucumán.³

Table 2.1 illustrates the impact of changing the geographical coverage. In 1992 we compute poverty and inequality statistics for the GBA (the conglomerates of Capital Federal and Conurbano) and the aggregate of 16 urban areas. In 1998 we compute statistics also for the aggregate of 29 cities. We also present the statistics for GBA and the two samples of 16 and 29 cities in 2003. The table shows that poverty is higher when using the sample of 29 cities. This is consistent with the inclusion in the larger sample of cities in the Northeast and Northwest of Argentina, the two poorest regions in the country (Catamarca, Concordia, Corrientes, Formosa, La Rioja, Posadas, Resistencia and Tucumán). Notice, however, that as we add these urban areas the changes in the poverty indices are not large. For instance, the official extreme poverty headcount ratio rises from 24.2 in the 16-cities sample to 25.0 in the larger sample.

² In fact Capital Federal (the city of Buenos Aires) and Conurbano Bonaerense (the suburbs) are a single conglomerate (the Greater Buenos Aires). INDEC differentiates the two areas with different codes.

³ We do not include in the analysis Alto Valle del Río Negro and Interior de Mendoza which were covered in some rounds, and the recently (2002) incorporated areas of San Nicolás-Villa Constitución, Rawson-Trelew and Viedma-Carmen de Patagones.

In 1992, poverty was higher in the sample of 16 cities than in the GBA. By 2003 this difference has vanished. This is a consequence of the particularly large increase in poverty in the GBA, compared to the rest of the urban Argentina. Notice, however, that the main results on trends are not modified by the changes in coverage. For instance, while the official extreme poverty headcount ratio increased 21.3 points between 1992 and 2003 in GBA, the increase in the 16-cities sample was not substantially lower: poverty increased 20.5 points. Between 1998 and 2003 extreme poverty increased 16.5 points for the 16-cities sample and 16.7 for the larger sample.

Table 2.1 also shows that although the level of inequality, as measured by the Gini coefficient, is pretty similar across the samples considered, the GBA has become relatively more unequal compared to the rest of urban Argentina. While the Gini increased 9.2 points in the GBA from 1992 to 2003, the increase for the sample of 16 conglomerates was 7.7. Again, the main story –in this case, the dramatic increase in inequality during the last decade - is robust to the geographical coverage of the survey, although the intensity of the phenomenon varies across urban areas.

The new EPH continua

The EPH was carried out twice a year, in May and October. During 2003 a major methodological change was implemented by INDEC, including changes in the questionnaires and in the timing of the survey visits. The EPH is now conducted over the whole year. INDEC publishes statistics by quarters and semesters, and it is supposed to share the microdata with the same frequency. However, so far only a reduced version of the dataset of the new EPH-Continua (EPHC) for the fourth quarter of 2003 has been released to the public.

The change from the EPH to the EPHC introduces noise in all the series. Table 2.2 reports various poverty and inequality measures with the last EPH (May, 2003) and the first EPHC available to the public (IV quarter, 2003). The values are substantially different. For instance, the poverty headcount ratio for the moderate official poverty line was 54.6 in the EPH of May, 2003 and 48.6 in the EPHC of the IV quarter, 2003. This change could be due to methodological changes in the survey, but it is more likely the consequence of the high growth rate experienced by the Argentina's economy during 2003. Actually, INDEC has published statistics computed with the microdata of the first semester of the EPHC, which are pretty close to our estimates with the May 2003 EPH. For instance, INDEC reports a moderate official poverty headcount ratio of 54.0, which is close to our 54.6 using the EPH, May 2003. Given this preliminary evidence, we interpret estimated changes between the EPH and the EPHC as mostly driven by real facts rather than by methodological changes. A more rigorous analysis of the impact of the changes introduced by the EPHC on distributional statistics should be deferred until INDEC releases the microdata of the EPHC for the first quarter (or semester) of 2003.

The questionnaire of the new EPHC is intended to improve the report of labor variables and incomes, in particular those related to informal jobs and public programs. The EPHC includes some additional questions to the original EPH to capture incomes from vouchers, tips, and other items not included in regular wages. It is also richer in the questions on incomes from self-employment, and incomes from public programs, charity and child labor. Given these changes, the presumption is that recorded poverty and inequality would be somewhat lower in the new survey compared to the original EPH questionnaire. Unfortunately, it is impossible to check this presumption due to lack of relevant data.

The EPHC includes some questions on the household strategy to finance expenditures (disaving, borrowing, selling assets, and others), and on non-monetary items of household income. Unfortunately, these are only binary “yes-or-no” questions, and then they are not useful for a traditional poverty and inequality analysis.

As mentioned above, although the EPHC has around two years of being carried out, so far only the microdata of the IV quarter of 2003 is available to the public.⁴ Moreover, only a reduced version of the dataset is in the INDEC web page, which significantly reduces the possibility of studying the new survey. For instance, with the data available researchers have to rely on the INDEC’s estimates of total household income, since it is impossible to construct this variable, because data on secondary jobs, and on non-labor income was not included in the dataset. Many of the tables in our companion paper (CEDLAS, 2004) present information only until May 2003, since it is impossible to construct several variables with the limited information of the EPHC available so far.

The EPHC differs from the EPH in another relevant direction: non-response and inconsistency in the income answers seems to be a more important issue in the new survey. The next section has more on this.

2.2. Non response and invalid answers

Not all the individuals selected to respond the household survey answer all the questions. Non-response is more usual for the income questions. The existence of missing incomes can bias the statistics if non-response is correlated with income. Even when that occurs, trends may not be affected if people who do not answer the income questions are consistently the same.

When a household refuses to answer the whole survey (known as *unit* non-response) the typical procedure is to reweight observations. This practice is more successful in alleviating the bias of non-response when the geographical segregation of people with similar socioeconomic conditions is high. It is also common that people answer the

⁴ It is likely that microdata of the first two quarters of 2004 is released in the near future.

survey, but refuses to provide information on incomes (*item non-response*). In this case, the statistical offices usually do not reweight the observations. That was the practice of INDEC until the EPHC. The Argentina's statistical office provides in the datasets of the new survey weights for individual and household income variables. Although this practice is welcome, it introduces another source of differences with the previous EPH.

Table 2.3 shows some poverty and inequality statistics from the EPHC computed using the income weights and the general weights (*i.e.* not controlling for income non-response). Poverty and inequality are lower in the first case. If the INDEC had not introduced the new practice of reweighting the observations with missing household incomes, recorded poverty and inequality would have been a little higher. Official moderate poverty, for instance, would have been 50.4 in the IV quarter of 2003, instead of 48.6.

Some people respond the income questions but their answers are unreliable. Often, the statistical office detects the situation and marks the invalid observations in the survey. INDEC applies this procedure in the EPH, identifying the missing or unreliable observations. A particular, and debatable, kind of unreliable observation is a person who declares to be working as a wage earner or self-employed, but reports zero income. In the EPH a non-negligible fraction of the working population reports zero income. This answer can be the consequence of different situations: (i) the individual in fact did not earn any income during the period covered by the survey, (ii) she earned only non-monetary income, which is not covered by the EPH, or (iii) she misreported income. Household monthly income is used as a proxy for well-being. While people may have zero household income in one particular month, that cannot be a good proxy for their well-being. For this reason we include in the analysis as invalid answers those who are working for a pay, but report zero income.

The share of observations with non-missing and valid household income increased over the 1980s (Gasparini and Sosa Escudero, 2001), and stabilized around 90% in the 1990s. Table 2.4 shows that after a small reduction in non-response around 1998, the share of individuals with non-missing valid household income went back to around 90%. The table shows a worrying value for the EPH Continua, although it should be recalled that the dataset available is still preliminary.

The typical way to alleviate the problem of non-valid incomes is imputing earnings to non-respondents by applying the coefficients of a Mincer equation, or by matching techniques. Since in Argentina most workers report hours of work - even those who do not report earnings-, we estimate Mincer equations for hourly wages, and estimate monthly earnings multiplying predicted wages and reported worked hours. Mincer equations are estimated for log hourly wages, separately for men and women aged 18 to 65 using Heckman Maximum Likelihood. The coefficients of these equations and the

distribution of estimated residuals are used to predict wages for those workers with missing earnings.

The practice of imputing incomes faces an important problem: the R^2 of the Mincer equations are typically low, since most determinants of earnings are unobservable. This problem is particularly severe for capital income, which is the income source with higher rates of non-response. In this document we implement income estimations and imputations only for labor income.

Table 2.5 compares the population with valid household income, and those with imputed household income in 1992 and 2003.⁵ First, notice that while in 1992 we could impute income to 5% of the population (around 50% of those with missing income), in 2003 the share was 4.5%. The second row in table 2.5 shows an interesting result: in both years the mean imputed income is substantially higher than the original mean income. The ratio imputed to original income increased from 1.4 in 1992 to 1.8 in 2003. The third panel in Table 2.4 helps understanding the income gap: household heads with missing and imputed income are on average more educated than those with valid incomes. In 2003 that difference is large: while 17.4% of household heads with valid income answers have a college degree, that share climbs to 31.7% for those with missing income information. Given the above discussion, it is natural that individuals with imputed income are located more in the upper quintiles of the distribution, and that poverty for that group is lower than for the rest. Differences in poverty between this group and the rest are larger in 2003.

In Table 2.6 we recompute the main poverty and inequality statistics including those observations with imputed household income. The change in the poverty measures after the adjustment is small for 1992, and somewhat larger for 2003, but in any case higher than 5%. The conclusion of the substantial increase in poverty between 1992 and 2003 is robust to the adjustment. The analysis suggests that our picture of poverty in Argentina is not affected by the significant number of missing income observations in the EPH. The same conclusion applies to inequality. The Gini coefficients in Table 2.6 are slightly affected by the adjustments. None of the changes after performing the imputations is significant. Gasparini and Sosa Escudero (2001) also find that between 1980 and 1998 the inequality trend in Argentina is almost exactly the same with or without adjustment for non-response, even when the proportion of people with incomplete household incomes in the EPH was reduced from 25% in the 1980s to 8% in the late 1990s.

Most of the literature includes zero income observations for poverty statistics and ignore them for inequality indicators.⁶ This differential treatment arises from the

⁵ Unfortunately, we cannot implement the estimation for the EPHC, due to information constraints in the dataset available.

⁶ See for instance the discussion in Székely and Hilgert (1999).

assumption that zero household income mostly comes from households with all members unemployed, and/or from misreport by low-income people who forget or are not asked to report some income sources (*e.g.* charity, in-kind payments). Under this assumption zero income respondents should be considered as poor. However, some inequality measures (*e.g.* Atkinson index) collapse when considering zero income. Inequality indicators are scale invariant and then rely on proportional income differences. Accepting zero income implies dividing by zero, which generates problems. Given this fact, and the likely unreliability of zero household income, families who report zero income are usually ignored when computing inequality indicators.

In Table 2.7 we compute different poverty and inequality measures including and excluding observations with zero household income.⁷ As expected, poverty and inequality decrease when excluding zero income observations. However, changes are small. Moreover, the two last columns of the table suggest that the recorded poverty and inequality changes between 1992 and 2003 are not affected by the methodological treatment of zero incomes.

2.3. Misreporting

People do not necessarily tell the true when answering a survey. In particular, there is evidence that individuals under-report incomes. Under-reporting can be the consequence of the deliberate decision of the respondent to misreport, or to the absence of questions to capture some income sources, or to the difficulties in recalling or estimating income from certain sources (earnings from informal activities, in-kind payments, home production, capital income). Differential misreporting behavior among respondents and differential efforts in the survey design can distort comparisons across countries. If these behaviors and efforts change over time they can also distort the assessment of trends within countries.

Researchers apply mainly two kinds of strategies to alleviate these problems. The first one is restricting the analysis to more homogeneous variables subject to less problems of misreporting. The second strategy is applying some grossing-up procedure. Income from a given source in the household survey is adjusted to match the corresponding value in the National Accounts. This adjustment usually leads to inflating capital income relatively more than other income sources.

Unfortunately, the Argentina's government has not published information of disposable income by sources. The only information available dates back to 1993 (Subsecretaría de Programación Macroeconómica, 1998). With that information and data from ANSESS we estimated the structure of disposable income by sources in 1993 (wage earners, self-

⁷ In both cases we exclude observations marked by the INDEC as inconsistent. Zero household income observations were around 1% of the whole sample in 1992 and 2003.

employed, entrepreneurs' earnings, capital income, pensions and other transfers) and matched it with the EPH 1995.⁸ We apply the resulting coefficients to each income source.⁹ Since we do not have information for other years, we apply the same coefficients to all EPHs. For a given income source this procedure implies constant under-reporting among individuals and over time. In 1992 we face an additional problem, since there is not a separate question for entrepreneurs' earnings. All these drawbacks imply that the adjustments are quite weak. The adjustment for under-reporting increases recorded income, and hence reduces poverty (Table 2.8). The change in poverty between 1992 and 2003 is smaller when considering the adjustment, although still very substantial. Recorded inequality dramatically increases when applying the adjustment. In contrast, the change 1992-2003 seems smaller, although still significant.¹⁰ However, recall that this simulation takes the source structure of disposable income fixed, which is probably a strong assumption, given the indirect evidence on the increase in the share of capital income, profits and rents in national income during the 1990s.

We do not want to deep into the analysis of these results since they are based on non-rigorous adjustments. It would be extremely helpful for this and other type of studies that the government produces a document with information on disposable income and income sources from National Accounts. Although it is unlikely that more rigorous adjustments would change our picture of poverty and inequality and their trends, they would surely help to make the statistics, and the diagnosis of the socioeconomic situation, more precise.

Llach and Montoya (1999) perform a similar type of adjustment for the Greater Buenos Aires area from 1974 to 1998, considering also the difference in the number of income earners between the EPH and National Accounts. Although they come up with different adjustment coefficients, the qualitative results on poverty and inequality are similar to this paper.¹¹ Figure 2.1 and Table 2.9 show that according to Llach and Montoya (1999), while poverty increased 24 points between 1974 and 1998 when no adjustments are performed over the original EPH microdata, the increase is 16 points when making the adjustments. However, notice that the discrepancy in the period 1992-1998 is small. The adjustments also reduce the extent of the increase in inequality, although, again, the discrepancies in the 1990s are negligible (Table 2.9).

⁸ In the EPH 1993 it is impossible to distinguish entrepreneur's compensations.

⁹ The coefficients are 1.05 for pensions and transfers, 1.15 for wages, 1.3 for income of the self-employed, 4.1 for entrepreneurs' income and 9.95 for capital income.

¹⁰ Gasparini and Sosa Escudero (2001) find that the measured increasing trend in income inequality in the 1980s and 1990s is robust to the type of adjustment discussed here.

¹¹ The coefficients for 1993 are 1.6 for pensions and transfers, 1.4 for wages, 1.8 for income of the self-employed, 8.5 for rents and interest payments, and 1.9 for profits.

The adjustments mentioned so far assume a unit income elasticity of misreport in each income source, which seems a strong assumption. Comparing microdata for formal workers between the EPH and SIJP, Herrero (2001) finds an income elasticity of 2.55. INDEC (2003) stresses the potential serious biases resulting from the adjustment of capital income or profits by matching National Accounts, if the original problem is that the EPH does not capture rich income earners, rather than a generalized problem of misreporting among capital income earners and entrepreneurs.

Alaimo and Sosa Escudero (2001) perform a different type of adjustment. They assume that if two households with similar characteristics have similar levels of expenditures but report different household incomes, the difference is due to income under-report. Using the expenditures survey ENGH 1997, they find that misreport is around 20% higher for the self-employed compared to wage earners.

2.4. Non-monetary income

Table 2.10 reports the proportion of workers (panel A) and individuals (panel B) that receive non-monetary income. Unfortunately, in 1992 the EPH only asked a general question on in-kind payments. The most recent EPHs include questions on payments in goods and vouchers, and on non-monetary transfers. This difference in questionnaire does not allow to know whether the differences between 1992 and 2003 reported in Table 2.10 are due to real facts or methodological changes in the survey. In 1992 7% of workers receive non-monetary income. That proportion grew to 13% in 2003. The fraction of entrepreneurs and self-employed workers who take goods from their activity as a way of payment is higher than the proportion of wage earners that get some in-kind earning. Of course, vouchers are concentrated in the salaried workers.

The second panel indicates that while in 1992 4% of the population received some kind of non-monetary income, that share rose to 13% in 2003. This jump is partly due to more in-kind payments to workers, as mentioned in the previous paragraph. The other important factor is a substantial increase in the share of children who get in-kind transfers, particularly children in poor households. The increase in food public programs, especially in *comedores escolares*, triggered by the recent economic crisis is probably the main explanation of these statistics.

If non-monetary payments had been included in the survey, it is likely that the recorded increase in poverty and inequality would have been somewhat lower. However, given the low share of people receiving in-kind transfers and payments, and the small values involved, it is likely that the main qualitative conclusions on poverty and inequality trends be invariant.

2.5. Implicit rent from own-housing

Families living in their own dwellings implicitly receive a flow of income equivalent to the market value of the service that the use of this property represents for them. This remuneration should be computed as part of household income, even though it is never recorded in a formal market and it is not usually registered as income in household surveys. Two alternatives can be implemented to estimate the implicit rent from own-housing at a micro level: self-report and hedonic regressions. None of the household surveys in Argentina include questions on estimated rents for owners, so the first approach is impossible to implement. The logic for the second approach –hedonic estimates – is simple: using the sub-sample of families that rent, a hedonic model of rents as a function of observable characteristic of the housing can be estimated. Then, it is possible to predict how much a family living in a household of their own would pay in terms of an “implicit rent” on the basis of observable housing characteristics. Gasparini and Sosa Escudero (2004) implement this approach with data of the ENGH 1996/7 for the GBA. Unfortunately, this is the only survey with enough information to run hedonic regressions, since the EPH and the ECV do not have data on paid rents, and the housing information is limited. Gasparini and Sosa Escudero (2004) find that while the Gini coefficient of the uncorrected distribution of household per capita income is 0.445, as a result of adding a basic OLS estimations of the implicit rents, the Gini coefficient falls to 0.410. However, the authors report that this drop is substantially smaller (from 0.445 to 0.432) when using quantile-based estimations, and when adjusting incomes (and not paid rents) for under-reporting. The authors suggest that the fall in inequality is driven by two facts: in the GBA home ownership is somewhat more widespread in low-income strata, and the income-elasticity of housing expenses is smaller than one.

Table 2.11 shows that the former fact does not show up in the EPH: in 1992 ownership was more widespread in the middle-income strata, while in 2003 it was more common in the upper-income quintile. This observation suggests that (i) the adjustment for own-housing would probably imply a smaller equalizing effect when applied to the EPH, and probably even a small unequalizing effect, and (ii) this effect would be greater over time, given the changes in the ownership structure. Table 2.12 and Figure 2.2 show that the gap in housing ownership between the rich and the poor has substantially widened over the last decade. The gap seems to have increased also in terms of the number of rooms, one of the few variables in the EPH that provides information on the size (and hence value) of the dwelling (see Table 2.13). These facts suggest that the already large recorded increase in inequality would be even larger if it were possible to add estimates to the implicit rent from own housing.

2.6. Regional issues

As mentioned above household surveys in Argentina do not cover rural areas. This limitation, although certainly relevant, is not as important as in other countries, since the share of rural population in Argentina is small (less than 15%).

The World Bank's Encuesta de Impacto Social de la Crisis en Argentina (ISCA) included some small towns in rural areas. From the information of that survey the income distribution in rural areas turns out to be not substantially different from the income distribution in urban areas. The Gini coefficient for the distribution of household per capita income is 0.474 in urban areas, 0.482 in rural areas, and 0.475 for the whole country. This fact suggests that the urban inequality statistics can be taken as a good approximation for the national figures. Based on the same survey Haimovich (2004) finds that rural poverty is around 15 points higher than urban poverty. When assuming that prices in rural areas are 20% lower the difference becomes smaller, but still significant (7 points).

The Encuesta Permanente de Hogares has an additional limitation: it only covers large conglomerates (more than 100,000 inhabitants). However, given the high concentration of the Argentina's population in few large cities (especially in the Greater Buenos Aires) the coverage of the EPH turns out to be high (71% of the urban population). The Encuesta de Condiciones de Vida includes observations from small cities. In fact, 33.4% of the observations are collected in cities of less than 100,000 inhabitants. In Table 2.14 we show the results of computing some basic poverty and inequality statistics from the ECV for the whole urban Argentina, and for the samples of large and small cities. Poverty is higher in small towns. However, since the difference with the large cities is not large, and given the low share of the small towns in total population, the country poverty statistics are not substantially different from those computed with the restricted sample of large cities. This fact is even more clear for the inequality statistics. Small towns are more equal, and incomes are lower. These two facts combined imply that the impact on the inequality measures of the inclusion of small towns is negligible.

Prices are not uniform across regions. INDEC provides information on regional prices that can be used to express incomes in real values of the GBA. We use incomes adjusted for regional prices throughout the analysis. Table 2.15 shows poverty and inequality measures with and without deflating by regional prices. Poverty and inequality are somewhat higher if we ignore that prices are lower outside the Greater Buenos Aires.

2.7. Sample variability

Measures of the different dimensions of a distribution are subject to sample variability problems, since they come from surveys, not census data. We tackle this issue by computing standard errors and confidence intervals for some poverty and inequality indicators. Standard errors are estimated by bootstrapping techniques, which provide interval estimations and dispersion measures for the distributional indicators in a simple

and efficient way.¹² For a given indicator we compute its bootstrapped standard error, the coefficient of variation, and the corresponding confidence interval for a 95% of significance.

Tables 2.16 to 2.19 show the analysis for the headcount ratio using alternative poverty lines. Given the large changes in poverty and the relatively large sample of the EPH, most recorded changes in poverty are statistically significant. For instance, the interval for 1992 does not overlap with that for 1998, and in turn the latter lies well below the interval for 2003. The assessment of poverty trends is quite robust to the potential problem of sample variability.

As expected, the coefficients of variation are smaller when we consider the sample of 29 cities, rather than the one with 16 conglomerates. The number of observations decreased from around 90,000 in the late 1990s to around 60,000 in the last EPHs, and to around 50,000 per quarter in the new EPHC. This fall implied a loss in precision in the estimations.

The changes in the measures of inequality are also quite robust to the sample variability problem (see Tables 2.20 to 2.22). The coefficients of variation for the distributions of Gini coefficients are never higher than 1.

2.8. Current and structural measures of poverty and inequality

Most poverty and inequality indicators are computed over the distribution of income earned in the month previous to the survey, i.e. *current income*. If income is volatile and people can save or have some access to the credit markets, individual welfare might not be closely associated to current income. When using current instead of permanent income, inequality is usually overestimated and the estimations of poverty are also biased (usually also overestimated, although the sign of the bias depends on the location of the poverty line).

Three ways of alleviating these problems are (i) computing average incomes from panels, (ii) using current consumption, and (iii) using other non-income variables that may reflect “permanent” income. Unfortunately, there are severe limitations to apply the first two alternatives in Argentina. The only budget survey, the ENGH, was carried out only twice, in 1986 and 1996. Gasparini (2003) reports that the poverty ranking of cities and regions is robust when using alternatively income from the EPH or expenditures from the ENGH as the welfare indicator. The EPH is a rotating panel, which implies that a person remains in the survey for one year and a half. These short panels can be used to go beyond monthly income, but they are still insufficient to

¹² The implementation of the bootstrap method follows Sosa Escudero and Gasparini (2000). For more theoretical references on the subject see Biewen (2002), Davidson and Duclos (2000) and Mills and Zandvakili (1997).

estimate permanent income. The EPH panels are available to independent researchers only from 1998 to 2003. Table 2.23, taken from Gasparini (2003) shows that poverty computed over mean income across surveys is lower than when computed over income in each survey. However, the difference seems very small.

Many authors and agencies apply versions of the third strategy: using some non-income variables to approximate “permanent” income, or “structural” poverty. INDEC, for instance, computes a basic-needs indicator of poverty (Necesidades Básicas Insatisfechas – NBI) with census data. An individual is poor if she lives in a household meeting at least one of the following conditions: (i) more than 3 persons per room, (ii) dwelling in a shantytown or other inconvenient place, (iii) unavailability of hygienic restroom (without *retrete*), (iv) children aged 6 to 12 not attending school, (v) household head who has not completed three years of primary school, and household with more than 4 persons per income earner. According to the Census 1980, 27.7% of the individuals lived in households that met at least one of these criteria. In the Census of 1991 that proportion was 19.9%, while in 2001 was 17.7%.

The NBI indicator has some advantages, although it presents many drawbacks that mainly arise from two facts: (i) the indicator relies on some dimensions of living standards and ignores others, and (ii) the variables used to construct the indicator are usually upward-rigid. The next two paragraphs elaborate on these characteristics.

The construction of the NBI is constrained by the availability of information in the survey or census. For instance, in Argentina the NBI index is biased toward housing characteristics. This fact means that the indicator penalizes regions where the relative price of housing is high (and hence other relevant prices, for instance food, are relatively low), and rewards regions with a good coverage of services, like sewerage. Surely enough, housing and sewerage are important components of living standards, but so they are food and health services, which are not included in the indicator.

The second drawback is driven by the fact that most variables used to construct the NBI indicator are upward-rigid, which means that even during periods of stagnation and crisis they do not increase. Suppose the government extends the sewerage system and hence drives some households out of NBI poverty. If later on the economy enters an economic crisis with unemployment and falling incomes, the government will not undo the sewerage extension, and then NBI poverty will not increase during the crisis (at least because of that variable). The cited figures of NBI in Argentina are an example of this rigidity: despite real incomes of the poor went down between 1991 and 2001, NBI poverty declined. This argument is not to deny the value of NBI poverty. It is certainly an useful concept that measures a different dimension than income poverty. But that is precisely the point: since it is aimed at measuring a different dimension of poverty it cannot be used as a substitute for income poverty. In particular, it is not a helpful

concept for monitoring the yearly changes in the low-income people's command over goods and services.

INDEC (2003) has recently proposed an extension of the traditional NBI indicator to allow for a more detailed characterization of poverty situations. The *índice de privación material de los hogares* (IPMH) considers two dimensions of well-being: endowments and current resources. The endowment dimension is associated to housing characteristics and hence does not significantly differ from the NBI methodology. Regarding the resources dimension, and given that the Census does not contain income information, INDEC estimates the household economic capacity (labeled CAPECO) based on the educational level of the employed individuals of the household, and those receiving pensions. People are poor (in the resources dimension) if the value of CAPECO is below the official income poverty line.

The IPMH has some advantages over the NBI, although it shares many of their drawbacks. In particular, it is strongly dependent on housing and education characteristics (and ignores, for instance, the consumption of food or health), and it is also rigid to upward movements. More flexibility could be introduced if the link between education and CAPECO is estimated using information from the EPH of each year.

The use of education to estimate income, and hence poverty, faces an important problem. Suppose the population is equally divided in unskilled and skilled workers with mean earnings \$100 and \$800. People within each skill group do not differ in any observable variable (e.g. age, gender, experience), but differ in unobservable ones (contacts, quality of education, talent, work ethics, and so on), and hence earn different wages. In this framework the CAPECO will be \$100 for all unskilled workers. If the poverty line is \$95, the IPMH records no poor people (in the resource dimension), while if the line is \$105, the poverty headcount ratio will be 50% (all unskilled people will be considered poor). Both assessments are not precise, since there will be a *distribution* of wages for unskilled workers around \$100, which implies higher poverty than 0% when the line is \$95, and lower than 50% when the line is \$105. Summarizing, we believe a full income model taking account the unobservable factors affecting earnings would be more appropriate to estimate poverty.

The CAPECO is not estimated for the unemployed, which would mean that they are counted as poor (in the resources dimension). That treatment assumes that all unemployed people are structurally unemployed, which seems a strong assumption given the evidence of the EPH. In contrast to the usual measures of income poverty, the IPMH should be directed to approximate permanent income. In that sense, classifying all unemployed people as poor may imply an overestimation of poverty. Using the same argument, assuming that all currently employed people will be employed forever implies an underestimation of poverty.

Despite these drawbacks the efforts of INDEC for improving the measurement of poverty should be encouraged. The IPMH is an improvement from the NBI, and further discussions may make it a more helpful indicator.

2.9. An assessment and extensions

The EPH has several limitations that bias the measurement of poverty and inequality in Argentina. The survey covers only large urban areas, it has problems of non-response and misreporting that have changed over time, and it does not include rents from own-housing. The EPH has also suffered several changes in geographical coverage and a recent methodological change. The biases introduced by these limitations do not have the same sign, so it is difficult to predict whether measured poverty and inequality are lower or higher than in the real world. It is also difficult to predict the biases on trends, although in contrast to levels, it seems that trends are quite robust to most methodological decisions. Table 2.24 summarizes the discussion of this chapter by presenting the likely sign of the impact on measured poverty and inequality of different methodological changes.

3. Poverty and inequality review

As explained in the introduction, Argentina does not have a long tradition in empirical poverty and inequality studies. The study of poverty and other distributional issues in Latin America was stimulated by CEPAL in the 1970s. However, there were few contributions in Argentina until the early 1980s, probably as the result of the scarcity of microdata and the presence of a military regime in power. The first Encuesta Permanente de Hogares dates back from the early 1970s, while systematic measures of distributional variables can be obtained since the 1980s. The number of specialized researchers and studies on poverty issues was initially small, but significantly expanded by the late 1990s. Although different social sciences have made some relevant contributions, in what follows we survey essentially the *economic* literature on poverty and inequality.

3.1. The literature on poverty and inequality

Argentina did not have a system of household surveys until the early 1970s. Statistics for the previous decades were based on specific surveys and individual studies (see Weisskoff (1970), Cromwell (1977), Jain (1975), Altimir (1979 and 1986) and Lecaillon et al. (1984)). The studies of Altimir (1979, 1986), Beccaria (1985, 1989, 1991) and Diéguez and Petrecollo (1976) are the best sources for poverty and distributional data for the 1970s and 1980s. While in Altimir (1979) the author provides poverty estimates for various Latin American countries, in Altimir (1986) he shows data by deciles on the household income distribution from the Encuesta de Presupuesto de

Consumo 1963, and the Encuesta de Presupuestos Familiares 1970, two of the main antecedents of the EPH. Beccaria (1985, 1989, and 1991) discusses several methodological issues and characterize poverty and inequality trends.

In the late 1990s and early 2000s there was a significant increase in the study of poverty, fueled by two facts: the increasing availability of microdata and the substantial poverty growth. The microdata of the EPH was not available to the public until very recently. For many years the datasets were not available for independent researchers, later on they were sold by INDEC at unaffordable prices for most researchers and universities. In 2001 INDEC changed its policy and shared the microdata bases through the Internet. Until not so long it was nearly impossible for an independent researcher to do an empirical poverty study based on microdata. Fortunately, things have substantially changed in the last few years, and today even undergraduate students can write papers on poverty and inequality based on microdata.

The second important reason for the increase in the distributional literature in the late 1990s was the dramatic increase in poverty and inequality. Along with the social concern for distributional issues, an increasing number of researchers introduced poverty and inequality in their research agendas. Among others, Albornoz and Petrecolla (1996), Altimir (1997), Altimir and Beccaria (1999), Beccaria and Carciofi, (1995), Botargues and Petrecolla (1997, 1999), FIEL (1999), García Swartz (1998), Gasparini (1999), Llach and Montoya (1999) and Mitnik and Montoya (1993, 1995) provided empirical evidence on the level, trend and characterization of poverty and inequality. Several contributions on these issues were produced in the early 2000s, including Lee (2000), Frenkel and González Rozada (2000), Gasparini *et al.* (2001), Paz (2001, 2002), World Bank (2000 and 2003), Paraje (2001), Altimir *et al.* (2002), Bustelo and Luccheti (2004), and the companion paper to this document (CEDLAS, 2004).

The World Bank Poverty Reports (2000, 2003) have greatly contributed to the characterization of poverty in Argentina. A regional analysis, a study of poverty self-perception, benefit-incidence analysis, and a large poverty profile are among the issues covered World Bank (2000), which also includes a comprehensive set of poverty statistics. World Bank (2003) updates these statistics, and provides a characterization of poverty in times of a deep economic recession. The 2001-2002 crisis stimulated the study of the poverty and inequality effects of a macroeconomic shock (Halac and Schmukler (2003)), and the strategies followed by household to cope with the crisis (Corbacho *et al.* (2003), Fiszbein *et al.* (2003)). Some of these studies are based on the Encuesta de Impacto Social de la Crisis en Argentina (ISCA), carried out in 2002 by The World Bank (Fiszbein *et al.* (2003) and Fiszbein and Giovagnoli (2003)). In the companion paper (CEDLAS, 2004) we offer a poverty profile for a post-crisis year - 2003.

In any poverty review for Argentina, the work of INDEC, the national statistical office, cannot be ignored. In fact, the main source for official poverty statistics in Argentina is INDEC. The statistical office regularly publishes *Información de Prensa* with updates of the official poverty headcount ratio. These bulletins were published twice a year, after the May and October rounds of the EPH. Now, they are published four times a year, after each quarter of the EPH-Continua. Each bulletin shows the headcount ratio for the extreme and moderate official poverty lines for each of the 28 conglomerates surveyed in the EPH, and for the aggregate of “urban Argentina”. The incidence of poverty is shown in terms of households and individuals. Recently, INDEC has included a table showing the impact on the poverty indicators of adding the transfers of the Programa Jefes de Hogar to household income. Each bulletin has a methodological appendix, with information on the basic food bundle from which INDEC computes extreme poverty, the Engel coefficient to expand extreme poverty to moderate poverty, the adult equivalence scale, and regional prices.

The official moderate poverty headcount ratio computed by INDEC is the most cited poverty statistic in Argentina. Most policy and academic discussions on poverty use this indicator. Although some studies compute alternative poverty statistics, make several adjustments to the microdata, and some come up with different poverty values using the EPH, the reported trends are quite consistent with those presented by INDEC.

INDEC not only produces and publishes statistics but also it has a long-standing program of studying measurement issues. The working papers of INDEC should not be ignored as part of the poverty and inequality literature in Argentina.

3.2. Determinants

Although most of the contributions mentioned in the previous section deal with measurement issues, some of them introduce hypotheses and evidence on the determinants of the changes in poverty and inequality. Few countries in Latin America have experienced distributional changes of the size suffered by Argentina. Despite this importance, the literature on the determinants of poverty and inequality in Argentina is still scarce. In part, this is a consequence of the lack of relevant information. As explained above, the EPH is available to most researchers only since the late 1990s. Other sources of information that are helpful to understand distributional changes are still unavailable to independent researchers (e.g. surveys on technology, labor surveys, census data).

Some studies have explored the direct determinants of the distributional changes using microsimulations. Using these techniques Gasparini *et al.* (2004) stress the relevance of the widening gap between the unskilled and the skilled in terms of hourly wages and hours of work. Instead, Menéndez and González Rozada (2001) and Altimir *et al.*

(2002) argue on the distributional relevance of the increase in unemployment, while Bustelo (2004) highlights the increase in the dispersion of unobservable factors.

The impact of the trade liberalization of the early 1990s on inequality and poverty are studied in García Swartz (1998), Cicowiez (2002), Porto (2002), Galiani and Sanguinetti (2003) and Gasparini (2004). Most studies find an unequalizing but small effect of trade on the income distribution. The impact of the trade liberalization process on poverty is still not well understood (see Ganuza et al. (2001) for a discussion in Latin America). Acosta and Gasparini (2003), and Gasparini (2004) stress the role played by capital investment and the technological change experienced by Argentina in the early 1990s in shaping the income distribution. The impact of trade and financial liberalization is studied in a cross-country framework for Latin America in Ganuza *et al.* (2001), Behrman *et al.* (2003) and Sánchez Páramo and Schady (2003).

Marchionni and Gasparini (2003) and Winkler (2004) study the distributional impact of the demographic changes experienced by Argentina. They find that the increase in the number of children of poor couples had a non-negligible impact on the income distribution, increasing poverty and inequality. Although migrations from neighbor countries have had some relevance, the available studies do not show significant distributional effects of this phenomenon (see FIEL (1999)).

Argentina carried out an ambitious program of privatizations in the 1990s. So far, the empirical studies did not find a sizeable unequalizing or poverty-increasing effect of privatizations (Navajas (1999), Ennis and Pinto (2002)).

Argentina experienced high inflation for several decades, and even an episode of hyperinflation in 1989. For this reason, the literature on the distributional impact of high inflation is relatively large compared to other countries (see Ahumada et al. (1993), Canavese et al. (1999) and Fiszbein and Galiani (2003)). Researchers conclude that episodes of high inflation are extremely detrimental for the poor. In fact, the greatest increase in poverty in the last three decades took place during the inflationary period of the late 1980s: the official headcount ratio rose 30 points in two years.

3.3. Methodological issues

As discussed above, all poverty and inequality statistics in Argentina are based on surveys where the income recall period is just one month. This feature generates biases in the measurement of poverty and inequality. Few studies have used the short panel of the EPH to study these biases. Cruces and Wodon (2003) use the short panels of the EPH to identify cases of transient and chronic poverty. The panels are used by Alborno and Menéndez (2002) to study issues of income mobility.

Following a recommendation of CEPAL, Argentina computes a basic needs poverty indicator called *Necesidades Básicas Insatisfechas* (NBI) from census data. The first NBI statistics were computed with data of the 1980 census (INDEC, 1984). The study was replicated with the 1991 Census (INDEC, 1996). CEPA (1994) presents a detailed poverty map of the country based on the NBI methodology. In a recent document INDEC (2004) proposes extending the NBI method to include estimates of household income.

Crosta (2001) explores the robustness of the poverty levels and trends to some methodological issues, while Gasparini (2003) provides estimates of the confidence intervals, and computes poverty using the NBI method with EPH data, with panels, and with expenditure data from the ENGH, alternatively. Michell (2000) also uses consumption data to compute inequality and poverty.

Poverty measures were traditionally limited to the Greater Buenos Aires area. Recently, INDEC started to publish statistics for all the conglomerates surveyed in the EPH. Lee (2000), Paz (2001), and Gasparini (2003) provide statistics and analyses of the regional structure of poverty in Argentina.

3.4. Distributional incidence and program evaluation

There is a reasonably large literature on the distributional impact of fiscal policies. However, this literature is almost exclusively concentrated in assessing the effect of fiscal policies on inequality, ignoring the impact on poverty. Although there were some important antecedents (Petrei (1988) and Diéguez, Llach, and Petrecolla (1991)), benefit-incidence analysis of social expenditures became a common practice in the 1990s, in particular in the Dirección de Gasto Social (DGS). Flood *et al.* (1994), Harriague and Gasparini (1999), DGSC (2002), and Bertranou and Bonari (2003) are among the studies carried out in the framework of the DGS. Some other studies deep into the analysis of the incidence of specific programs (see Bertranou (2002) for non-contributory pensions, Gasparini and Panadeiros (2004) for health programs for pregnant women and children, Jalan and Ravallion (1999) and Galasso and Ravallion (2003) for labor and poverty-alleviation programs).

There are also some important contributions in the tax incidence literature, although there is not a public office or institution that routinely carries out this kind of study. Santiere (1989) and Sabaini and Santiere (1993) are probably the first tax incidence studies that cover the whole tax system. AFIP (1998), Gasparini (1998), Llach and Montoya (1999), Sabaini *et al.* (2000) and Rossignolo (2001) performed studies that differ in the coverage of taxes, the tax-incidence assumptions, and the welfare variable (income or consumption).

Some authors have integrated incidence results for expenditures and taxes to assess the distributional impact of fiscal policy. Llach and Montoya (1999), Gasparini (1999 and 2004) and DGSC (2002) conclude that social spending is progressive, even when considering its financing. Gasparini (2004) shows that the distributional impact of the fiscal policy has not significantly varied over time.

The incidence literature in Argentina has not used general equilibrium models. In fact, the use of computable general equilibrium models (CGEM) for the study of distributional issues has been limited to very few studies (see Chisari and Romero (1996) and Cicowiez (2002)).

Probably as a consequence of the traditionally low incidence of poverty, and the wide coverage of social benefits linked to the labor market, Argentina had never had a large poverty-alleviation program. Instead, there were a multiplicity of small programs at different government levels targeted to particular groups or areas. These programs were not usually recorded in the household surveys, so empirical work was mainly based on administrative records. Probably the first systematic effort to rigorously evaluate a poverty-alleviation program was introduced by Martin Ravallion and his team in the Trabajar program in the late 1990s.¹³ By applying different matching techniques they studied the distributional impact of the program. In the midst of the 2002 deep recession Argentina introduced the Programa Jefes de Hogar, which soon became the largest national poverty-alleviation program, displacing Trabajar. The relevance of the PJH has stimulated new research. Galasso and Ravallion (2003), Gonzalez (2004) and Miller (2004) study the distributional incidence of the program and its impact on employment and unemployment levels, while Gasparini (2003) and Paz and Zadicoff (2003) discuss its design and the incentives and distortions introduced on labor decisions.

Ideally, social programs should be implemented after a careful study of their impact, and should be rigorously evaluated *ex post*. This best practice is not the rule in Argentina, where rigorous program evaluation studies are scarce. This state of affairs seems to be changing in some areas. Galiani *et al.* (2003) and Galiani (2004) have studied the water and the PROMIN programs using modern program evaluation techniques. Foster *et al.* (2004) carried out an extensive evaluation of social tariffs and other infrastructure policies, Heinrich (2004) evaluated the scholarships program (becas estudiantiles), while Paz Terán (2004) performed a detailed analysis of the Programa Jóven in Buenos Aires province.

3.5. Argentina in the world

Argentina does not meet one of the criteria proposed by Deininger and Squire (1996) to identify good-quality surveys: all household surveys in Argentina have only urban

¹³ See Jalan and Ravallion (1999), Ravallion (2001), and Ravallion *et al.* (2003).

coverage. Although as argued above this might not be a severe problem, the fact is that Argentina is not included in many cross-country analyses because of this reason. Moreover, the difficulties in accessing the INDEC microdata files prevented some studies to include Argentina, and forced others to consider only the Greater Buenos Aires area. For instance, the official poverty web page of the World Bank includes poverty estimates for Argentina using data only for the Greater Buenos Aires area. In a rich study Székely (2003) computes poverty and inequality in Latin American countries: Argentina, however, is represented just by two observations - 1996 and 1998- when poverty did not change much. BID (1998) also includes two observations for the GBA: 1980 and 1996. CEPAL (2003) has a dataset of statistics for Latin America (BADEINSO) with a somewhat larger coverage for Argentina. In the 2003 LAC Flagship Report of the World Bank Gasparini (2003) includes 4 observations for urban Argentina. CEDLAS (2004) provides poverty and inequality statistics for 21 LAC countries, including Argentina for all the years since 1992. In all these studies Argentina emerges as a country that traditionally had low levels of poverty and inequality compared to the rest of Latin America. In fact, with Uruguay and Costa Rica, Argentina had the lowest levels of poverty and inequality, even until the early 1990s and despite two decades of unequalizing distributional changes. The changes experienced since the early 1990s have moved Argentina several steps up in the poverty and inequality ladder.

Some databases allow comparing Argentina with the rest of the world in terms of poverty and inequality (Deininger and Squire (1996), WIDER (2004), WDI (2004)). Argentina is characterized as a country with relatively high inequality, but low poverty.

3.6. Gaps in the literature

Although the poverty and inequality literature has become increasingly important, there still remain several gaps. Some of these gaps are not yet covered because the literature on these topics is still young, and the number of researchers specialized in distributional issues is still small. Instead, some other gaps are the consequence of lack of information.

There have been considerable progress in providing evidence on the level and trends of poverty and inequality in Argentina. The characterization of poverty has also been extensively studied. Contributions, however, have not been systematic over time. Only INDEC have been providing consistent series of some variables (mainly official poverty and labor statistics) for more than a decade. Some new efforts (e.g. this project) are aimed at providing systematic and consistent information on a wide range of poverty and distributional variables. Comparisons with other Latin American countries have also been study-specific. The recent efforts of CEPAL (BADEINSO base) and The World Bank-CEDLAS (SEDLAC base) are headed at building databases with consistent poverty and distributional statistics for all Latin American countries.

An area in need of more contributions is that of the determinants of poverty and inequality changes. As discussed above, the topic is extremely relevant, given the dramatic changes experienced by Argentina, which contrast with those experienced by most Latin American economies. Understanding what happened in Argentina is not only an academic challenge, but also a need to derive policy conclusions. The role played by trade liberalization has been reasonably studied. However, more work is needed to understand the role played by technological change, financial liberalization, labor institutions, and social values. Many of the social problems that Argentina faces today are linked to the dramatic fall of the demand for male unskilled labor occurred over the last 3 decades, and especially during the 1990s. Understanding the reasons behind this fall should be an important issue in the research agenda.

The efforts to estimate the distributional impact of public policies have been dispersed, and almost exclusively concentrated on the impact of fiscal policy on inequality. There should be efforts to include poverty in the incidence analysis. As mentioned above the government has had a consistent program of benefit-incidence analysis. A similar long-term program is needed to study tax incidence. In many countries the budget and each tax reform are discussed with information and rigorous tax incidence analysis. Argentina does not share this practice, which could be done at relatively low cost.

The rigorous analysis of public programs is not common in Argentina. Programs are usually implemented without serious studies of their potential impact, and are almost never evaluated *ex post*. This state of affairs seems to be changing at least in some areas, although there is still much room to improve toward a comprehensive evaluation of all public programs.

As mentioned above some of the gaps in the literature are due to information constraints. Argentina should move toward a system of national surveys, covering also small cities and rural areas. Information on consumption, at least every three years would be very helpful to study poverty and inequality issues. Several issues can only be studied with a panel. Argentina should move toward having a longer panel than the current one. Most household surveys in Latin America have information on non-monetary income and the implicit rent from own-housing. A better assessment of poverty and inequality could be done if the surveys in Argentina included that information, as well as a better capturing of capital income.

Poverty and inequality analyses often require other sources beyond household surveys: administrative records, surveys to firms, labor surveys, census data and so on. Unfortunately Argentina has not had an open policy for information sources. Many sources are closed to independent researchers or available only at unaffordable prices. These practices generate unfair asymmetries and delay the understanding of social issues. Some recently implemented policies, like providing the microdata of the EPH through the Internet, should be strongly supported.

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Table 2.1
Poverty and inequality measures
Robustness to changes in the survey coverage

	Years		1998		2003			
	Conglomerates	1992	16	29	GBA	16	29	
<i>Poverty</i>								
USD1		1.4	1.4	3.1	3.2	7.3	7.2	7.5
USD2		3.2	4.1	8.1	8.9	21.7	21.5	22.6
Moderate official		17.6	19.9	28.5	30.4	51.5	52.8	54.6
Extreme official		3.0	3.7	7.6	8.3	24.4	24.2	25.0
<i>Inequality (Gini coefficient)</i>								
Per capita income		0.443	0.445	0.496	0.493	0.535	0.523	0.517
Equivalentized income		0.423	0.425	0.473	0.470	0.514	0.501	0.494
Labor household income		0.412	0.418	0.489	0.485	0.548	0.537	0.530

Source: Own calculations based on the EPH.

Table 2.2
Poverty and inequality measures
EPH, May 2003 and EPHC, IV quarter 2003

	EPH May-03	EPH-C IV-03
<i>Poverty</i>		
USD1	7.5	7.1
USD2	22.6	18.5
Moderate official	54.6	48.6
Extreme official	25.0	19.7
<i>Inequality (Gini coefficient)</i>		
Per capita income	0.517	0.512
Equivalentized income	0.494	0.489
Labor household income	0.530	0.530

Source: Own calculations based on the EPH.

Table 2.3
Poverty and inequality measures
EPHC, IV quarter 2003
 Alternative weights

	Weights	
	income	general
<i>Poverty</i>		
USD1	7.1	7.4
USD2	18.5	19.3
Moderate official	48.6	50.4
Extreme official	19.7	20.6
<i>Inequality (Gini coefficient)</i>		
Per capita income	0.512	0.529
Equivalentized income	0.489	0.504

Source: Own calculations based on the EPH.

Table 2.4
Share of valid income answers

	%
16 main cities	
1992	89.7
1993	88.6
1994	88.8
1995	92.8
1996	91.4
1997	91.3
1998	91.3
29 main cities	
1998	92.0
1999	91.4
2000	91.4
2001	90.8
2002	90.4
2003	90.5
EPH-C	
2003-IV	76.0

Source: Own calculations based on the EPH.

Table 2.5
Comparison of population with valid incomes and with imputed household incomes

	1992		2003	
	Valid income	Imputed income	Valid income	Imputed income
<i>% Observations</i>	89.7	5.0	90.5	4.5
<i>Per capita income (\$)</i>	283	384	273	487
<i>Education (shares)</i>				
Primary incomplete	9.2	6.7	6.8	4.4
Primary complete	29.6	30.7	21.8	13.1
Secondary incomplete	19.9	17.5	18.5	12.7
Secondary complete	18.4	20.5	21.2	23.4
Superior incomplete	10.4	9.7	14.3	14.7
Superior complete	12.5	15.0	17.4	31.7
Total	100.0	100.0	100.0	100.0
<i>Quintiles per capita income (shares)</i>				
Quintile 1	20.9	13.0	21.0	7.8
Quintile 2	21.4	8.7	20.7	10.6
Quintile 3	20.7	14.4	20.5	13.5
Quintile 4	18.8	29.4	19.4	27.1
Quintile 5	18.2	34.5	18.4	40.9
Total	100.0	100.0	100.0	100.0
<i>Poverty (headcount ratio)</i>				
USD1	1.4	1.3	7.5	2.9
USD2	4.1	3.1	22.6	8.9
Moderate official	19.9	12.6	54.6	27.1
Extreme official	3.7	3.4	25.0	10.6

Source: Own calculations based on the EPH.

Table 2.6

Poverty and inequality measures
Estimates using only valid incomes,
and using also observations with imputed household incomes

	Years		2003		Changes 1992-2003		
	Imputations	1992 No	Yes	No	Yes	No	Yes
<i>Poverty</i>							
USD1		1.4	1.4	7.5	7.3	6.1	5.9
USD2		4.1	4.1	22.6	21.9	18.4	17.8
Moderate official		19.9	19.2	54.6	53.0	34.7	33.8
Extreme official		3.7	3.7	25.2	24.4	21.5	20.7
<i>Inequality (Gini coefficient)</i>							
Per capita income		0.445	0.446	0.517	0.522	0.072	0.076
Equivalentized income		0.425	0.426	0.494	0.501	0.070	0.074
Labor household income		0.418	0.423	0.530	0.535	0.112	0.112

Source: Own calculations based on the EPH.

Table 2.7

Poverty and inequality measures
Including and excluding zero income.

	Years		2003		Changes 1992-2003		
	Include zero income?	1992 No	Yes	No	Yes	No	Yes
<i>Poverty</i>							
USD1		0.6	1.4	6.7	7.5	6.1	6.1
USD2		3.3	4.1	21.9	22.6	18.5	18.4
Moderate official		19.2	19.9	54.3	54.8	35.1	34.9
Extreme official		2.9	3.7	24.5	25.2	21.7	21.5
<i>Inequality (Gini coefficient)</i>							
Per capita income		0.445	0.450	0.517	0.522	0.072	0.072
Equivalentized income		0.425	0.429	0.494	0.499	0.070	0.070

Source: Own calculations based on the EPH.

Table 2.8

Poverty and inequality measures
Adjustment for misreport – National Accounts

	Years		2003		Changes 1992-2003		
	Adjustment for misreport ?	1992 No	Yes	No	Yes	No	Yes
<i>Poverty</i>							
USD1		1.4	1.3	7.5	6.0	6.1	4.7
USD2		4.1	3.2	22.6	18.9	18.4	15.8
Moderate official		19.9	14.7	54.6	48.7	34.7	34.0
Extreme official		3.7	2.7	25.2	21.1	21.5	18.4
<i>Inequality (Gini coefficient)</i>							
Per capita income		0.445	0.567	0.517	0.612	0.072	0.045
Equivalentized income		0.425	0.554	0.494	0.592	0.070	0.038
Labor household income		0.418	0.421	0.530	0.594	0.112	0.174

Source: Own calculations based on the EPH.

Table 2.9

Poverty and inequality changes

Corrections for misreport (National Accounts) from Llach and Montoya (1999)

	Poverty headcount ratio			Gini coefficient		
	Original	Adjusted	Difference	Original	Adjusted	Difference
74-80	0	0	0	4	5	1
80-86	5	2	-3	3	2	-1
86-89	34	24	-10	9	7	-2
89-93	-24	-19	5	-7	-8	-1
93-98	10	9	-1	6	6	0
74-98	24	16	-9	15	12	-3

Source: Own calculations from Llach and Montoya (1999).

Table 2.10

Non-monetary income

	Non-monetary income		Year 2003		
	1992	2003	Non-monetary labor income		Non-monetary non-labor income
			Goods	Vouchers	
A. Workers	0.07	0.13	0.06	0.04	0.04
Labor status					
Entrepreneurs	0.02	0.11	0.11	0.00	0.01
Wage earners	0.08	0.13	0.05	0.06	0.04
Self-employed	0.02	0.10	0.07	0.00	0.04
Without income	0.09	0.16	0.03	0.00	0.13
Formality status					
Formal	0.07	0.13	0.04	0.07	0.03
Informal	0.07	0.13	0.08	0.01	0.05
B. All population	0.04	0.13	0.02	0.01	0.10
Age groups					
[0,14]	0.03	0.22	0.00	0.00	0.22
[15,24]	0.04	0.08	0.02	0.01	0.05
[25,40]	0.05	0.12	0.04	0.03	0.05
[41,64]	0.04	0.10	0.03	0.02	0.05
[65+]	0.03	0.11	0.02	0.00	0.10
Quintiles equivalized income					
Quintile 1	0.04	0.23	0.01	0.00	0.22
Quintile 2	0.04	0.16	0.03	0.00	0.13
Quintile 3	0.04	0.11	0.02	0.01	0.08
Quintile 4	0.04	0.09	0.03	0.02	0.05
Quintile 5	0.03	0.08	0.02	0.04	0.02

Source: Own calculations based on the EPH.

Table 2.11

Share of house owners

	1992		2003	
	GBA	Argentina	GBA	Argentina
1	0.704	0.679	0.642	0.618
2	0.747	0.727	0.710	0.682
3	0.755	0.733	0.714	0.704
4	0.762	0.741	0.715	0.691
5	0.714	0.710	0.767	0.744
Mean	0.737	0.719	0.720	0.696

Source: Own calculations based on the EPH.

Table 2.12
Share of house owners
Argentina, 1992-2003

	Quintiles					Mean	Difference 5 to 1
	1	2	3	4	5		
16 main cities							
1992	0.679	0.727	0.733	0.741	0.710	0.719	0.031
1993	0.688	0.735	0.748	0.724	0.724	0.725	0.036
1994	0.678	0.700	0.719	0.726	0.739	0.715	0.061
1995	0.666	0.710	0.716	0.711	0.738	0.712	0.071
1996	0.658	0.712	0.711	0.706	0.737	0.709	0.079
1997	0.623	0.680	0.712	0.711	0.740	0.700	0.116
1998	0.630	0.692	0.703	0.711	0.735	0.701	0.105
29 main cities							
1998	0.615	0.672	0.704	0.713	0.728	0.694	0.113
1999	0.624	0.669	0.721	0.709	0.758	0.705	0.134
2000	0.613	0.682	0.710	0.711	0.751	0.702	0.137
2001	0.630	0.700	0.702	0.725	0.750	0.710	0.121
2002	0.601	0.703	0.708	0.719	0.756	0.708	0.156
2003	0.618	0.682	0.704	0.691	0.744	0.696	0.127
EPH-C							
2003- IV	0.576	0.647	0.692	0.662	0.723	0.670	0.148

Source: Own calculations based on the EPH.

Table 2.13
Number of rooms

A. 2003				
	All households		Owners	
	GBA	Argentina	GBA	Argentina
1	2.5	2.4	2.7	2.7
2	2.6	2.6	2.7	2.8
3	2.7	2.7	2.8	2.9
4	2.8	2.9	3.0	3.1
5	3.3	3.3	3.6	3.6
Mean	2.9	2.9	3.1	3.1

B. Only owners		
	1992	2003
1	2.9	2.7
2	2.8	2.8
3	2.9	2.9
4	3.1	3.1
5	3.5	3.6
Mean	3.1	3.1

Source: Own calculations based on the EPH.

Table 2.14
Poverty and inequality measures
Large and small cities, ECV

	All	Large cities	Small cities
<i>Poverty</i>			
USD1	8.9	8.0	11.3
USD2	22.0	19.8	27.9
Moderate official	54.1	51.3	61.8
Extreme official	24.7	22.5	30.8
<i>Inequality (Gini coefficient)</i>			
Per capita income	0.517	0.517	0.506
Equivalentized income	0.495	0.494	0.485

Source: Own calculations based on the ECV.

Table 2.15
Poverty and inequality measures
With and without adjustment for regional prices

	1992		2003		Changes 1992-2003	
	Without	With	Without	With	Without	With
<i>Poverty</i>						
USD1	1.5	1.4	8.6	7.5	7.1	6.1
USD2	4.5	4.1	24.5	22.6	20.0	18.4
Moderate official	21.4	19.9	56.9	54.8	35.5	34.9
Extreme official	4.1	3.7	27.1	25.2	23.0	21.5
<i>Inequality (Gini coefficient)</i>						
Per capita income	0.449	0.445	0.522	0.517	0.073	0.072
Equivalentized income	0.428	0.425	0.499	0.494	0.071	0.070
Labor household income	0.422	0.418	0.535	0.530	0.113	0.112

Source: Own calculations based on the ECV.

Table 2.16

Headcount ratio - USD 1 a day poverty line

Value, standar error, coefficient of variation and 95% confidence interval

	Value (i)	Std. Err (ii)	Coef. Var. (iii)	95% interval	
				Lower (iv)	Upper (v)
16 main cities					
1992	1.4	0.09	6.3	1.3	1.6
1993	1.6	0.10	6.2	1.4	1.8
1994	1.7	0.09	5.5	1.5	1.8
1995	3.2	0.12	3.9	3.0	3.5
1996	3.4	0.13	3.8	3.2	3.7
1997	3.1	0.11	3.5	2.9	3.3
1998	3.1	0.13	4.1	2.9	3.4
29 main cities					
1998	3.2	0.10	3.0	3.0	3.4
1999	3.4	0.10	2.8	3.2	3.6
2000	4.1	0.11	2.7	3.9	4.3
2001	7.0	0.14	2.1	6.7	7.3
2002	9.5	0.24	2.5	9.1	9.9
2003	7.5	0.20	2.7	7.2	8.0
EPH-C					
2003-IV	7.1	0.25	3.5	6.7	7.6

Source: Own calculations based on the EPH.

Note: Estimation by bootstrap with 100 replications.

Table 2.17

Headcount ratio - USD 2 a day poverty line

Value, standar error, coefficient of variation and 95% confidence interval

	Value (i)	Std. Err (ii)	Coef. Var. (iii)	95% interval	
				Lower (iv)	Upper (v)
16 main cities					
1992	4.1	0.15	3.6	3.8	4.4
1993	5.2	0.18	3.4	4.9	5.6
1994	4.9	0.17	3.4	4.6	5.2
1995	7.6	0.19	2.5	7.2	7.9
1996	8.7	0.18	2.1	8.4	9.0
1997	8.1	0.20	2.5	7.7	8.4
1998	8.1	0.18	2.2	7.7	8.3
29 main cities					
1998	8.9	0.15	1.7	8.7	9.2
1999	9.2	0.16	1.7	8.9	9.5
2000	10.9	0.18	1.7	10.5	11.2
2001	15.8	0.18	1.2	15.5	16.2
2002	24.3	0.29	1.2	23.7	24.8
2003	22.6	0.30	1.3	22.0	23.2
EPH-C					
2003-IV	18.5	0.41	2.2	17.7	19.3

Source: Own calculations based on the EPH.

Note: Estimation by bootstrap with 100 replications.

Table 2.18

Headcount ratio – Official moderate poverty line

Value, standar error, coefficient of variation and 95% confidence interval

	Value (i)	Std. Err (ii)	Coef. Var. (iii)	95% interval	
				Lower (iv)	Upper (v)
16 main cities					
1992	19.9	0.30	1.5	19.3	20.5
1993	19.1	0.29	1.5	18.5	19.9
1994	21.0	0.34	1.6	20.4	21.7
1995	27.2	0.35	1.3	26.3	27.8
1996	29.8	0.35	1.2	29.3	30.6
1997	28.2	0.29	1.0	27.5	28.7
1998	28.5	0.34	1.2	27.9	29.2
29 main cities					
1998	30.4	0.27	0.9	29.9	30.9
1999	30.8	0.25	0.8	30.3	31.2
2000	33.0	0.28	0.9	32.5	33.7
2001	38.8	0.28	0.7	38.2	39.2
2002	58.0	0.37	0.6	57.4	58.7
2003	54.6	0.40	0.7	53.8	55.5
EPH-C					
2003-IV	48.6	0.40	0.8	47.7	49.4

Source: Own calculations based on the EPH.

Note: Estimation by bootstrap with 100 replications.

Table 2.19

Headcount ratio – Official extreme poverty line

Value, standar error, coefficient of variation and 95% confidence interval

	Value (i)	Std. Err (ii)	Coef. Var. (iii)	95% interval	
				Lower (iv)	Upper (v)
16 main cities					
1992	19.9	0.30	1.5	19.3	20.5
1993	19.1	0.29	1.5	18.5	19.9
1994	21.0	0.34	1.6	20.4	21.7
1995	27.2	0.35	1.3	26.3	27.8
1996	29.8	0.35	1.2	29.3	30.6
1997	28.2	0.29	1.0	27.5	28.7
1998	28.5	0.34	1.2	27.9	29.2
29 main cities					
1998	30.4	0.27	0.9	29.9	30.9
1999	30.8	0.25	0.8	30.3	31.2
2000	33.0	0.28	0.9	32.5	33.7
2001	38.8	0.28	0.7	38.2	39.2
2002	58.0	0.37	0.6	57.4	58.7
2003	54.6	0.40	0.7	53.8	55.5
EPH-C					
2003-IV	48.6	0.40	0.8	47.7	49.4

Source: Own calculations based on the EPH.

Note: Estimation by bootstrap with 100 replications.

Table 2.20

Gini coefficient – Distribution of per capita income

Value, standar error, coefficient of variation and 95% confidence interval

	Value (i)	Std. Err (ii)	Coef. Var. (iii)	95% interval	
				Lower (iv)	Upper (v)
16 main cities					
1992	0.445	0.003	0.8	0.438	0.452
1993	0.439	0.004	0.9	0.434	0.448
1994	0.449	0.004	0.9	0.440	0.455
1995	0.476	0.004	0.8	0.469	0.483
1996	0.480	0.004	0.8	0.474	0.487
1997	0.477	0.003	0.6	0.473	0.483
1998	0.496	0.003	0.7	0.489	0.503
29 main cities					
1998	0.493	0.003	0.6	0.488	0.501
1999	0.483	0.003	0.5	0.477	0.487
2000	0.497	0.003	0.5	0.490	0.502
2001	0.515	0.002	0.5	0.509	0.519
2002	0.525	0.004	0.7	0.519	0.534
2003	0.517	0.004	0.7	0.511	0.525
EPH-C					
2003-IV	0.512	0.004	0.8	0.505	0.522

Source: Own calculations based on the EPH.

Note: Estimation by bootstrap with 100 replications.

Table 2.21

Gini coefficient – Distribution of equivalized household income

Value, standar error, coefficient of variation and 95% confidence interval

	Value (i)	Std. Err (ii)	Coef. Var. (iii)	95% interval	
				Lower (iv)	Upper (v)
16 main cities					
1992	0.425	0.003	0.7	0.418	0.429
1993	0.418	0.003	0.8	0.411	0.424
1994	0.426	0.003	0.8	0.420	0.436
1995	0.454	0.003	0.7	0.449	0.462
1996	0.456	0.003	0.8	0.450	0.463
1997	0.454	0.002	0.5	0.449	0.460
1998	0.473	0.004	0.7	0.464	0.479
29 main cities					
1998	0.470	0.003	0.6	0.465	0.477
1999	0.460	0.003	0.6	0.456	0.465
2000	0.475	0.002	0.5	0.471	0.480
2001	0.494	0.003	0.5	0.489	0.499
2002	0.504	0.004	0.7	0.496	0.510
2003	0.494	0.004	0.7	0.488	0.501
EPH-C					
2003-IV	0.489	0.004	0.8	0.479	0.496

Source: Own calculations based on the EPH.

Note: Estimation by bootstrap with 100 replications.

Table 2.22

*Gini coefficient – Distribution of equivalized household labor income
Value, standar error, coefficient of variation and 95% confidence interval*

	Value (i)	Std. Err (ii)	Coef. Var. (iii)	95% interval	
				Lower (iv)	Upper (v)
16 main cities					
1992	0.418	0.003	0.7	0.411	0.423
1993	0.423	0.003	0.7	0.416	0.428
1994	0.430	0.004	0.9	0.423	0.438
1995	0.465	0.004	0.8	0.459	0.471
1996	0.470	0.004	0.8	0.463	0.479
1997	0.465	0.003	0.6	0.461	0.471
1998	0.489	0.004	0.7	0.483	0.496
29 main cities					
1998	0.485	0.003	0.7	0.477	0.491
1999	0.476	0.003	0.6	0.470	0.481
2000	0.491	0.003	0.6	0.486	0.498
2001	0.513	0.003	0.5	0.507	0.518
2002	0.530	0.004	0.8	0.521	0.538
2003	0.530	0.004	0.8	0.521	0.538

Source: Own calculations based on the EPH.

Note: Estimation by bootstrap with 100 replications.

Table 2.23

Headcount ratio

Panel May, 2000-October, 2001

	May-00 (i)	Oct-01 (ii)	Panel (iii)
Capital Federal	12.1	10.1	9.1
Conurbano Bonaerense	33.3	34.2	33.0
Córdoba	34.8	39.0	32.4
GBA	28.8	29.0	27.9
Jujuy	45.7	52.2	49.2
La Plata	19.6	26.9	18.8
Mendoza	21.6	24.9	24.9
Río Gallegos	12.0	8.4	5.8
Rosario	43.6	43.7	40.9
Salta	33.2	44.6	32.9
San Juan	43.1	53.5	40.8
Santa Fé	38.9	43.1	38.8
Santa Rosa	21.5	35.2	20.8
Santiago del Estero	43.9	48.4	41.4
ARGENTINA	31.3	32.8	30.1

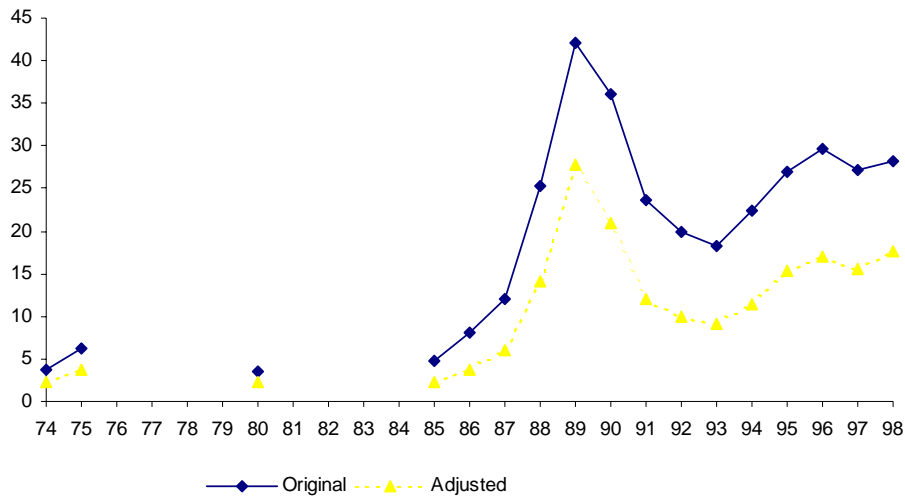
Source: Gasparini (2003).

Table 2.24

Expected signs of impact on poverty and inequality of different methodological changes

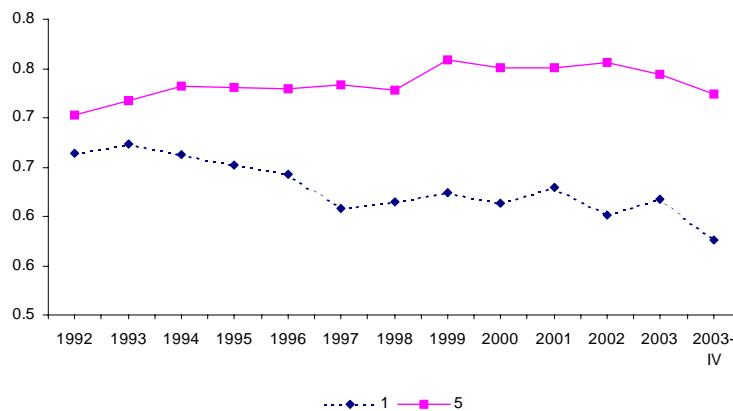
	Poverty		Inequality	
	Level	Trend	Level	Trend
1. Augmenting the geographical coverage of the EPH (16 to 29 cities)	+	=	-	=
2. New questions in EPHC	-		-	
3. Income weights	-		-	
4. Adjusting for non-response and invalid answers	-	-	+	+
5. Inclusion of zero income	+	=	+	=
6. Adjustment for under-reporting	-	-	+	
7. Inclusion of non-monetary income	-		-	
8. Adjustment for implicit rent own housing	-	+	+	+
9. Including rural areas	+		=	
10. Including small cities	+		=	
11. Adjusting for regional prices	-	-	-	=
12. Averaging incomes over survey rounds	-		-	

Figure 2.1
Poverty headcount ratio
GBA, 1974-1998
Original data and adjusted for no response and misreport
From Llach and Montoya



Source: Own calculations based on Llach and Montoya (1999)

Figure 2.2
Share of house owners
Quintiles 1 and 5 – distribution of equivalized household income



Source: Own calculations based on the EPH.