

POVERTY - MEASUREMENT ISSUES - BRAZIL

Brazil is a country where the 50% poorest earn around 10% of its aggregate labor income and where the 10% richest earn approximately 50% of total labor earnings¹. This high degree of inequality of labor income has kept a substantial part of the population below the poverty line despite of the relatively high growth rates of per capita earnings observed. However, as worrying as the degree of labor earnings inequality found in Brazil is the small share of total GDP appropriated by labor. This number is around 40% in Brazil while most countries where this data is available corresponds to 2/3 of total GDP. Since almost all studies on Brazilian income distribution used solely information on monthly labor earnings and pensions, the remaining of income not appropriated by labor can be seen as a measure of our ignorance about the size of Brazilian income distribution.

CONSUMPTION VERSUS INCOME MEASUREMENT ISSUES

In Brazil, there is a clear imbalance between employment surveys and expenditure surveys as compared with that in other parts of the world. This is, to a large extent, the result of the successful implementation of an ambitious system of continuous employment surveys (PNAD and PME) and an unsuccessful implementation of expenditure surveys carried out by the IBGE over the past 25 years. This section assesses poverty measures using consumption and income per capita concepts derived from the last expenditure survey available at this point POF-87.

POF -- income versus consumption

Our estimates reveals that poverty, measured by all three FGT measures, is higher when obtained from the distribution of per capita consumption than when obtained from the distribution of per capita income. However, the sensitivity of the measurement of poverty to the use of consumption or income data is much smaller than the sensitivity to the choice of the source of data (POF versus PNAD). For a poverty line of 2 thousand cruzados, the headcount for Recife (São Paulo) based on income data is 0.61 (0.31) whereas the corresponding headcount based on consumption data is 0.69 (0.42). More generally, these tables reveal that estimates based on consumption data tend to be about 10 percentage points higher than the corresponding estimates based on income, at least for poverty lines between one half and twice our basic poverty line. As in the previous comparison, the sensitivity of poverty is equally higher when other poverty measures and poverty lines are used.

This sensitivity of poverty to the use of income or consumption data is in distributions into differences in poverty. average level of per capita consumption estimated from POF is about 70% of the average per capita family income estimated from the same survey (65% in Recife and 71% in São Paulo), indicating that savings and taxes accounts for about 30% of income.

Per capita income inequality is considerably greater than the inequality in per capita consumption. In Recife, in particular, the difference is very large with the Gini coefficient being close to 0.10 lower in consumption than in income (0.61 and 0.51, respectively). In São Paulo, the difference is about one half of those in Recife, with the difference in Gini coefficients being close to 0.05 (0.54 and 0.49, respectively).

Our estimates also reveal that the differences in the measurement of poverty using income and consumption data increase after the differences in means are eliminated. The overall distance, however, between the poverty curves does not decline significantly remaining at approximately 0.07. The important fact is that the standardization for the mean actually overdue it, in the sense that the non-standardized poverty curve for consumption tends to be above that for income while after standardization it tends to become below. So, holding the average level constant poverty is smaller when consumption data is used. This is a consequence of the fact that inequality in consumption is smaller than the inequality in income.

INCOME MEASUREMENT ISSUES

Besides POF and the census, there are two main sources of household data at a micro level that can be used to evaluate the evolution of per capita income distribution in Brazil: PNAD and PME. PNAD presents as its main advantage the possibility of covering different income sources at a national level. In this respect, PME basically covers earnings in the six main metropolitan regions. However PNAD presents just one picture at one point in every

¹ In 1995, the share of 10% richest was 49.8% and the share of the 50% poorest was 11.4%. The top 1% alone held 15.5% of aggregate income.

year that the survey is carried out. Since PME is a monthly survey it can provide a better idea of what happened during the whole year to a less comprehensive set of variables than PNAD. In sum, PNAD offers a detailed picture once a year of Brazilian social indicators while PME offers a not so detailed monthly film of the same object. Since we will use extensively poverty income based estimates from both surveys, it is interesting to assess their main differences. We will analyze different dimensions of PNAD and PME surveys earnings data, one at the time:

Labor Earnings Concept

From January 1980 to March 1982, PME questionnaire included besides the effective earnings concept, the normal earnings concept which is the one used by PNAD. After this period, the normal earnings concept was excluded from PME questionnaire. In this way, PME 1980-82 offer us a unique opportunity to contrast the earnings concepts belonging to PNAD and to current PME surveys.

Number of Zeros

A first difference between effective and normal earnings presented is the number of zero answers. In the universe of employees during the 1980-82 period around 7% of those employees that reported positive normal earnings reported zero normal earnings conditioned on reporting positive effective earnings is zero in both samples.

The difference in the number of reported zero earnings between the effective and the normal concepts is at least partially explained the way the effective earnings question is made: How much did you earn last month in the job that you have today? This question induces employees that moved between jobs during the previous month to report zero earnings: around 83% of the sample of employees that declared moving between jobs in the month previous to the interview reported zero effective earnings and positive normal earnings. This statistic drops to zero in the sample of continuously employed workers.

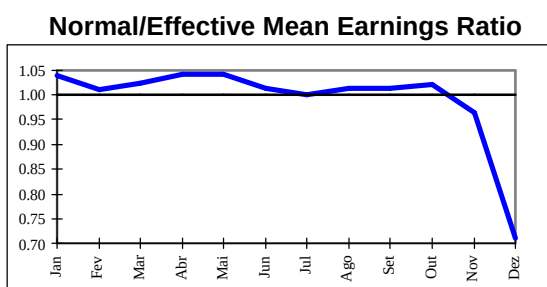
Timing Differences

There is also timing difference between the normal and effective earnings concepts according to PME1980-82: while the normal earnings concept reflects nominal values during the current month previous to the interview. Neri (1996) shows using the longitudinal aspect of PME 1980-82 individual data that one has to lead effective earnings one period (or conversely lag normal earnings one period) in order to make them strictly comparable. This point has rather important implications for the timing adjustments implicit in deflating procedures.

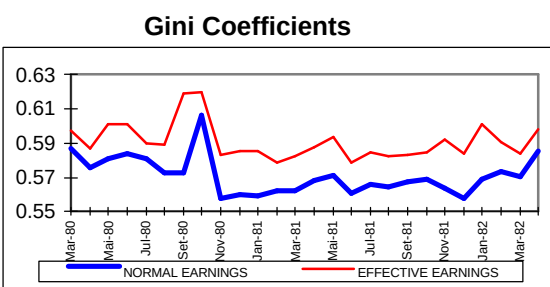
Temporary versus Permanent Earnings Components

Another difference between effective and normal earnings concepts is that the former includes temporary sources of payments such as employees share in profits, the payments for extra hours and various types of bonus (i.e., including the so-called 13th wage). In practice, this creates sharp differences between the seasonal patterns of mean individual earning throughout the year. Graph 1 below shows that during November and December when the bulk of payments relative to the 13th wage is done, the ratio between normal and effective earnings drops sharply. Although, the average ratio for the Gregorian year is very close to one (0.991), it nevertheless introduces potential differences between poverty and inequality estimates depending on the specific months used.

GRAPH 1
NORMAL X EFFECTIVE PER CAPITA EARNINGS



Source: PME 1980-82



The discrepancies of mean earnings throughout the year is also present in inequality estimates. In particular, the Gini coefficient calculated for per capita family earnings are always higher when PME effective earnings concepts is used in Rio, as shown in Graph 2. For instance, during the two years under analysis the average difference between Gini coefficients corresponds to 0.0199. The smoothing process where noise and actual short-run fluctuations in current paychecks present in effective earning concept is filtered from the data. The same type effect will be studied

when we deal with the impact of the income measurement period using the longitudinal aspect of PME earnings data in section ?.

Breadth of the Income Concept

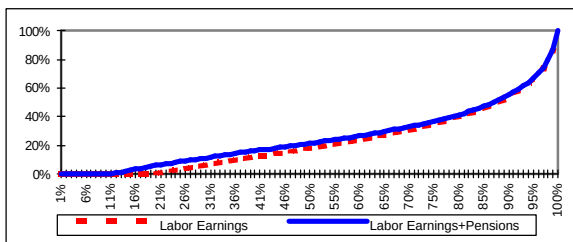
PME versus PNAD

A key difference between PNAD and PME income data is that the former includes besides labor earnings, government transfers such as retirement benefits. In 1995, around 22% of the poor income accrued from pensions and retirement benefits. The Lorenz curves shown below illustrates from PNAD that the impact of this item on inequality is non-trivial. In sum, PME tends to overestimate poverty and inequality because its labor earnings concept is more noisy and because it does not include transfers.

BROADNESS OF THE INCOME CONCEPT

GRAPH 3

Lorenz Curves - PME versus PNAD



Source: PNAD - IBGE - 1995

TABLE 1

PER CAPITA INCOME SOURCE (%)

Labor Earnings

EARNINGS	Emplo	Emplo	Self.	Transf.	Rent	Other
QUANTILES	yees	yees				
First	18.47	0.17	8.61	53.35	6.40	13.00
Second	53.10	1.37	18.80	16.09	2.65	8.00
Third	53.44	2.99	19.68	11.94	2.60	9.36
Fourth	50.15	12.78	15.07	5.42	2.67	13.91

Source: POF - IBGE - 1987

PME and PNAD versus POF

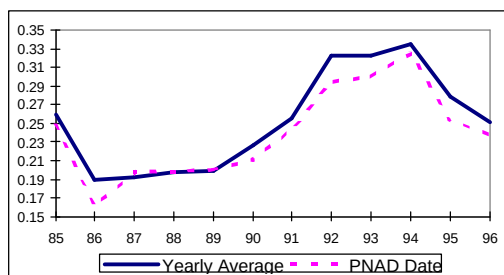
The Pesquisa de Orçamentos Familiares (POF) is a consumer expenditure survey that has much more detailed income information than both PNAD and PME. In particular, the sources of transfers and of capital income are covered in much more detail in POF than in PNAD. Table 2 present the composition of income sources by quartiles of per capita labor earnings. In particular, we see that 53% of the income appropriated by the lowest quartile of labor income is appropriated under the label of transfers.

Timing of the Interview

PNAD is implemented in most years in given week of the third quarter of the year. Graphs 4 and 5 present the evolution of the head-count ratio and the Gini coefficient according to PME in the months that PNAD went (or was supposed to go) to the field. These graphs allow us to compare these indicators with their respective yearly average figures and assess how possibly changing seasonal patterns of these indicators may undermine specific temporal comparisons based on PNAD data.

GRAPH 4

HEAD-COUNT RATIO (P0):
YEARLY AVERAGES X PNAD DATES



Source: PME 1980-82

GRAPH 5

INEQUALITY (GINI) :
YEARLY AVERAGES X PNAD DATES

