# Initiative for Policy Dialogue Working Paper Series

**May 2009**

## Improving Measurement of Latin American Inequality and Poverty with an Eye to Equitable Growth Policy

***Albert Berry***

**Poverty**

*No part of this working paper may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, recording, or by information storage or retrieval system, without permission from the Initiative for Policy Dialogue.*

# IMPROVING MEASUREMENT OF LATIN AMERICAN INEQUALITY AND POVERTY WITH AN EYE TO EQUITABLE GROWTH POLICY

Albert Berry

## Introduction

In Latin America the last 30 years have seen enormous strides in the measurement of inequality and poverty at the national (and subnational) level and in the feasibility of making meaningful comparisons across countries and over time in the same country. Latin America is around the norm for developing countries as a whole in this regard; the availability and accuracy of its data is better than in some other regions but weaker than in others. It now permits reasonable guesses as to the true level of inequality in most countries of the region, makes it clear that inequality is higher in some than in others and, usually with less confidence, allows some judgments on trends. The regional distinctions are basically more feasible than the over time judgments, because the observed variance is several times higher; thus the reported Gini coefficient in Brazil is usually around 0.60 and that in Uruguay is around 0.40,[1] so the likelihood that non-comparability of estimates would negate the conclusion that inequality is much greater in Brazil than in Uruguay is extremely remote. Over time it is rare to see the reported Gini coefficient for a given country vary by more than 0.04-0.05, so if the error of estimate changed considerably over the period of that change, it is less assured that a true change did occur. Reported changes of up to about 0.05 in the Gini coefficient make it necessary to attach a probability statement to any surmise as to whether a change really occurred. Such caveats notwithstanding, our knowledge has

increased greatly, both about the level of inequality per se, its components (e.g. how much is associated with inequality of labor income) and various of its correlates, and with respect to the nature of the remaining measurement errors. The fact that reported inequality tends to be very stable in most countries, in the absence of identifiable changes in measurement (e.g. in the nature of the questions asked in the surveys) suggests that true inequality is also stable. The main possible exception to this generalization is that overall measurement error could change over time in a way closely related to changes in true capital income distribution and/or true capital share; thus reported capital income and its impact on reported inequality might not change while true capital income and true overall distribution did. Such a change might result from financial liberalization, frequently argued to have contributed to rising inequality in developing countries (Cornia, 2004; Behrman et al, 2000).

What are the remaining weaknesses in the measurement of inequality and what do we lose as a result? Inequality data are used in part for broad descriptive purposes like those just alluded to. To this end they are now reasonably satisfactory for most countries of the region. They are also used to assess overall economic performance (e.g. did inequality rise or fall in the last decade?) and as evidence on the impact of specific policies (e.g. did inequality fall when a new pension system was implemented?). For this purpose, the quality is not nearly so adequate since much greater precision is required if one is to be in a position to identify relatively small changes in overall inequality or more specific changes (e.g. related to certain subgroups within the population). Few changes either in policy or in the mechanisms of the development process are likely to affect the Gini coefficient by more than a couple of percentage points, which is clearly well within the normal error of estimate of reported to

real Gini. To have a chance to detect impacts on inequality one must therefore have a good idea of the likely serial correlation of the errors of observation. Fortunately, there is good reason to believe that such correlation will tend to be high, so this provides a reasonable chance to identify impacts. Chances of such identification are also raised by the fact that many policies are expected to influence only certain groups within the overall population and with adequate detail the income of these groups can be traced.

The extent of poverty, as it is traditionally conceived in economics, may be thought of as implicit in the evidence on average income and its distribution or average consumption and its distribution, depending on whether poverty is defined in income or in consumption terms. Thus all of the measurement issues that affect that part of the distribution not too far above the poverty line are relevant to the discussion of poverty as well as to that of inequality. The one additional issue relating to poverty is where to draw the line or lines. We do not address that complicated question here, beyond noting that one reason that it is important to have a clear picture of most of the income or consumption profile in a country is precisely that there is always a degree of arbitrariness in where poverty lines are drawn. Poverty conclusions are most persuasive when they are not very sensitive to where the poverty line(s) are drawn.

In the remainder of this paper we first review the state of information on inequality/poverty in Latin America (Section 2), then consider the main gaps that it would be desirable to fill in light of the major policy issues most urgently needing to be addressed (Section 3). Since this latter list of priorities is a matter of personal judgment, any conclusions draw with respect to

priority improvements in the database are naturally by implication a matter of judgment as well. A few brief conclusions on priorities are presented in Section 4.

## Measurement Weaknesses, their Relative Importance and the Feasibility of Addressing Them

*Distribution of private income and private consumption*

In most developing countries, estimates of inequality of private income and private consumption can now be based on periodic household surveys taken annually or more frequently. So frequency of data points is much less a problem than it was a few decades ago. In some parts of the world the main focus is on measuring consumption, in others (including Latin America) on measuring income. It is desirable to have both these distributions; which is more important to know with precision depends, among other things, on which policy issues it is most important to analyze. If one knows one of them with reasonable precision it is possible to guess at the other one with a certain degree of success. It is accepted that the distribution of consumption (or of total expenditure) can be more accurately measured than the distribution of income; this can be a factor in the choice of which distribution to focus on. It may even be that the best way to get a good feel for the distribution of income is to begin with a good measure of the distribution of consumption, then use a variety of other information to map this distribution onto that of income. The best approach, of course is to strive for accurate measurement of both, and to use non-survey information to crosscheck the relationship between the two. The greater potential accuracy of measurement of consumption and its distribution comes with a higher minimum cost of

data collection, since it is necessary to have a quite detailed questionnaire.[2] As a result many countries perform these surveys with less frequency than the income surveys.

Household surveys allow the analyst to focus on the distribution of income among earners, among families ranked by per capita or total income, or among persons ranked by per capita family income. Per capita measures may be improved a little by using per adult-equivalent variables. If data on both consumption and on income are collected, it is possible to identify the functional relationship between savings and income. Typically household surveys fail to incorporate publicly provided goods and services (public consumption) and may or may not take account of most taxes and transfers, and thus must be considered to provide only part of the whole distributional story.

Apart from their failure to capture the impact of the public sector on distribution, household surveys suffer from a set of common and predictable measurement problems, whose resolution or not determines the accuracy of the information collected. These include:

i) imprecision of the income data for most self-employed groups, especially those in activities where gross income varies considerably over time, where the calculation of net income requires subtracting out various inputs, and where the informant does not keep books. Most small agriculture fits into this category, but the problems are accentuated there by the long-run seasonal fluctuations and the usually higher cost of data collection due to distance;

ii) weak data on high income recipients, especially those whose earnings come mainly from capital. Many such people have complicated earnings structures;

this is compounded by a reluctance to report income fully through fear of taxes or other negative consequences.

iii) weak data on income in kind, especially prevalent in small-farm agriculture, raises special difficulties since the earner often does not think of it as income at all, and even after being pressed to provide the relevant information, may be hampered by the fact that no market price is attached to the outputs involved. Imputed rent on owner-occupied housing is an important form of income in kind, especially for urban dwellers. Not all surveys include estimates of it, but it is less difficult to approximate reasonable numbers than for some other forms of income in kind, since the characteristics of a dwelling are observable and the owner may know roughly how much it would cost to rent such a dwelling. This element of income is increasingly, but by no means always, included in surveys.

iv) weak data on illegal income, which may reach significant levels in some countries. People who have to pay protection probably seldom report it as an expenditure nor do those who receive it report it as income. In this respect crime-related and other illegal forms of income are like some components of capital income.

The above weaknesses have been expressed as the result of inaccurate or incomplete responses by households who are captured in the survey. A different problem arises when households refuse to participate in the survey or are not at home/not easily locatable. This "unit non-response" problem is also very unlikely to be uncorrelated with income and other relative variables, and hence adds another type of bias to reported figures. Mistiaen and

Ravallion's (2003) analysis of US data leads them to conclude that correction for this bias appreciably increases mean income and inequality, as a result of decreasing compliance as income rises.[3] Though they see no presumption that their results, even in qualitative terms, will hold elsewhere, the finding of a significant impact for the US makes it highly probable that differential compliance has some sort of impact in many developing countries. It thus increases the likely magnitude of error in reported figures on inequality.

As a result of the various weaknesses and challenges noted, the most reliable information in household surveys comes from those individuals on fixed salaries, a datum easy both to remember and to verify. The main contours of many reported income distributions are dominated by the incomes of these mainly middle class people. Altimir (1998, 48, 76) sums up the distribution data for Latin America noting that the income data usually refer to household disposable cash income, after direct tax payments. "Income in kind and imputed income….is either explicitly excluded or so poorly measured as to be considered excluded in most of the surveys,…. which are labor or income surveys." In light of the severity of reporting problems for major groups, it is not surprising that it may be necessary to resort to consumption data to get a better feel for distribution. Individuals are less reluctant to report such data, and it is conceptually simpler than income data, even if it is necessary to collect data on a long list of items, some of which are purchased only infrequently. It is implicit in the above observations that consumption data are especially important in learning about the incomes of agricultural earners, informal sector workers and higher income people, given the difficulty of approaching income measurement directly.

How serious are the above weaknesses, relative to each other and to absolute accuracy? This depends most directly on the policy issue for which the data are needed, but also on the economy, its structure and its level of development, as well as on the quality of the data collection process. In still very agricultural economies, the problems of measuring home-consumption are great and failure to get a reasonable reading on this component means missing a significant share of income, especially in the case of poor subsistence farmers. Even if only a few percent of GDP were involved, it would be easy to understate the incomes of the bottom decile or so by 20-40% in this way. This could make a great difference to estimates of poverty and the poverty gap in rural areas. With agriculture and rural populations declining in Latin America, and with subsistence agriculture also less and less common, this problem has also been declining in relative importance. But since, according to existing figures, a third of the poor and nearly half of the very poor (indigent) are still found in rural areas (CEPAL, 2004, 50) it remains important. The measurement problems among workers in the informal sector, where errors of 25-50% for many individuals are quite possible, are of increasing relative importance given the trend towards informalization of the urban economy that has accompanied the slow growth in most countries over the last quarter-century. As with low-income agriculture, the measurement problem here takes on special importance because many people in the sector are poor. The largest chunk of national income typically missed in surveys is the capital and business income of high income earners. In a survey whose quality was such that 70-90% of paid labor income was reported, the figure for capital income might be as low as 20-30%; the reporting ratio for this income seldom appears to reach 50%, when the benchmark or point of reference for the estimate is the national accounts figure. Imputed income from owner-

occupied housing is the easiest large component of capital income to measure; most other components are difficult.

Estimates of income and consumption underreporting in household surveys[4] are themselves subject to much uncertainly in most countries of Latin America because the accuracy of the national accounts figures, the only overall source of a feasible cross-check for the household survey data, appears to vary widely also, and there is typically little independent evidence to go on to judge how seriously they may be in error. Most observers assume the bias is typically downward, which means that estimated measurement error in household surveys, when based on a comparison with the national accounts, will also tend to be downward biased. Ideally, one should compare each of consumption, savings, and income from the household surveys with the corresponding figures from the national accounts, bearing in mind that in some cases the national accounts figures make use of the household survey data in their construction. One may therefore have a true cross-check between independent estimates of the same economic variable only for some components of each of these three variables. Completeness of reporting for some household surveys can be partially assessed by comparing them to others taken at nearly the same time and having higher quality standards. Average underreporting of income in household surveys can sometimes be deduced up to a point by comparison with consumption figures from the same survey; if the comparison implies an implausibly low savings rate or high dissavings rate, this suggests income underreporting. Aggregate savings and some of its components may be approximated in other ways also, in particular with financial system data; these can provide a useful crosscheck for both the household survey and the national accounts estimates,

though the latter are sometimes based in part on such data. In short, the accuracy with which income and consumption distribution can be ascertained depends on the total body of information available, some of which provides direct evidence and some provides crosschecks of various sorts. In some countries very little data is available to permit useful cross-checks (e.g. where the national accounts are not very reliable, financial information is scarce, etc.) whereas in others (most notably India) much good work has been done to compare survey data with other sources and thus narrow down the range of uncertainty. Though in principle the whole body of data useful to undertake such crosschecks should be thought of as the information base for analysis of inequality, very few studies have taken full advantage of it.

**Capital incomes** constitute in many ways the biggest challenge in the measurement of inequality, though not of poverty since poor people usually have little income of this sort; they are especially hard to measure with reasonable accuracy either as part of the national accounts exercise or in household surveys. In the former context they are typically derived as a residual between national income accruing to the private sector and labor income. Two major problems are involved in that estimation. First, as a residual between two bigger numbers, the percent error which the estimate of capital income may suffer due to a modest error of estimate in one or both of the larger variables is great. Second, one is mainly interested in net capital income (i.e. after deprecation), but gross capital income is better measured in the national accounts since depreciation is a tricky concept, even in theory, and the simple accounting-type rules usually used to define it could be well off the target in some situations. Thus in trying to assess total net capital incomes, or net capital incomes

accruing to individuals (total minus those remaining in the hands of corporations) one has to work with substantially inaccurate estimates from both sources. This is a major problem in analysis of distribution since capital shares do appear to be high in many developing countries, and they clearly constitute much of the income of the top few percentiles of the distribution. Cross country comparisons, especially of the top part of the distribution, could be seriously in error if, as must be expected, the completeness of reporting of this income component varies substantially from country to country. The reliability of over time analyses is also seriously prejudiced. This problem is of special relevance in Latin America, both because of the high observed levels of inequality and because the major factor contributing to the recent increase in reported inequality has taken place at the top of the distribution. Whether the increases in the share of the top few percent have been exaggerated or understated is an important issue from a welfare point of view and in terms of the social efficiency of growth.

One relatively simple and frequent adjustment to correct for the relative underreporting of capital income involves adjusting reported capital income up by the same percent for each person (or family) reporting such income, that percent being based on the overall degree of relative underreporting of capital income based on comparison with the national accounts figures for each of labor and capital income. Altimir's adjustments to estimated inequality in a number of Latin American countries to take account of this factor (see Table 10.1) are a variant of this approach. Broadly speaking, his procedure involved adjusting upward each type of income where the average amount reported in the surveys was less than that implicit in the national accounts, except for monetary property incomes where underreporting was

assumed to be concentrated totally in the upper quintile (Altimir, 1987, 151-2). This adjustment increased the Gini coefficient by up to six percentage points in a number of cases but in others by very little. Altimir (1987, 146) notes that items like property income received in cash by households are likely to be grossly underestimated in the national accounts of some countries, and although there have been some improvements since he wrote, the broad picture is probably similar. Such weaknesses in the national accounts mean that the adjustment reported here probably still leaves most or all of the Gini coefficients below their true values.[5] Only with the detailed study of capital incomes, and more generally the incomes of the top few percentiles of populations, will it be possible to achieve reasonably reliable estimates of overall inequality. Better household surveys will be part of that effort but need to be complemented by a battery of other types of information. Analysis of the economic conditions of the rich in developing countries require special effort, something along the lines of Kuznets (1953) path-breaking study for the US half a century ago. Although Latin America has a number of studies of rich families and how they got that way, for example Majul, (1997) for Argentina and Miranda (2000) for Paraguay, they do not take the sort of approach which would contribute to the quantitative measurement of inequality.

**Table 10.1.**

| | | Original Distribution | | | Adjusted Distribution | | |
|---|---|---|---|---|---|---|---|
| **Country** | **Year** | **Lower 40%** | **Upper 10%** | **Gini** | **Lower 40%** | **Upper 10%** | **Gini** |
| *(a) National Level* | | | | | | | |
| Brazil | 1972 | 7.0 | 50.6 | 0.605 | 5.6 | 58.7 | 0.662 |
| Colombia | 1972 | 5.9 | 50.8 | 0.618 | 6.5 | 50.1 | 0.607 |
| Mexico | 1963 | 10.2 | 42.2 | 0.530 | 7.5 | 50.2 | 0.606 |
| | 1968 | 10.6 | 42.1 | 0.521 | 8.1 | 48.3 | 0.586 |
| | 1977 | 11.5 | 36.3 | 0.482 | 10.4 | 40.1 | 0.518 |
| Peru | 1971/72 | 7.0 | 42.9 | 0.568 | 5.7 | 46.2 | 0.603 |
| Venzuela | 1971 | 10.3 | 35.7 | 0.494 | 9.8 | 36.3 | 0.505 |
| *(b) Urban Areas* | | | | | | | |
| Argentina | 1970 | 16.0 | 28.8 | 0.385 | 13.6 | 35.8 | 0.448 |
| Brazil | 1972 | 8.6 | 47.0 | 0.569 | 6.3 | 54.8 | 0.633 |
| Colombia | 1975 | 8.0 | 43.6 | 0.565 | 8.1 | 45.2 | 0.572 |
| Mexico | 1968 | 11.7 | 40.1 | 0.498 | 9.3 | 45.4 | 0.553 |
| Peru | 1971/72 | 12.2 | 36.3 | 0.471 | 11.6 | 38.8 | 0.489 |
| Uruguay | 1967 | 14.3 | 30.5 | 0.419 | 13.3 | 35.7 | 0.454 |

One form of income based on ownership of capital but not included in the national accounts (since it does not correspond to current production) is the appreciation or depreciation of assets. Since it does constitute part of people's disposable income, for purposes of analysis of distribution it should be taken into account. In principle, therefore, it should be included in household surveys designed to measure inequality; in practice, high reporting errors might produce results of little value. It would be more plausible to pursue information on this component of income together with data on wealth distribution. I am unaware of studies in Latin America that have tried to incorporate this form of family income, either on the basis of evidence at the family level or based on some more indirect approach. The study of wealth distribution is in and of itself interesting (e.g. to link it to political power), but has additional merit as a way to improve the accuracy of all capital- related components of income distribution, especially capital gains. Wealth studies have been few in developing

countries outside Asia, including those of Latin America (Davies and Shorrocks, 2005).

Bhatia's pioneering study for the US found that over the period 1948-1964 accrued capital gains on corporate stock, real estate and livestock were as much as 12% of reported personal income (Bhatia, 1972, 869). Realized capital gains were a much smaller 2.6%, but this is the less relevant figure. Of accrued gains, the bulk (60.6%) was from corporate stocks, 28.7% from nonfarm residential real estate and 12.6% from farm real estate. As expected, accrued gains were erratic, exceeding a quarter of regular personal income in a couple of years but turning substantially negative in some others. Pending comparable studies in Latin American countries, it seems plausible that the ratio of capital gains to production-related income may reach the 5-10% range or even higher in some of them. Including this element of income inevitably makes inequality more severe, since it is likely to be more or less proportional to wealth (or to other components of capital income), which is distributed in a way substantially more unequal than is income itself. Urbanization and stock market booms tend to increase the appreciation component of income. It is also substantially more volatile than other components, so in periods of general economic crisis, when the value of real estate, stocks, etc. tends to fall, overall income distribution including this factor will be less unequal than income excluding it. But in the long run it is an inequality-increasing factor.

While income from sources like rent on capital, capital appreciation, or criminal activities is particularly unlikely to show up in survey figures on income, the consumption which it facilitates is much more likely to, hence data on consumption inequality may provide a valuable cross-check on that for income inequality. It is recognized that consumption

inequality is less than that of income by several Gini percentage points.[6] Unfortunately consumption surveys have not been sufficiently frequent in Latin America to permit enough analysis of the determinants of how income and consumption distributions differ to permit a sort of calibration which would allow fairly precise estimation of levels and trends in one of the two if one had only the other.

*The Distribution of Secondary Income: Handling Taxes and Transfers*

It is important, especially as the level of development advances, to distinguish income levels before and after taxes and (monetary) transfers. In-kind transfers have to be dealt with separately because of the special valuation problem they create. The **primary distribution** of income is that which emerges from the functioning of the economy before any subsequent redistribution through taxes and transfers: the **secondary distribution** includes their effects. Most income surveys focus just on current disposable income after any withholding of taxes, this being the easiest figure for the respondent to understand and provide. If income taxes must be paid on an annual basis they are no doubt often missed. In many countries such taxes are only paid by a minority of individuals in any case. Monetary transfers received from private or public sources tend to be caught, especially if they are regular. The impact of sales taxes is already taken account of since the prices used to deflate incomes include these taxes. The implication of these patterns is that the typical reported distribution is a combination of the before and the after tax and transfer monetary distributions, usually closer to the latter.

Proper assessment of the overall impact of the tax and transfer system on income (or consumption) distribution requires a general equilibrium analysis. Such analyses are rare and difficult, especially with respect to the impact of the system on distribution through its effects on savings, investment and growth. The indirect effects of some transfers (e.g. pensions to low income people) may be relatively small, although even in such cases there may be a substitution effect for inter-family transfers and multiplier effects on local incomes where the money is spent. The broader question of how all public sector interactions with families affect distribution includes the impact of the provision of public services in kind to families, which requires a special analysis as noted below, and the impact of monetary subsidies and provision of public services in kind to businesses; since the first-round effects of these benefits from government show up in family incomes, they need no further consideration unless and until one attempts to estimate the general equilibrium effects of the public sector's activities.[7]

*Publicly provided goods and services*

Judging by the few careful and relatively complete studies available, education, health and other public services, together with subsidies, often have significant impacts on the distribution of both income and consumption (publicly provided services are part of both income and consumption). Measurement of these benefits is less straightforward, or at least less reliable, than of benefits from transfers and losses through payment of taxes, because the decision on quantity and quality of the service available to a given person or family is made by the government rather than by the individual or family.[8] The standard assumption is that benefits are distributed proportionately to cost of provision among those receiving

“the same” service, with total benefits equaling total costs. That each recipient benefits equally will never be precisely true and may not be close to accurate; that total benefits equal total costs of provision may also be well off the mark in either direction. If one took literally some of the very high rate of return figures estimated for primary education, total benefits could be two or three times total costs. But benefits could also fall short of costs where quality is very defective. The degree of mismeasurement of the benefits from some services can be lowered through surveys including respondent judgments on relative or absolute value of those services. In the absence of anything to go on but total cost of provision, it is desirable to undertake some analysis to check for the sensitivity of overall inequality to the assumptions used.

Selowksy’s (1979) study for Colombia was the first of the few thorough studies in Latin America to probe the impact of public spending on income distribution. Others have followed (e.g. Velez, 1996, Bravo et al, 2000) and an increasing number of countries (including Argentina, Colombia, Costa Rica and Ecuador) have used special modules in their household surveys to identify the destination of some public expenditures.[9] The magnitude of the effort required for full-scale attacks on this problem make them infrequent, which complicates attempts to judge how distribution, duly including these goods and services, is changing. Hopefully the increasing use, widening scope and improved interpretation of household survey modules recording some important types of public spending will gradually fill in much of this gap in our understanding. Efforts are needed to find fairly reliable proxies for the distribution of public expenditure benefits, calibrated on the basis of the infrequent detailed studies undertaken.

*What to do About Market Misinformation?*

As just noted, publicly provided goods and services complicate the measurement of income/consumption since the fact of consumption does not reflect the client's judgment on benefits relative to costs. A somewhat similar issue arises when, although the consumer does choose to buy, he/she does so on the basis of misinformation about the product. For frequently purchased items it is legitimately assumed that the associated losses will be small and learning will be quick. This is less so in the case of infrequent purchases, especially of goods where advertising is misleading or good information is simply hard to obtain. The most extreme case of loss though misinformation is probably that of addictive substances, in which case after making the wrong decision the buyer is unable to reverse course and correct the error. Under such circumstances, high expenditures on an item (e.g. drugs) may be reflective of low levels of benefit rather than high. The issue here is related to but not identical to some raised by the happiness literature (see below).

*The inclusion of natural "goods" and "bads"*

All goods and services that are purchased are in principle included in national income, together with some of those home-produced and consumed items for which a market exists. But it is clear that human welfare is also affected by numerous other factors, many of which are free. Serious attempts to measure levels of welfare and the distribution of that welfare should thus take these other determinants into account when possible—things like weather, beauty of surroundings, effects of surroundings on health, and degree of economic insecurity. The inevitable (because of inherent difficulties) failure to do so means that our

measures of income, consumption and their distribution may not correspond very closely to true levels of satisfaction and its distribution. Accordingly, comparison of income levels and distributions across countries or over time may not reflect with any precision how satisfaction levels and distribution differ across populations, and must therefore be treated with the appropriate level of caution. Although the general response to this problem is to simply ignore it and accept that we can only get at some of the presumed determinants of satisfaction, it is worth asking whether and when it may be partially corrected. This is the case when a "good" which is naturally available in one country or region or time period is absent in another, leading to the production and purchase of partial substitutes. An example is the use of insurance to buy economic stability. In an over time analysis of income and its distribution in a country in which insecurity rises, for example because of the way the economy is structured and functions, one may often legitimately conclude that after purchase of insurance which provides a partial protection against an insecurity which was not there before, people are still worse off than before on this specific account. In such a case it would be legitimate to subtract all expenditures for purchase of insurance from disposable income and from consumption as one compares current income and consumption with the levels before the threat of insecurity arose.[10] Another important example is crime; even after the cost of protection from it (which enters the national accounts as a "good"), a society may be deemed to be worse off than it was before the crime arose. Such a case produces the irony, in comparisons across countries or over time, that a country or period with a proclivity to crime both suffers the direct loss from that crime and also pays the costs of curbing it, yet that cost enters the national accounts as a positive service (which it is vis a vis the benchmark situation of a still worse situation without the protection). With a few

important phenomena of this sort, estimated incomes could be rising while the standard of living as perceived by people was falling.

Most non-marketed “goods” or “bads” do not accrue equally to everyone and thus constitute another component of a more broadly defined inequality. The effects of crime tend to fall disproportionately on the poor, partly because they are naturally more vulnerable and sometimes because government-provided protection against crime is not distributed fairly. Most poor people cannot buy safety, since some public goods are differentially available by socio-economic class. Sickness is another typical feature of poverty, since it is closely associated with socio-economic context—lack of clean water, lack of sanitation facilities, vulnerability to disease through malnutrition, etc. AIDS, while afflicting all social classes, is a special scourge to the poor since they have less options for earning a living and protecting their children than do the better off. Certain types of mental illness have been noted to be prevalent in urban shantytowns where families live in overcrowded quarters, income is inadequate to the needs of the family and insecurity and stress contribute to such illness (Rogler, 1965, 1989). Children living in such settings are especially vulnerable to abuse from family members or others.

*Looking at Income Volatility, Long Run Average Income, and Wealth*

Almost everyone’s income changes over time, so point-of-time snapshots of inequality and poverty can be misleading. Income fluctuations are of particular importance to people and families who are poor at least some of the time, i.e. the fluctuations can pull them out of poverty or push them into it. Unfortunately, short and medium-run income fluctuations are

notorious for some groups with high average poverty, most notably small farmers and lower-income people in the informal sector. Thus, both to understand the nature of poverty as it afflicts these groups and to design policy to alleviate it requires an understanding of the short and medium-run income dynamics of these groups. Such analysis, increasingly common in industrial countries over the last few decades, usually requires panel data to follow families over periods of a year to a few years. It allows a useful distinction between the chronically poor and the transitorily poor and a corresponding distinction, where appropriate, between policies to deal with their respective problems (Hulme and Shephard, 2003; McKay and Lawson, 2003). Although panel features in household surveys in some Latin American countries date back several decades, their use has not been widely institutionalized, with the result that we know much less about poverty dynamics than we should.[11] Such knowledge would be helpful in the framing of a number of policies, including most obviously some targeting programs designed to alleviate poverty (see below). In fact, the informational needs of targeting programs have enriched the body of information on income distribution through the surveys and analyses undertaken, beginning with Chile's CASEN program (MIDEPLAN, 1990) and replicated in several other countries of the region.

Apart from income fluctuations that can quickly change a family's relative position in the income hierarchy and/or its poverty status, there are longer-run trends that also change relative positions in the hierarchy and imply that inequality measured over longer periods differs from point of time inequality. Most people agree that one should be more interested in inequality of long run average income or consumption across people or families than in

short-run inequality. Both logic and empirical evidence suggest that longer-run inequality tends to be moderately less than short-run inequality.[12] This finding seems to be of only modest policy importance *per se*, however, since it seems unlikely that large cross-country differences or over time changes in short-term inequality would not be fairly faithfully reproduced in the corresponding longer-term figures. Too little analysis has been done in this area to allow any guesses for the developing countries, including those in Latin America. The sorts of panel data which are necessary to do this sort of analysis properly, are virtually never available for representative samples of populations over more than a year. In their absence, however, there is often considerable advantage to be gained by using the social security registers, which allow the tracking of a person's earnings over long periods of time. These are most likely to be useful in those countries where the labor force is relatively formalized, such as Argentina, Uruguay, Chile and Costa Rica, but are valuable in many others as well. In keeping with the general need to use different sources in a complementary way, the body of information deserves more attention than it has received.

Wealth is an important determinant both of current and of future income, so knowing a family's wealth level adds to one's picture of its welfare, both because wealth affects future income and (related) because it serves as a source of economic security (Schneider, 2004, 5). Wealth inequality, regardless of the definition employed,[13] tends to be far greater than income inequality. Wolf (1996) reports 1980s Gini coefficients of 0.69-0.79 for Canada, France and the US and data for several other countries suggesting Gini's in that same range while the estimates for Italy, Japan and Korea are lower, at around 0.60 (Schneider, 2004, 51-52). Wealth inequality seems to have declined significantly over the longer run (a

century or more) in each of the industrial countries (US and a few European nations) for which estimates are available. Wealth distribution in Latin America has received very little quantitative analysis. This is in rather striking contrast to the situation of the larger Asian countries, India, Chain and Indonesia, all of which have useful data (Davies and Shorrocks, 2005).

*Allowing for Differences in/Changes of the Price Vector*

Levels of and changes in inequality are easiest to measure when all families at all of the points of time compared face the same relative prices for the items they purchase. Since this condition is rather far from being met, especially in the case of comparisons between quite unlike countries or over longer periods of time, considerable misinterpretation can result from failure to confront the problem. For point of time estimates of inequality in a given country the issue is partly one of inter-regional or inter socio-economic group price differences, and an increasing number of studies do address it, most often by using regional price data or a broad urban vs. rural distinction, or a combination of these.[14] The use of differing price vectors may improve accuracy of estimates a great deal in situations where higher incomes (e.g. in certain urban areas) are mainly or wholly a response to/reflection of higher prices. Unfortunately where decisions on spatial location are heavily influenced by intangibles (or, more specifically, things which are not purchased), such deflation may actually diminish the accuracy of inequality estimates, since higher prices may often be correlated with the presence of such intangibles. While it is possible to use earnings differentials together with price differentials to make estimates of the relative value of such intangibles in different regions, it would be unrealistic to expect such refinement in any but

the most in depth analyses of inequality.

Because the composition of consumption is substantially different as between poorer people and richer people, it is possible that differences across countries in the distribution of income or consumption, or changes over time in the same country, will not correspond to differences in (changes in) real income or consumption. This factor is too seldom taken into account either in inter-group or region cross-country or over time comparisons although in principle it is relatively easy to do. It is probable that differences (or trends) in real income inequality would differ measurably from differences in (changes in) current-price income inequality whenever there are significant changes in relative prices. Poor families spend up to 70-80% of their total consumption on food, most of that on a few staples. The rich have a very different consumption bundle, including cars, tourism, and other luxury goods and services. Distribution in real terms worsens relative to distribution in nominal terms when a famine sharply raises the price of staples (Ravallion, 1987, Dreze, 1999). Less extreme but still substantial changes in relative prices have occurred in some countries during the process of liberalization. In cases where staple food prices were previously controlled and subsidized while luxury imports (and the components for them) paid hefty tariffs, liberalization would be expected to lower the relative price of the rich family consumption basket vis a vis that of the poor family. Use of current price data would thus lead to an underestimate of the increase (overestimate of the decrease) in inequality associated with the liberalization.

Some countries officially produce more than one consumer price index, e.g. one for white

collar workers and one for blue collar workers (a lengthy Colombian tradition). Even when this is not done, the consumption basket of various income groups is available from consumption surveys and can be used to develop separate price indices for as many groups as deemed appropriate. Meanwhile, cross-country studies in real terms can be facilitated through use of the purchasing power parity database on prices for a large number of countries around the world. In short, it is somewhat surprising that so little attention has been addressed to this possibly significant aspect of inequality differences and changes.

*Getting closer to the measurement of satisfaction or welfare*

An unjust or unfair society could legitimately be defined as one in which either welfare or the potential for (access to) welfare is quite unevenly distributed. In recognition of the fact that the study of inequality should in principle not be restricted to the more clearly economic elements of welfare, a number of authors have addressed the question of just how strong or weak the links between income and welfare are. A major body of data has been collected on people's reported level of satisfaction or happiness and its correlates. The responses of people in the industrial countries (where such surveys have been carried out with some frequency and over long periods) about their happiness and its correlates indicate a much smaller role for income than standard economic theory would suggest. It is moderately significant when the comparison is between people at different levels of the income hierarchy at a point of time but less so--some authors say virtually insignificant, as a factor in how average societal welfare changes over time, even when average incomes have risen considerably (Easterlin, 1974, 1995; Scitovsky, 1976; Oswald, 1997). Most such studies reveal that the strongest influence among economic variables comes from employment; people with

jobs are much happier than those without them.[15] Low inflation also makes people feel happier. The educated are on average happier than the uneducated, the self-employed than employees, and the retired than the economically active. The precise meaning of most of this evidence remains to be drawn out; in particular a deeper understanding of the small apparent role of income cries out for analysis.[16] So do the differences in results across countries whose economies and societies contrast in interesting ways.

One might plausibly guess that income would be a more significant determinant of self-reported happiness in lower income (developing) countries, and most of the available data does tend to confirm this.[17] Frank (1997, 1834) notes that "most careful studies find a clear time-series relationship between subjective well-being and absolute income at low levels of absolute income." Where most people lack minimally adequate shelter and nutrition, additional income yields significant and lasting improvements in subjective well-being (Diener and Diener, 1995). Reported satisfaction levels are markedly lower in extremely poor countries than in rich ones, and within countries the positive link between income and satisfaction is significant primarily at the lowest levels of relative income. "For individuals in the middle and upper portions of the income distribution, variations in income explain less than 2% of variation in reported satisfaction levels" (Frank, 1997, 1834-5, citing Diener and Diener, 1995). Having concluded that average satisfaction levels within a country are not significantly correlated with income over time, Frank puts great emphasis on relative status as a source of respect and a determinant of well-being.

The surprising (to many economists at least) findings on the relative unimportance of income

as a determinant of societal welfare is only one of several reasons for a reconsideration of the conceptual basis for poverty policy. The role of a sense of belonging to a community in human welfare is obvious at one level, but it remains to be factored into discussions of economic policy. The same may be said of "social capital" (the ability to work effectively with others). Participatory poverty assessments uncover some of the correlates of welfare and deprivation as experienced by the respondents. In his study in the Republic of Guinea Shaffer. (1998) found that, although consumption data revealed no relative deprivation of women vis a vis men, two other dimensions which disproportionately affect women surfaced clearly—excessive workload and lack of decision-making authority/respect. Graham and Felton (2005, 12) report that, in contrast to the United States and Europe where women are on average happier than men, the opposite is true in Latin America, perhaps due to unequal gender rights.

In what is, to my knowledge, the most detailed analysis of the happiness evidence for Latin American countries, Graham and Felton (2005, 17) find that many of the patterns observed elsewhere hold up and that inequality in Latin America seems to make the poor (here the bottom two quintiles of people ranked by wealth) much less happy and the rich (the top quintile) moderately happier. Though the qualitative nature of the questions used to rank happiness make any quantification of these effects problematic, the authors consider these effects to be large.

The combination of evidence to the effect that more income does make the individual better off than his counterparts with less income but that when everyone's income rises over time there is a much less than commensurate effect on average reported happiness is consistent with the

general notion that people's welfare depends on relative status, which in modern societies is affected by relative income and consuming power. Given such attitudes, deprivation—the reason one is interested in poverty as a problem—can be alleviated mainly by reducing the degree of income inequality. But, as many authors have emphasized, a more basic implication of such a situation is that society is dysfunctional since, with satisfaction defined mainly in relative terms, there is no way to make everyone much better off. The gain of the low income person who is now closer in status to those above him is a loss to the latter, who can no longer enjoy the feeling of superiority which gave him satisfaction before. A society whose attitudes are less individualistic and competitive and more positively community or society-oriented has the chance to benefit much more from economic advance. In short, the empirical evidence, especially that from the industrial countries, suggests that attitudinal change may be more important than economic growth, and that without the former the latter may remain largely irrelevant. Although this is less true of the developing countries, to the extent that they replicate the attitudinal patterns of the rich countries it will become their problem too. A key objective of any society should be to reduce the "zero-sum" component of what gives people satisfaction.

However important one considered economic inequality to be before taking account of the findings of the happiness literature, that importance is accentuated when it is taken into account. Inequality now matters not just because it implies low purchasing power for those towards the bottom of the income hierarchy, but also because the gap between them and those above them imposes an added psychological cost. From a measurement point of view this not only enhances the importance of having and using good quality data on income and consumption distribution, but also suggests the value of collecting information on other

likely correlates of welfare[18] and on attitudes to inequality and poverty, studying their correlates, etc. Sociologists have advanced a good way in this direction but their work needs to be drawn on more extensively by economists and applied more directly to choices of economic policy. In Latin America the existence for about a decade of the Latinobarometro happiness surveys (used by Graham and Felton, 2005) and their considerable richness of information should continue to generate useful insights and lead to expansion of the database in new directions.

**Key Policy Uses of Distribution Data: Implications for What is Needed**

Judgments as to the most important gaps to be filled or refinements to be made to the battery of statistics available on inequality and poverty should be made with reference to the policy issues on which such improvements might bear. Where policy changes are expected or argued to influence the degree of poverty at an aggregate level, then overall poverty figures of adequate quality and without undue delay will be important. And where the mechanisms of the expected impact imply differing effects on different groups, it is important to have data whose detail corresponds to and can throw light on those mechanisms.

Hypotheses relating to inequality and poverty tend to originate in one of two distinct ways. One type begins with the desire to understand the impacts of certain policies or phenomena on inequality. Another begins with the observation that inequality has changed significantly in either direction, thus offering an especially useful laboratory from which to learn about the factors influencing it. Whereas the first type of analysis focuses on a given policy and

tries to trace its impacts, the second by nature considers all policies that might have played a role in the observed change in inequality. The data needs tend to be somewhat different depending on which type of analyses is being undertaken.

Where the hypothesis under consideration is a broad one (e.g. globalization has significantly worsened income distribution) good aggregate distribution data are a natural tool to help test it, but they are never sufficient by themselves since, given the inevitable presence of competing hypotheses, the overall data base is unlikely to be sufficient to sorting out their relative validity without complementary information. That complementary information can help to validate the hypothesis by tracing the phenomenon's presumed impact on different groups of people, as a complement to the analysis of its overall impact on distribution. Sometimes the sort of data needed to assess whether the hypothesized mechanisms were in play are included as standard components of income distribution data sets. If the hypothesis relates to the impact of increasing educational levels, we have the advantage that educational level of the individual is almost always reported together with income. If the hypothesis relates to size of the firms in which people work, such information is sometimes available but more often not. Accordingly, some uses of distribution data call for special modules to be added to questionnaires in order to permit a tracing of the mechanisms under discussion. At a third level, most causal analyses involving distribution data need to be complemented by other, independent information, for purposes of cross-checking, adding essential items and so on, as per the examples below.

Some policies would not be expected to affect overall income or distribution levels enough

to have a detectable effect in the aggregate data. In such cases data on the incomes of specific groups, together with their place in the bigger distributional picture will be the key ingredient to the analysis. Sometimes what is needed is a good picture of income structure such that it is possible to deduce *ex ante* the likely impact of a policy change. Thus, to predict the impact of an improvement in the quality of primary education on distribution, one needs to know where in the distribution are the persons whose quality of education will be affected, and have some idea of what will happen as a result of their getting better education.

Among approaches to identifying the impacts of policies on inequality and poverty a broad tradeoff exists between those which rely more heavily on the use of broad distribution data to test hypotheses and those which rely more heavily on subgroup income data plus complementary information. Consider, for example, the hypothesis that microcredit brings benefits to the poor by raising the productivity and incomes of the loan recipients. A first step in the validation of this hypothesis is to verify that the borrowers do see more income due to higher productivity in their enterprises. But such evidence would not by itself prove that the project helped the poor since there could be negative side effects of the loans on the businesses of the competitors of the loan recipients. It is more difficult to detect such side effects through direct investigation than to identify the positive effects on the presumed beneficiaries and hence difficult to estimate the net overall impact on the population. Here the availability of more general income distribution data is important. Where the policy or phenomenon under analysis is of a magnitude such that it might be expected to influence, say, the average incomes of several deciles towards the bottom of the distribution, those

effects may be best tested for with data on the incomes of those deciles. Approaching validation this way, however, gets one into the “competing explanations” problem; if one cannot take account of other possible factors at work in determining trends in average income and its distribution, one falls victim to the “omitted variables” problem. The essential trade-off is thus between (i) the capacity to specify all major determinants of changes in income and its distribution well enough so that one does not have to trace the effects of the specific policy of interest at the microeconomic level to be reasonably sure they are taking place and producing the final observed effect on income and its distribution; and (ii) the generation of enough detail about the income structure of the population to be able to verify more directly the mechanisms of policy impact. Where, for whatever reason, it is not feasible to model the impacts either of the policy under analysis or of other causal factors well enough to be able to study them effectively through their final impacts on income and its distribution (e.g. where too little is known about the lags with which they appear after the policy goes into play) then extra distributional detail and complementary information on the mechanisms linking the policy to the final outcomes will have a higher payoff. The two approaches are by definition complementary to each other, since it is preferable to be able to use both, as well as substitutes, since neither can ever be perfect. But with a given level of resources available for the two together, there is always the question of what combination is most effective.

Another complicated issue is the impact of market reforms on growth and inequality. As discussed in more detail below, the cross-country time-series approach to identifying the impact of the various reforms, individually and as a group, is unlikely to provide reliable

results given the many ambiguities about the mechanisms connecting these changes to the outcomes, and especially about the time lags involved between policy change and outcome change. These complexities, together with the great difficulty in specifying in an econometrically manageable way the other elements in the puzzle, like ongoing technical change, makes such exercises very challenging, and unlikely to yield relatable results in the near future. It will therefore be important to have the needed combination of information on income structure and on other relevant variables so that the mechanisms hypothesized to connect liberalization and distributional outcomes can be traced in some detail. Exactly what data are needed on distribution is a matter for analysts to specify, but things like the distinction between earners connected to tradables production vs. those connected to non-tradables production would be one obvious need. So, probably, would data on who is connected to firms of differing sizes and technologies.

Major issues in recent times whose distributional implications are important include:

i) the impact of the recent market-friendly economic reforms, with special attention to trade reforms;

ii) agricultural development, especially in Africa;

iii) the impact of changes in technology;

iv) education and health policy;

v) financial development and regulations on the financial system, including microfinance;

vi) small and medium enterprise (SME) policy;

vii) targeting of assistance to specific poor or vulnerable groups such as women,

orphans, single-parent families, families afflicted by HIV/AIDS, or the elderly through food aid, pensions, or subsidies for school attendance;

viii) privatization [part of (i) but often discussed separately].

Several of these phenomena are included both because it is important to know what their distributional impact may be but also because they are already hypothesized as candidates in explaining the marked increases in inequality which have plagued a number of the countries of the region at various points of time over the last quarter century. Attempts to unravel the **role of the market-friendly reforms** in that worsening serve as a useful example of what sort of information is needed, in the context of a probably complicated set of mechanisms. Of the several multicountry studies that have addressed this issue, the Interamerican Development Bank study (IDB, 1997) and Morley (2001) for ECLAC employed similar data and econometric analysis but reached somewhat different results. The former concluded that the main worsening of income distribution was in the 1980s, with no further significant increases in the 1990s, and that the reforms—including the trade reforms—actually improved distribution in comparison with what it would otherwise have been as well as contributing to growth. Morley, working from the reform indices developed by the IDB authors but extending and improving them and applying a more thorough econometric analysis, concluded that the reforms had a modestly negative effect on distribution and a small positive impact on growth. Berry and associates' (Berry, 1998) series of country case studies judged that the frequent timing coincidence between the reforms (mainly trade reform) and the associated opening up and worsening inequality suggested a causal relationship.[19] Without much more detailed probing and comparison, it is not possible to

sort out which of the existing studies, if indeed any of them, gets close to the facts of the matter. A prudent judgement might be that the truth probably lies between the Morley results (small negative impact on inequality) and a pessimistic reading of the Berry et al. results in which all or nearly all of the distributional worsening that coincided with the reforms was caused by them. In the latter case, the reforms could have accounted for increases in the Gini coefficient of up to five percentage points in a number of the countries—but not in all, so that the average impact would be perhaps half that much.

Successful analysis of this issue would require both better distribution data, better complementary data on other variables (like the reform indices used[20]), better capacity to link income status of individuals and families to the hypothesized mechanisms (e.g. employment in production of tradables or nontradables, size and technology of employing firm), and more total effort to probe competing hypotheses, allow for differences across countries in the mechanisms involved, etc. Among the weaknesses in the distribution data *per se* have been ambiguity in several countries (including Colombia and Chile) as to which time series on inequality to use, and the twin weaknesses of serious underreporting of capital income and the very limited analysis of the impact of changing relative prices on real inequality. Both of these flaws create a serious possibility that the impact of the reforms was more negative than any of the studies has concluded, especially in the light of the findings reported by Cornia and Court (2001) on the role of interest income in observed increases in inequality in several developing countries.

*Support for Small Agriculture*

It has been widely argued that a productive small-scale agriculture is a key to equitable growth and development (Johnston and Clark, 1982). Most calculations show land productivity to be a more or less monotonically decreasing function of farm size (Binswanger, Deininger and Feder, 1995; Lipton, 1993). Several authors note, however, that in many settings farms below a certain size are not sustainable so their operators eventually have to sell and go out of the business (Zimmerman and Carter, 2003). So is a land reform that breaks large farms into smaller units good for distribution and for poverty reduction or not? When can good support programs for small farms make the difference? Is their success related closely to the system of property rights and if so which systems are the best?[21] The ideal battery of information with which to address this set of issues would include: unusually good income and consumption surveys—they must be of above average quality to hope to get reliable information on the people in a sector where income is erratic and the economics of the business often complicated; good data on the agricultural activities of families, of the sort usually collected in agricultural censuses, with the potential to link this data to the income and consumption data usually provided by household surveys, and which includes the income from non-agricultural activities. The data base should also include information on property rights, access to support services, and quality of relevant infrastructure. Data on land distribution and how it is changing are also important, together with income and production data over a period of time sufficient to permit identification of trends, and (very important) data on the non-agricultural incomes of families engaged in agriculture. Some data sets are satisfactory for part of this list of needs, but it is rare to be able to merge agricultural census type information with the other variables.

*Technological Change*

It is arguable that the most negative factor in the increasing inequality witnessed in many developing countries over the last few decades has been the nature of the technological change impinging on them, with the arrival of the new information and communication technologies (ICT) and the dramatic spread of supermarkets being two of the most obvious components of the process. Broadly speaking, the premature arrival of inappropriately capital-intensive technologies is an important aspect of the process, perhaps even more so than when the concept became popular in development thinking in the 1970s (Stewart, 1977, Singer, 1982). The mechanisms and pace of technological change are associated in various ways with international economic integration--for example foreign direct investment plays a role, but the details are not well enough understood to permit reliable predictions as to when this process will be severely damaging to inequality and poverty and when it will not. Though there has been considerable research around the ICT technologies (Perez, 1994; Lall, 2004), very little has focused adequately on following the links whereby the new technology interfaces with inequality and poverty, except perhaps through the work on formal sector-informal sector and firm size relationships. Within Latin America it is a strong hypothesis that the widening productivity gaps by firm size (Peres and Stallings, 2000) have had a significant impact on income distribution through their impacts on different segments of the labor force, but little research has attempted to trace the chain of effects from newer technology through the productivity changes by groups of firms (e.g. categorized by size or type of technology) to the earnings of individual workers and their families. The modeling exercise carried out years ago by Adelman and Robinson (1978) for Korea exemplifies one useful approach. Sometimes the technology choice will be the result of or co-caused with

other patterns, such as the distribution of land rights. In such cases it is likely that the only way to identify the major sources of changes in inequality and poverty is very detailed country studies which use as a main source of information household surveys with inequality data, but also use a wide range of complementary information (here on technologies employed, among other things), collected around a series of competing hypotheses.

*Health and Education*

Analysis of the distributional impact of health policy requires crossing data on health status, access to, and cost and quality of health services with data on income levels. Relevant over-time data on groups presumably affected by health interventions (e.g. HIV/AIDS sufferers) can in a fairly straightforward way relate the resulting benefits to income levels. In cases where specific diseases are attacked (e.g. control of malaria) declining incidence can also be easily related to socioeconomic status, as long as the health information is collected with appropriate frequency. The impact of more general health services is harder to identify with comparable precision. Since health status is a major component of welfare, and varies greatly by socio-economic status in many countries, such analysis is an important element of thinking about policy on welfare distribution. Recent promising efforts in this area include Knaul et al's (2006) look at the extent to which large (relative to income) health expenditures push families into poverty in Mexico and potential for health insurance to prevent that outcome; studies of the determinants of the rich-poor gap in child health status (e.g. Wagstaff, 2002); and the overall impact of disease on the poor (Gwatkin and Guillet, 2000).

The effect of educational policies on inequality is an important but difficult research question, difficult in part because the effects on economic and more general well-being are delayed and more general than those of many health interventions. Economists and others have at times held out serious hopes that a better distribution of educational attainment could provide a feasible route, perhaps the only feasible route, to a significantly better distribution of income in many countries.[22] For Latin America, this hope has not been borne out, for reasons that need to be analyzed in more detail. Earnings gaps by level of skill have risen worldwide over the last couple of decades,[23] a pattern more often interpreted as reflecting the character of technical change during this period than what has happened or not happened on the educational front, though Londoño (1996) and IDB (1997), for example, do blame inadequate educational development. It would be surprising if the low and sometimes declining quality of primary and sometimes secondary education had not played some role. Although Latin America has achieved considerable increases in the coverage of education at these two levels, quality has not come along with quantity. Coverage usually comes last to the more marginal and hard-to-reach populations. With poorer students, less educational background in the home, and greater resistance on the part of teachers to working in these zones, it is almost a foregone conclusion that quality of education (as defined by the usual objective measures—performance in languages, maths, etc) will be low. Only concerted and professional efforts, with the expenditures of relatively large amounts of resources, would be likely to reverse this pattern. Such is the background within which data on income distribution are used to try to sort out the distributional impacts of various patterns of educational advance and reform. The challenge of using the now widely available household

survey data on income distribution to assess the impacts of educational change include, together with the universal need to worry about other factors which may be determinants of absolute and relative earnings of different people, several special ones:

i) the need for data on the quality (as well as the quantity) of education of people in the sample; data on test scores is now much more widely available than a couple of decades ago, but researchers are still sorting out how quality so measured relates to the subsequent payoff in economic and other terms;

ii) the desirability of over time data for individuals, to allow analysis of the age profiles of earnings for quality-specific groups;

iii) the need to deal with the impacts of labor market segmentation in the statistical analysis (Rosenzwieg, 2002);

iv) the continuing challenge of measuring ability and motivation and their interactions with educational attainment;[24]

v) the lack of any very clear idea of how education pays off, in ways that help to understand the earnings gaps by level of education. This is relatively easier when the focus is on specific skills and groups like computer operators, but much less so when the group is people with primary school engaged in a very wide range of activities.

In the cases both of health and education, it is desirable to understand the reasons for non-access to some services or to a better version of them.

Progress is being made in this challenging area, with a number of recent studies using

microsimulation-based analysis to investigate the impact of educational changes on income distribution (e.g. the case studies presented in Bourguignon, Ferreira and Lustig, 2005). This approach is probably the most promising at this time, although it will take some time for it to be effectively merged with the analysis of how economic structure and macroeconomic events and institutional patterns mediate the relationship in question. The increasing availability of test scores has given researchers new insights into important policy issues, such as the use of vouchers to give parents a greater say in their children's education and to increase competition among suppliers.[25]

*Finance and Financial Reform*

Financial development has been hailed in recent years as an important factor contributing to economic growth (Levine, 1997, 2003). The financial reforms which have been undertaken as part of the market-friendly reforms are also seen by some as contributing to economic equality; analysts have argued, on either theoretical (Balassa et al, 1986, 94) or empirical grounds (Jaramillo, Schiantorelli and Weiss, 1993) or both, that ending financial repression would improve income distribution by tending to equalize access as between larger, better placed firms and smaller ones. It has been difficult to assess this hypothesis empirically, and the evidence is, at this point, inconclusive (Berry, 2004). International financial opening is more often seen as contributing to inequality by improving the credit access of large (international or national) firms relative to that of smaller and more labor-intensive competitors (Hawkins, 2000). Burgess and Pande (2003) provide what appears to be the most convincing evidence thus far that what one might call the "downward expansion" of the banking system to previously underserved regions can reduce inequality, though it must

be noted that the expansion in question was not the result of market forces alone but rather what they term the "Indian social banking experiment."[26]

Much more attention has been given to microfinance as a poverty-reducing instrument. Though it is clear that much of the credit gets to at least fairly low income people, the empirical evidence on the magnitude of net social benefits remains scanty. Khandker's (1988) study seems to provide the most solid evidence that the benefit/cost ratio is good for the institutions in Bangladesh that he studied. The further step of linking those benefits to changes in income distribution has not thus far been taken, to my knowledge. In a few countries where the magnitude of microfinance is large enough, including Bangladesh, it would be worthwhile to undertake econometric tests of the overall microfinance-income distribution links. Otherwise, and this would be the general case in Latin America,[27] one must fall back on (and in any case should carry out) attempts to trace microcredit benefits and costs to those groups most likely affected by them, including non-borrowers. Our understanding of the impact on inequality of financial developments along the various paths mentioned above will need to rely on a microdata base which allows the analyst to connect income levels to interface (both of individuals and of the firms where they work) with the financial system. To this end special modules attached to household surveys can be quite productive.

*Small and Medium Enterprise Policy*

Proponents of a flourishing SME sector argue that it uses generally appropriate technology, can achieve good levels of efficiency while at the same time being relatively labor intensive

and thereby contributing to a relatively equitable distribution of income. Though comparisons suggest that countries with strong SME sectors suffer lower inequality than those with highly dualistic economies (where most of the capital is in the large-scale sector and most of the workers in the informal or small scale sector) the needed confirmation that size distribution is amenable to policy and that the distributional impact of an increased SME share is indeed significantly positive has been hard to marshal, in part because of the few examples of a significant shift in size composition towards SMEs. Korea is the most cited case, with the SME share, at least in manufacturing, rising dramatically since the mid-1970s. Nugent and Yhee (2002, 113) noted the timing coincidence for Korea between the rapid rise of the SME sector after the mid-1970s and the decrease in inequality. Adelman and Robinson (1978) incorporated the size distribution of industry in their modeling exercise to study the trends in distribution in the same country. SME has generally played a smaller role in Latin America than in many countries of East Asia, and it is urgent to understand what its potential is. To this end we need far more empirical analyses of the links between size, technology and income distribution, based at least in part on more information about the size, technology, and labor productivity of the firms in which individuals work and their position in the distribution of income.

*Targeting*

Data on income distribution are important, almost by definition, in programs targeted either at the poor as a whole or at specific subgroups thereof. Targeting by income level requires either data on income itself or, more practically, data on good but simple proxies for income. As targeting programs evolve, the nature of the appropriate information base does

as well, calling for a response from those in charge of such information. As is true of various of the other policy areas discussed, the need is not so much for more detail on incomes and their distribution *per se* as for more surrounding information, needed in this case to provide the useful proxies (characteristics of housing and other assets, health conditions, etc.). The experience with targeting in Latin America and elsewhere has, in return, enriched our understanding of certain aspects and correlates of poverty, among them the dynamics and fluctuations related to the malady. Perhaps more important, the special problems of vulnerable groups: single parent families, orphans, and elderly people without family support deserve more attention, partly through their identification and study through household income and consumption surveys and partly through complementary data, including special modules attached to the household surveys. The analysis of poverty must be pushed increasingly towards distinctions among the poor according to their characteristics and the sources of their poverty. This general need is perhaps especially patent in Latin America, where poverty is no longer the norm. Brazil's rural social security system, instituted in the 1990s, provides a safety net for the bulk of former workers in agriculture and other primary sector activities and has had a large effect on rural poverty levels through a cost of about 1% of GDP (Schwarzer and Querino, 2002; Morley, 2003). It exemplifies the importance of group specific poverty policies. Gender inequalities can be relatively well described using normal household survey data but getting deeper into both the nature of the problem and the mechanisms at work requires a combination of additional information (especially on aspects of intrafamily inequality) and panel data to trace processes at work.

*Privatization*

Privatization has generated much controversy within developing countries; one contentious issue is its impact on income distribution and poverty. Outcomes appear to vary widely by country, industry involved, and the process (corruption has often worsened the distributional impact). Birdsall and Nelllis (2002) conclude that most privatization programs appear to have worsened the distribution of assets and income, at least the short run. Jones (2004, 5) concludes that "popular opinions on the negative distributional impact of privatization are not broadly supported by the available empirical evidence."[28] The difference between these two views may reflect that fact that Birdsall and Nellis included in their sample transition economies, where negative effects have in some cases been dramatic. Those economies aside, the outcome may depend a good deal on the efficiency of the public enterprise vs. the private one, and the extent to which the latter will be subject to adequate competition or regulation. Good distribution data, linked to evidence on use of services (say electricity, water or telephones), can clarify many of the possible impacts on consumers and workers in these enterprises. Sometimes the distributional impact turns on whether privatization leads to an expansion of the service into lower income areas previously without it (Jones, 2004). Loss of jobs is usually unlikely to contribute to poverty since few people in families close to the poverty line are employed by public enterprise.

## Summary and Conclusions

Major improvements in the quality and frequency of income and consumption distribution in Latin America have provided a useful base for assessing trends and analysing the factors

(including policies) that have an impact on inequality. It seems likely that accuracy is now good enough in most countries to pick up significant changes in true inequality (however measured) as long as those changes are not concentrated in the components of income or consumption which are particularly badly measured—capital income accruing to upper income groups (including that from appreciation of assets), or infrequently measured--consumption of public goods. Ability to deal with changes in these components of income and consumption would require better data and/or a better understanding of when lower quality data sets are likely to be decent proxies for higher quality ones. Changes in the real distribution due to relative price changes between the consumption baskets of groups at different socio-economic levels can be analysed with existing data, though they seldom are, creating another possibly significant source of erroneous conclusions on inequality trends.

Arguably the highest potential payoff among the easily feasible improvements to the standard data collection procedures is in the panel area. Deaton (1995, 1802) notes the benefits reaped from those of the World Bank's Living Standards Surveys which incorporated that feature.[29] But this is the sort of innovation to the traditional collection procedure that may not last unless there is expertise around, inside or outside the data collection agency, to keep it going.

Since the main source for checking on the degree of coverage of income and consumption surveys are the national accounts and their component parts, the accuracy of that source may constrain improvements in our understanding of distribution as much as do the household survey data themselves. Until household surveys are greatly improved from their present levels, other types of information will remain the main source on capital income.

The third major source of potential improvement is in the information that allows better testing of hypotheses about the determination of distribution and its changes. Some of that information is quite independent of the distribution data per se (e.g. indicators of market reforms) but much needs to be collected together with the distribution data so that it can be used jointly with the latter in statistical analysis. Some of what is needed is already collected in most surveys (e.g. data on educational level) but most is not (data on educational quality, data on type of firm in which the person works). The full range of information that would be useful cannot be collected frequently due to cost and limitations on length of interviews. For some analyses, just having the data once might answer most of the interesting questions. But often it is important to track changes. To that end some sort of rotating special module system is desirable. Some countries have something of this sort, but even in the best of cases the total provision of information is far below what it would be useful to have. At this point it appears likely that extension of the distribution-relevant data base in this direction is the highest priority in many countries. Aspiring to decent quality data on capital incomes is optimistic, whereas much reliable data helpful in the analysis of important issues can be collected with household surveys. Decisions on what to collect and how to do it need to involve the analysts who will be the ultimate users.

**References**

Adelman, Irma and Sherman Robinson (1978), *Income distribution policy in developing countries: a case study of Korea*, Stanford University Press for the World Bank.

Altimir, Oscar (1987), 'Income distribution statistics in Latin America and their reliability,' *Review of Income and Wealth*, 33(2): 111–155.

_____ (1998), 'Income Distribution and Poverty through Crisis and Adjustment' in *Poverty, Economic Reform and Income Distribution in Latin America*, (ed.) Albert Berry. Boulder, Col.: Lynne Rienner Publishers.

Balassa, Bela, Gerardo M. Bueno, Pedro-Pablo Kuczynski and Mario Henrique Simonsen (1986), *Toward Renewed Economic Growth in Latin America*, Colegio de Mexico, Institute for International Economics, and Fundação Getulio Vargas Mexico City, Washington, DC and Rio de Janeiro.

Behrman, Jere, Nancy Birdsall and Miguel Szekely (2000), 'Economic Reform and Wage Differentials in Latin America,' Working Paper 435, Inter-American Development Bank, Washington, DC.

Berry, Albert (1987), 'Evidence on Relationships among Alternative Measures of Concentration: A Tool for Analysis of LDC Inequality,' *Review of Income and Wealth*,

33(4): 417-429.

_____ (1998), *Poverty, Economic Reform, and Income Distribution in Latin America*, Boulder, Col.: Lynne Rienner.

_____ (2003), 'Methodological and Data Challenges to Identifying the Impacts of Globalization and Liberalization (GL) on Inequality,' Paper prepared for United Nations Research Institute on Social Development.

_____ (2004), 'Finance and Pro-Poor Growth,' Prepared as part of Pro-poor Economic Growth Research Studies, Development Alternative Incorporated and Boston Institute of Development Economics for USAID.

Binswanger, Hans P., Klaus Deininger and Gershon Feder (1995), 'Power, Distortions, Revolt and Reform in Agricultural Land Relations' in *Handbook of Development Economics, Volume 3B,* (eds.) Jere Behrman and T.N. Srinivasan. Amsterdam: Elseveir Science.

Birdsall, Nancy and John Nellis (2002), "Winners and Losers: Assessing the Distributional Impact of Privatization,' Working Paper No. 6, Center for Global Development, Washington, DC.

Boissiere, Maurice, John Knight and Richard Sabot (1985), 'Earnings, Schooling, Ability

and Cognitive Skills,' *American Economic Review*, 75: 1016-30.

Bourguignon, Francois and S. Chakravarty (2003), 'The Measurement of Multi-Dimensional Poverty,' *Journal of Economic Inequality*, 1(1): 25-49.

Bourguignon, Francois, Francisco Ferreira and Nora Lustig (2005), *The Microeconomics of Income Distribution Dynamics in East Asia and Latin America*, Washington, DC: The World Bank and Oxford University Press.

Bravo, D., D. Contreras and I. Millan (2000), 'The Distributional Impact of Social Expenditure in Chile' in *Poverty and Income Distribution in a High-Growth Economy: The Case of Chile 1987-1998*. Washington, D.C.: The World Bank.

Bulmer-Thomas, Victor (ed.) (1996), *The New Economic Model in Latin America and its Impact on Income Distribution and Poverty*, New York and London: St. Martin's Press in association with the Institute of Latin American Studies.

Burgess, Robin and Rohini Pande (2003), 'Do Rural Banks Matter? Evidence from the Indian Social Banking Experiment,' STICERD Suntory Centre, London School of Economics and Political Science, Discussion Paper No. 40.

Carter, Michael C., and Pedro Olinto (2003), 'Getting Institutions 'Right' for Whom? Credit Constraints and the Impact of Property Rights on the Quantity and Composition of

Investment,' *American Journal of Agricultural Economics*, 85(1).

Comisión Económica para América Latina y el Caribe (CEPAL) (1987), *Antecedentes de la distribución del ingreso: Argentina, 1953-1982*, Santiago: CEPAL.

_____ (2004), *Panorama Social de América Latina, 2002-2003*, Santiago: CEPAL.

Contreras, Dante, David Bravo and Patricia Medranao (1998), 'Measurement Error and Skill Bias in Estimating the Returns to Schooling in Chile,' Department of Economics, University of Chile, Mimeo.

Cornia, Giovanni Andrea (ed.) (2004), 'Inequality, Growth and Poverty: An Overview of Changes over the Last Two Decades' in *Inequality, Growth, and Poverty in an Era of Liberalization and Globalization*. Oxford and New York: Oxford University Press.

_____ and Julius Court (2001), *Inequality, Growth and Poverty in the Era of Liberalization and Globalization*, Helsinki: UNU/WIDER.

Davies, James B. and Anthony Shorrocks (2000), 'The Distribution of Wealth' in *Handbook of Income Distribution*, (eds.) A. B. Atkinson and F. Bourguignon. North-Holland.

_____ _____ (2005), 'Wealth Holdings in Developing and Transition Countries,' Paper prepared for the Luxembourg Wealth Study conference on Construction and usage of

Comparable Microdata on Wealth, Perugia, 27-29 January.

Deaton, Angus (1995), 'Data and Econometric Tools for Development Analysis' in *Handbook of Development Economics, Volume 111A*, (eds.) Jere Behrman and T.N.Srinivasan. Elsevier.

de Ferranti, David, Guillermo Perry, Francisco Ferreira and Michael Walton (2004), *Inequality in Latin America: Breaking with History*, Washington, DC: The World Bank.

Diener Ed and Carol Diener (1995), 'The wealth of nations revisited: Income and the quality of life,' *Social Indicators Research*, 36(3): 275–286.

Di Tella, R., R. MacCulloch and A. J. Oswald (1996), 'The macroeconomics of happiness,' Oxford and Warwick, Mimeo.

Dreze, Jean (1999), *The Economics of Famine*, Edward Elgar.

Elbers, Chris, Lean Lanjouw, Peter Lanjouw and Phillippe G. Leite (2003), 'Poverty and Inequality in Brazil: New Evidence from Combining PPV-PNAD Data,' Washington, DC: The World Bank.

Easterlin, R. (1974), 'Does economic growth improve the human lot? Some empirical evidence' in *Nations and Households in Economic Growth: Essays in Honor of Moses Abramovitz*, (eds.) Paul A. David and Melvin W. Reder. New York and London: Academic

Press.

Ferreria, Francisco, Peter Lanjouw and Marcelo Neri (2003), 'A Robust Poverty Profile for Brazil Using Multiple Data Sources,' *Revista Brasileira de Economia*, 57(1): 59-92.

Frank, Robert (1997), 'The frame of reference as a public good,' *Economic Journal*, 107(445): 1832–1847.

Galiani, Sebastian, Paul Gertler and Ernesto Schargrodsky (2005), 'Water for Life: The Impact of the Privatization of Water Services on Child Mortality,' *Journal of Political Economy*, 113(1): 83-120.

Goni, E., H. Lopez and L. Serven (2005), 'Getting Real About Inequality: Evidence from Brazil, Colombia, Mexico and Peru,' World Bank, Mimeo.

Graham, Carl and Andrew Felton (2005), 'Does Inequality Matter to Individual Welfare: An Initial Exploration Based on Happiness Surveys From Latin America,' CSED Working Paper No. 38, Brookings Institution, Washington, DC.

Gwatkin, Davidson R. and Michel Guillot (2000), 'The Burden of Disease Among the global Poor,' Washington, DC: The World Bank, Human Development Network.

Hawkins, Penelope (2000), *Financial Constraints and the Small Open Economy,*

Unpublished Ph.D. dissertation, Stirling University.

Hulme, David and Andrew Shepherd (2003), 'Conceptualizing Chronic Poverty,' *World Development*, 31: 403-23.

Jaramillo, Fidel, Fabio Schiantarelli and Andrew Weiss (1993), *The Effect of Financial Liberalization on the Allocation of Credit: Panel Evidence for Ecuador*, Washington, DC: World Bank.

Inter-American Development Bank (1997), *Economic and Social Progress in Latin America: Latin America After a Decade of Reforms*, Washington, DC: IDB.

Johnston, Bruce F. and William C. Clark (1982), *Redesigning rural development: a strategic perspective*, Baltimore: Johns Hopkins University Press.

Jones, Leroy P. (2004), 'Privatization and the Poor: Issues and Evidence,' Prepared as part of Pro-poor Economic Growth Research Studies, Development Alternative Incorporated and Boston Institute of Development Economics for USAID.

Khandker, Shahidur (1998), *Fighting Poverty with Microcredit: Experience in Bangladesh*, New York: Oxford University Press.

Knaul, Felicia Marie, et. al., 'Preventing Impoverishment, Promoting Equity and Protecting

Households from Financial Crisis: Universal Health Insurance Through Institutional Reform in Mexico,' draft.

Kuznets, Simon (1953), *Shares of upper income groups in income and savings*, National Bureau of Economic Research.

Lall, Sanjaya (2004), 'The Employment Impact of Globalization in Developing Countries' in *Understanding globalization, employment and poverty reduction*, (eds.) Eddy Lee and Macro Vivarelli. Houndsmills, U.K. and New York: Palgrave Macmillan.

Levine, Ross (1997), 'Financial Development and Economic Growth: Views and Agenda,' *Journal of Economic Literature*, XXXV (June): 688-726.

_____ (2003), 'More on Finance and Growth: More Finance More Growth,' *Federal Reserve Bank of St. Louis*, 85(4): 31-46.

Lipton, Michael (1993), 'Land Reform as Unfinished Business: The Evidence Against Stopping,' *World Development*, 21(4).

Londoño de la Cuesta, Juan Luis (1996). *Poverty, inequality, and human capital development in Latin America, 1950-2025*. Washington: World Bank.

Majul, Luis (1997) *Los nuevos ricos de la Argentina: tiburones al acecho: Julio Ramos,*

*Manuel Antelo, Alfredo Coto, Carlos Avila*. Buenos Aries: Editorial sudamericana.

McKay, Andrew, and David Lawson (2003) "Assessing the Extent and Nature of Chronic Poverty in Low Income Countries," *World Development*, Vol. 31, No. 3, pp. 425-39.

Ministerio de Planificación y Cooperación (MIDEPLAN) (1990).
*Programas sociales: su impacto en los hogares chilenos, casen 1990*. Santiago de Chile: MIDEPLAN.

Miranda, Aníbal (2000), *Dossier Paraguay: los dueños de grandes fortunas*, Asunción: Miranda & Asociados.

Mistiaen, Johan A. and Martin Ravaillon (2003), 'Survey Compliance and the Distribution of Incomes,' World Bank Policy Research Working Paper #2956.

Mizala, Alejandra and Pilar Romaguera (2000), 'School Performance and Choice: The Chilean Experience,' *Journal of Human Resources*, 35(2): 392-417.

Morley, Samuel (2001), *The Income Distribution Problem in Latin America and the Caribbean*, Santiago: ECLAC.

Morley, Samuel A. (2003), 'Reducing Poverty in Brazil: Lessons Learned and Challenges for the Future,' Prepared as part of Pro-poor Economic Growth Research Studies, carried

out by Development Alternative Incorporated and Boston Institute of Development Economics for USAID.

Nugent, Jeffrey B. and Seung-Jae Yhee (2002), ‘Small and Medium Enterprises in Korea: Achievements, Constraints and Policy Issues,’ *Small Business Economics*, 18(1-3).

Osberg, Lars (1998), *An index of economic well-being for Canada*, Ottawa: Human Resources Development Canada, Applied Research Branch.

Oswald, Andrew (1997), ‘Happiness and economic performance,’ *Economic Journal*, 107(464): 334–349.

Paglin, Morton (1975), ‘The Measurement and Trend of Inequality: A Basic Revision,’ *American Economic Review*, 65(4): 598-609.

Perez, Carlota (1994), ‘Technical Change and the New Context of Development’ in *South-South Cooperation in Global Perspective*, (ed.) Lynn Mytelka. Paris: OECD Development Centre.

Pritchett, Lant (1996a), ‘Measuring outward orientation in developing countries: Can it be done?’ *Journal of Development Economics*, 49(2): 307–335.

Psacharopoulos, George and Eduardo Vélez (1992), ‘Schooling, Ability and Earnings in

Colombia, 1988,' *Economic Development and Cultural Change*, 40(3): 629-643.

Ravallion, Martin (1987), *Markets and Famines*, Clarendon Press.

Rodriguez, Francisco (2004), 'Factor Shares and Resource Booms: Accounting for the Evolution of Venezuelan Inequality' in *Inequality, Growth, and Poverty in an Era of Liberalization and Globalization*, (ed.) Giovanni Andrea Cornia. Oxford and New York: Oxford University Press.

Rogler, Lloyd H. (1989), *Hispanics and Mental Health: A Framework for Research*, R.E. Krieger.

_____ and August B. Hollingshead (1965), *Trapped: Families and Schizophrenia*, Wiley.

Rosenzwieg, Mark R. (2002), 'Schooling, Economic Grwoth and Aggregate Data' in *Development, Duality, and the International Economic Regime: Essays in Honor of Gustav Ranis*, (eds.) Gary Saxonhouse and T.N. Srinivasan. Ann Arbor: University of Michigan Press.

_____ (2003), 'Payoffs from Panels in Low-Income Countries: Economic Development and Economic Mobility,' *American Economic Review*, 93(2); 112-17.

Schneider, Michael (2004), *The Distribution of Wealth*. Cheltenham, UK and Northampton,

Mass.: Edward Elgar.

S

Schwarzer, Helmut and Ana Carolina Querino (2002), 'Benefiions sociais e Pobrreza: Programas Nao Contribuvios de Seguridade Social Brasileira,' Sao Paulo Instituto de Pesquisas Economicas e Administrativas (IPEA), Working Paper 929.

Scitovsky, Tibor (1976), *The Joyless Economy*, Oxford: Oxford University Press.

Selowsky, Marcel (1979), *Who benefits from public expenditure? A case study of Colombia*, Oxford University Press for the World Bank.

Shaffer, Paul (1998) "Gender, poverty and deprivation: Evidence from the Republic of Guinea" *World Development*, Vol. 26, No. 12.

Sharpe, Andrew (2002), *The review of economic performance and social progress 2002; towards a social understanding of productivity*, Ottawa: Institute for research on Public policy.

Singer, Hans (1982), *Technologies for basic needs*, Geneva: International Labour Office.

Siregar, M.G. (1995), *Indonesia's Financial Liberalization; An Empirical Analysis of 1981-1988 Panel Data*, Singapore: Institute of Southeast Asian Studies.

Stallings, Barbara and Wilson Peres (2000), *Growth, Employment and Equity: The Impact of the Economic Reforms in Latin America and the Caribbean*, UNECLAC and the Brookings Institution.

Stewart, Frances (1977), *Technology and Underdevelopment*, Macmillan.

United Nations Development Programme (2002), *Human Development Report 2002: Deepening Democracy in a Fragmented World*, New York: Oxford University Press.

Vélez, Carlos Eduardo (1996), *Gasto social y desigualdad: logros y extravíos*, Bogota: Departamento Nación de Planeación, Misión Social.

Wagstaff, Adam (2002), *Inequalities in Health in Developing Countries: Swimming Against the Tide?* Washington, DC: The World Bank.

Westley, Glenn D. (2001), 'Can Financial Market Policies Reduce Income Inequality?' Washington, DC: Interamerican Development Bank, Sustainable Development Technical Series.

Wolff, Edward N. (1996), 'International Comparisons of Wealth Inequality,' *Review of Income and Wealth*, 42(4): 433-51.

Zimmerman, Frederick J. and Michael R. Carter (2003), 'Asset Smoothing, Consumption

Smoothing and the Reproduction of Inequality under Risk and Subsistence Constraints,' *Journal of Development Economics*, 71(2): 233-260.

* I have benefited from the comments of two referees of the paper and from participants in the workshop.

[1] Thus the 2002 Human Development Report (UNDP, 2002, 194-5) gives a figure of 0.607 for Brazil (1998) and 0.423 for Uruguay (1989).

[2] The potentially greater accuracy of consumption surveys has led to some cost-cutting attempts to measure expenditure through relatively simple questionnaires, but this also produces data of generally low quality.

[3] In their base-line estimate, the Gini coefficient rises from the observed 0.450 to 0.508 as a result of the correction (Mistiaen and Ravaillon, 2003, 16).

[4] ECLAC has undertaken over the years to present available data in an orderly way and BID has invested in improving the data systems. At an earlier stage ECLAC systematically compared the expanded household survey income data with the national accounts, and in so doing provided much useful feel for the relative completeness of the household survey data (e.g. CEPAL, 1987). It did not, nor has anyone else to my knowledge, undertaken systematic reviews of the quality of the national accounts (and any other sources used for such checks) in Latin America.

[5] At the other end of the spectrum, Rodriguez (2004, 330) suggests that the true Gini coefficient in Venezuela during the 1990s was above 0.60, even though that for labor incomes was around 0.4. (For this period most of the reported Gini coefficients for household income were in the mid to high 40s, according to the WIDER database on inequality.) His contention is that due inclusion of capital income would increase the Gini

coefficient by much more than the six percentage points constituting the upper end of the range reported by Altimir. In allocating his estimate of capital income to individuals he uses the same procedure cited above—assuming the same degree of underreporting of such income for all those who reported any.

[6] Berry (1987, 424) used the few cases for which two comparable figures were available to conclude that the ratio of Gini coefficients of consumption inequality tended to fall in the range 0.85-0.90 as high as the corresponding ones for income. Thus if the coefficient for income was about 0.5 a reasonable estimate of that for consumption would be 0.43-0.45. Some cross-country regressions to explain inequality have included a dummy variable to distinguish income from consumption data, reaching the same conclusion. De Ferranti et al (2003, 48-49) refer to the analysis by Elbers et al (2003) in which a small 1996 pilot survey in parts of Brazil was used to estimate the national Gini for consumption, giving the conclusion that, at something under 0.5, it was far below the Gini for household per capita income of 0.6.

[7] If, for example, a group of farmers had not received subsidized credit, the price of their product might have been higher, hence their nominal income higher, and so on. In the absence of implausibly sophisticated general equilibrium models, such analyses are seldom carried out.

[8] A comparable problem arises when someone in a family makes choices on the consumption basket on behalf of the whole family. Where the chooser suffers inadequate information, as to the tastes of some family members, this constitutes misinformation. Some intra-family decisions, though against the preference of the consumer, are good ones since

the selector knows what is good for the consumer better than does the latter. The same issue arises in government selection of levels and contents of public goods; the government may know either less well or better than the consumer what is good for him/her.

[9] I am indebted to Luis Beccaria for this observation.

[10] Canada's Centre for the Study of Living Standards has supported a number of studies on the implications of economic insecurity, e.g. the rising impermanent of jobs (e.g. Osberg, 1998; Sharpe, 2002).

[11] In an interesting study Neri and Thomas (2000) use Brazil's rotating panel design to analyze vulnerability to shocks and worker response. Studies of employment and poverty mobility have used the panels in Argentina, Costa Rica, Peru and Mexico.

[12] Paglin (1975) did the first major empirical study of this for the U.S.

[13] Defining wealth inequality is as complicated or more so than defining income inequality. The broadest definitions might include not only all obvious forms of private wealth (land, real estate, financial assets, consumer durables) but also occupational pension rights, state pension rights (old-age pension, etc.) and even human capital. Sometimes consumer durables are excluded, as are state pension rights, and human capital is to my knowledge never actually included. For a useful discussion see Davies and Shorrocks (2000).

[14] See, for example, Ferriera et al (2003) for Brazil. Godi et al (2005) present a good review of price deflation across social groups.

[15] This is presumably due in part to unhappy people having trouble finding jobs but longitudinal studies by psychologists have demonstrated that this is not the only cause (Oswald, 1997, 1822).

[16] Rising average income does not appear to lead to anything like commensurate increases in average happiness. There is a significant cross-section relationship between happiness and income, but it is far from overwhelming. In the European data for 1975-86, 18.8% of the bottom quintile report being "very happy" compared with 28.4% for the top one, while 26.7% report being "not too happy" compared with 13.1% for the top quintile (Di Tella et al, 1996). Part of this correlation would be due to the higher unemployment rates of the lower income groups. Over time the happiness of the unemployed shows much more fluctuation than that of the employed, for reasons as yet unexplained.

[17] Though the results of Graham and Felton (2005), discussed below, do not point in this direction for Latin America, possibly because most of the countries are in the middle-income range.

[18] The use of more than one measure simultaneously calls for a multi-dimensional approach, discussed by Bourguignon and Chakravarty (2003).

[19] The set of studies reported by Bulmer-Thomas (1996) points in this direction as well.

[20] A serious flaw in many analyses in this area has been lack of attention to which index of trade reform to use, and to the relatively low correlation among some of the candidates (Pritchett, 1996).

[21] Property rights reform may increase the concentration of land if liquidity-constrained farms are induced to sell to those already wealthier agents with access to credit (Carter and Olinto, 2003).

[22] This hope was probably borne in part of desperation, as the belief solidified that income and consumption distribution are largely determined by the distribution of income-

producing assets (broadly defined), that land distribution could not be tampered with much due to the political resistance that attempts at land reform would face and have faced in Latin America, and that it is unrealistic to expect the distribution of non-agricultural capital to be anything but quite concentrated (as it tends to be in all capitalist countries). This left only human capital as a factor of production whose distribution could presumably be affected by public policy (that distribution is not highly concentrated in countries with relatively equitable income distribution, like Taiwan, but is highly concentrated in countries at the other end of the inequality spectrum, like Brazil) and which affects a substantial share of total income (since the labor share, including imputed labor income of the self-employed appears to be above 60% in nearly all countries).

[23] In Chile, for example, whereas private returns to primary and secondary education were at 12% in 1970 and to higher education 18%, by 1997 the former rates were unchanged but the higher had risen to 25% (Contreras et al, 1998, cited by Mizala and Romaguera, 2000).

[24] Early studies on the role of ability include Boissiere, Knight and Sabot (1985), Psacharopoulos and Vélez (1992)

[25] In an interesting test of the effects of Chile's pioneering voucher system, whereby private subsidized schools have been allowed to compete with municipal (public) schools since the early 1980s, Mizala and Romaguera (2000, 409) report that, though the former outperform the latter in terms of average student scores when no other determinants of scores are taken into account, when such variables are added to the regressions the gap between subsidized private and municipal schools is small or nonexistent. Private fee-paying institutions continue to outperform the other two groups of schools, explicable by the higher level of

inputs to the educational process that case.

[26] In 1977 the central bank of India, with a view to reducing regional differences in financial development and in income, instituted a rule whereby in order to open a branch in an already banked location a public commercial bank had to open four branches in unbanked locations. The authors conclude that the bulk of the very considerable rural bank expansion which followed was the result of this policy. They also report (Burgess and Pande, 2003,12) that rural poverty reduction was more rapid in financially more developed states both before 1977 and after 1990 (when the program was ended) but that pattern was reversed between those two years.

[27] Westley (2001) discusses the impact of financial market policies, microcredit and credit unions on inequality in Latin America.

[28] An interesting recent study by Galiani et al (2005) finds that in districts where water was privatized in Argentina in the 1990s child mortality fell overall by 8% (relative to districts where it was not) and the impact was largest (26%) in the poorest areas. This impact came through the reduction of water-related diseases.

[29] See also Rosenzweig, 2003.