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THE WORLD BANK

POVERTY REDUCTION AND ECONOMIC MANAGEMENT NETWORK (PREM)

Economic Premise

77730

MAY 2013 • Number 117

From Noise to Signal: The Successful Turnaround of Poverty Measurement in Colombia

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In the mid-2000s, poverty measurement in Colombia was at a standstill. A dated poverty measurement methodology was clashing with improvements in the national household survey system. As a result, official poverty rates showed volatile trends, and a weak communication strategy produced an unconvincing storyline, which further resulted in the rapid deterioration of indicator credibility. This happened during a period of high and sustained growth that also included a number of poverty reduction interventions, such as the flagship program Familias en Accion *and the* Unidos *strategy. The public debate on poverty lost focus and moved from substantial policy discussions to technical measurement methods.*

This note summarizes the main lessons learned from government efforts, supported by national and international experts, including the World Bank, to restore credibility to the official methodology for poverty measurement in Colombia. These lessons are valuable for both low- and middle-income countries that might need to face the difficult task of revising their official poverty methodology, or any other politically sensitive indicator (see box I for a summary of the lessons learned).

The World Bank's engagement in this process had four primary objectives: (i) ensure that poverty figures are backed by international practices; (ii) help build interagency consensus and foster transparency; (iii) lend credibility as an active member of a poverty committee; and (iv) share knowledge gained through participation in similar regional experiences. Providing clarity and transparency on the technical challenges of poverty measurement enables both country governments and the Bank to focus their attention on a more fruitful discussion of poverty trends and policy implications.

In 2006, the Colombian National Department of Administrative Statistics (DANE) sought to improve its primary household survey (the *Encuesta Continua de Hogares*, ECH), and introduced a series of changes. The revised survey was introduced as the *Gran Encuesta Integrada de Hogares* (GEIH).[1] However, important methodological steps to ensure that these changes did not affect the comparability of the data with previous surveys were not taken. When such changes are made to household surveys, it is highly recommended that the older methodology be simultaneously implemented along with the new methodology to understand how the new methodology affects measurement. Without a counterfactual, there is no way to detangle changes in data results attributed to the change in methodology versus those attributable to actual changes in the realities of the people surveyed.

Box 1. Summary of Lessons Learned

Persistence: The process was time intensive; the MESEP Committee met once or twice per month, from three to six hours per meeting, for 32 months.

Scope: Focus on the poverty measurement methodology, and not on the poverty reduction strategy.

Media and public perception of the new statistics: Showcasing a transparent consensus-building process signaled credibility to the public, which contributed to wide media interest and acceptance of poverty measures. Despite previous contention, poverty estimates from 2002–8 were accepted by experts and residents throughout the country; the results of the 2nd phase of the MESEP were also widely accepted.

Sustainability: The committee was legally formalized with an inter-institutional agreement, January 27, 2009 (DANE-DNP 2009a).

Institutional commitment: This process was overseen by three different directors of DNP (Carolina Renteria, Esteban Piedrahíta, and Hernando José Gómez), two directors of DANE (Héctor Maldonado and Jorge Bustamante), two deputy directors from DANE (Christian Jaramillo and Carlos Sepúlveda), and two presidents (Uribe and Santos administrations). This demonstrates that Colombia has the necessary capacity and long-term commitment.

Openness: Transparency was seen as a critical prerequisite to build credibility for the new numbers. The MESEP Committee recommended that both the old and new poverty series should be computed and disseminated in parallel for a minimum period of two years. In addition, DANE decided to release the anonimized microdata used to compute the new poverty numbers to the general public through its Web site (see box 2 for more details).

Source: Author's compilation.

Box 2. Anonimized Microdata Going Public

In November 2011, DANE announced the launch of its anonimized microdata portal.

http://formularios.dane.gov.co/pad/

DANE's online microdata portal uses the International Household Survey Network (IHSN) developed National Data Archive (NADA). The metadata produced is compliant with the Data Documentation Initiative (DDI) 2.n and the Dublin Core XML metadata standards, and was produced using the IHSN Metadata Editor developed by Nesstar at the Norwegian Social Science Data Archive (NSD) and distributed as freeware.

This initiative was made possible by the continuous support of the Accelerated Data Program (ADP) to DANE. The ADP is a joint imitative of Paris 21 and the World Bank to promote and support international best practices in microdata documentation and worldwide dissemination.

Source: Author's compilation.

Given the complex and difficult-to-communicate impacts of the new methodologies on the poverty measures, the government of Colombia decided not to publish their official quarterly poverty statistics beginning in the second semester of 2006 through the end of 2007. During this period, Colombia had experienced significant economic growth, yet given the new changes in the methodology, there were concerns that the new poverty measures did not fully reflect the improved economic performance. Credibility in the poverty estimates declined, and the debate moved away from the actions needed to reduce poverty to how to better measure it.

In January 2009, an inter-institutional committee of poverty experts was formally launched to ensure a transparent process for data reconciliation. The *Misión para el Empalme de las Series de Empleo, Pobreza y Desigualdad* (MESEP) included participants from the Department of National Planning (DNP), DANE, United Nations Economic Commission for Latin America and the Caribbean (ECLAC), and the World Bank as well as Colombian academics and independent experts. The MESEP's objective was to facilitate a participative and transparent process to generate reliable poverty estimates for Colombia. MESEP work was divided into two phases/tasks: the first phase's objective was to respond to the immediate demand for reliable poverty estimates; the second phase generated the space for the experts to produce sound recommendations for a more in-depth revision of the poverty methodology.

MESEP Phase 1: Data Reconciliation

The MESEP's phase 1 objective was to reconcile data produced by the GEIH using the *Encuesta Continua de Hogares Paralela*. The MESEP generated statistics for the period between 2002 and 2008, making them comparable through time, adjusting for the changes in the survey methods instituted in 2006, but with no major changes in the poverty measurement methodology. The MESEP Committee met 20 times between January 2009 and August 2009 to ensure the completion of this phase, and published the statistics in August 2009.

The MESEP was able to draw several important conclusions from the first phase that contributed to its work going forward. Experts concluded that the new survey methodology implemented in the GEIH did have a positive effect on data quality: the changes represented an improvement in capturing the reality of people surveyed.[2] Going forward, the MESEP Committee decided to anchor the new variables in the GEIH (the newer methodology) and adjust the variables used in the ECH (the previous survey) from 2002–5, according to appropriate comparability scales derived from the Encuesta Continua de Hogares Paralela. The MESEP committee concluded that reporting data/statistics for 2006 and 2007 would be imprudent given the methodological changes that took place

in those years. In August 2009, the MESEP published data from 2002, 2003, 2004, 2005, and 2008.

MESEP Phase 2: Revision of the Colombian Poverty Measurement Methodology

The poverty measurement methodology being used by Colombia had not been updated since 1998, and at that time was using data from the 1994/1995 Household Budget Survey to construct its poverty line. Since then, Colombia has conducted a newer Household Budget Survey (2005/2006) and moved to a continuous and integrated system of household surveys, namely the GEIH. Given the dated poverty methodology and the availability of a newer Household Budget Survey, the work of the MESEP's second phase focused on the full revision of the poverty measurement methodology.

The Colombian poverty line had historically been set higher than the regional average. An examination of the purchasing power parity (PPP) equivalent of the national poverty lines in Colombia reveals that they are roughly twice the average of those used in the rest of Latin America. The Colombian poverty line has been an outlier since it was first produced. However, this choice had never resulted in a significantly higher poverty rate because the government of Colombia had also followed the practice of adjusting the income data to the national accounts, which resulted in reduced poverty statistics—reduced from the high levels that would have been generated with the abnormally high poverty line. The effect of making the adjustment is not trivial. Comparing adjusted and unadjusted data showed that in some time periods, the trends have opposite signs, given important differences between the system of household survey and the national accounts (Ravallion 2003; Korinek, Mistiaen, and Ravallion 2006). More importantly, such adjustment, based on a multiplication of a constant factor to selected components of the welfare aggregate, such as labor, capital and pensions, implicitly assumed the entire discrepancy between a particular component and the national account aggregate is distributional neutral, which is very hard to justify (Leyva-Parra 2005; MESEP 2012).

Given this context, the objective of the second phase of the MESEP Committee was to recommend a new official methodology to measure poverty, which would: (i) revise both the poverty line and the income aggregate used and (ii) propose an institutional arrangement going forward that would help shield the poverty and inequality measures of Colombia. The second phase of the MESEP concluded after 25 working sessions and 35 technical briefs, which were jointly prepared by the DNP and DANE technical secretariat.

The final numbers were announced on August 24, 2011, at a large international conference chaired by President Santos, which was followed by a subsequent series of technical workshops, publications, and legislation to solidify the revised methodology. More specifically, this process also included following one of the main recommendations of the MESEP, namely, the electronic publication of the anonimized microdata (see box 2 for more details on the Colombia Microdata dissemination) and algorithms required replicate the revised poverty methodology (DANE 2011).

In addition, the National Council for Social and Economic Policy (CONPES), the highest level economic and social policy coordination body in Colombia, published specific guidelines on how monetary poverty in Colombia should be measured going forward, and more importantly, what the specific roles of the National Office of Statistics, Ministry of Planning, and Ministry of Social Protection should be in this process (CONPES 2012). To strengthen the credibility of the new series, the experts also recommended parallel publication of both the old and new numbers for at least two years to mitigate any speculation regarding the political convenience of the methodological revision.

Going Forward

In October 2012, DANE launched a new poverty committee and started to work within the revised framework, which clearly attributed DANE as the producer of the indicators; DNP as the validating institution responsible for replicating the calculations; and the Ministry of Social Protection (DPS) as a critical stakeholder responsible for designing Colombia's poverty reduction strategy.

As the monetary poverty measurement methodology in Colombia has gained credibility, the country has been able to measure its progress and focus on new challenges, such as its high inequality and how to promote prosperity for all. Colombia also used the institutional arrangement developed under the MESEP to regulate the production and dissemination of other critical indicators, such as its multidimensional poverty index, also regulated by CONPES (2012).

Acknowledgment

The author would like to thank all members and collaborators of the MESEP, in particular Jorge Iván González, Manuel Ramírez, Carlos Eduardo Vélez, Mauricio Santa María, Juan Carlos Feres, Jairo Nunes, Alejandro Gaviria, Christian Jaramillo, Carlos Sepúlveda, Juan Mauricio Ramírez, Roberto Angulo, José Fernando Arias, Guillermo Rivas, Alejandro Mateus, Sandra Álvarez, Francisco Espinosa, Diana Carolina Nova, Rocío Bermúdez, Claudia Gordillo, Sandra Guayazán, Carlos Arturo Mora, Andrés Castañeda, Bernardo Atuesta, Diana Esperanza Sánchez, Silvia Esperanza Botello, Daniel Valderrama, Juan Carlos Ramírez, Olga Lucía Acosta, Javier Herrera, Xavier Mancero, Darwin Cortés, Luis Carlos Gómez, Eduardo Freire, Irma Parra, Carolina Renteria, Hernando José Gómez, Esteban Piedrahíta, Jorge Bustamante, and Héctor Maldonado. A number of World Bank colleagues also provided valuable inputs throughout this process, with a spe-

cial thanks to John L. Newman, Jaime Saavedra, Luis-Felipe Lopez-Calva, Carolina Diaz-Bonilla, Renos Vakis, Olivier Dupriez, Johan Mistien, Viviane Sanfelice, Jordan Schwartz, Eduardo Somensatto, Lars Moller, Nobuo Yoshida, Gloria M. Grandolini, Sabine Hader, Harold L. Bedoya, and Louise J. Cord. This paper benefitted from comments and suggestions from Roberto Angulo, Louise J. Cord, and Samuel Freije.

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Notes

1. Changes made include: the size of the sample (number of households); the method for implementing the survey—a change from paper and pen surveys to the use of digital handheld devices; and the length and order of the questions in the survey. Moreover, in the previous ECH, one adult head of household would answer the survey questions, whereas in the new GEIH, different sections of the survey correspond to different respondents—some some sections are completed by the head of the household, other parts are asked directly to household members that are 10 years of age and older (DANE-DNP 2009b).
2. Improvements in data quality include: (i) fewer missing entries (nonrespondents) on the income variable; (ii) less underreporting on the income variable; (iii) the labor market, poverty, and inequality estimators became more precise; and (iv) the number of subnational stratum in the sample increased from 13 to 24.

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