

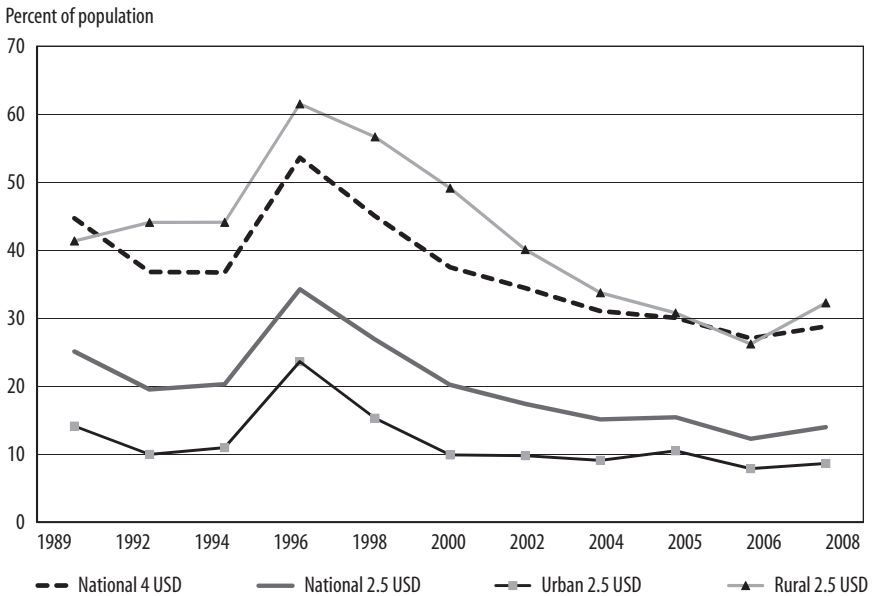
Comment

Guillermo Cruces: The paper by Gerardo Esquivel in this edition of *Economía* presents a thorough account of inequality trends in Mexico since the mid-1990s. Papers such as this constitute a fundamental extension of the discussion of aggregate regional trends such as that provided by Gasparini, Cruces, and Tornarolli (2011), and they present an opportunity to discuss in depth the factors underlying the evolution of inequality at the country level. Identifying the fundamental causes of the evolution of a national income distribution is never an easy feat, and the author must be lauded for providing a coherent and compact discussion of an eventful period in Mexico that included major transformations with potentially large effects on the income distribution, including macroeconomic crises, market-oriented structural reforms, the opening of the economy to international capital flows, a free trade agreement with the world's largest economy, technological change, increased globalization, a political transition, and even an armed indigenous uprising.

This comment examines some evidence on distributional changes in terms of poverty reduction to complement the article's main focus on inequality and then discusses the author's conclusions in terms of a structural change in inequality trends in Mexico in light of the effects of the international economic crisis that started in 2007. Finally, it suggests some avenues for further research.

The first point of this comment concerns the evolution of poverty over the period of time covered by the article. National aggregate poverty rates for the US\$2.50 and US\$4.00 purchasing power parity (PPP) international poverty lines are presented in figure 1 for the period 1989–2008 and also for the urban and rural populations for the US\$2.50 poverty line. This figure provides information on a dimension of distributional change that complements the thorough discussion of the evolution of inequality in the paper. The figure indicates a

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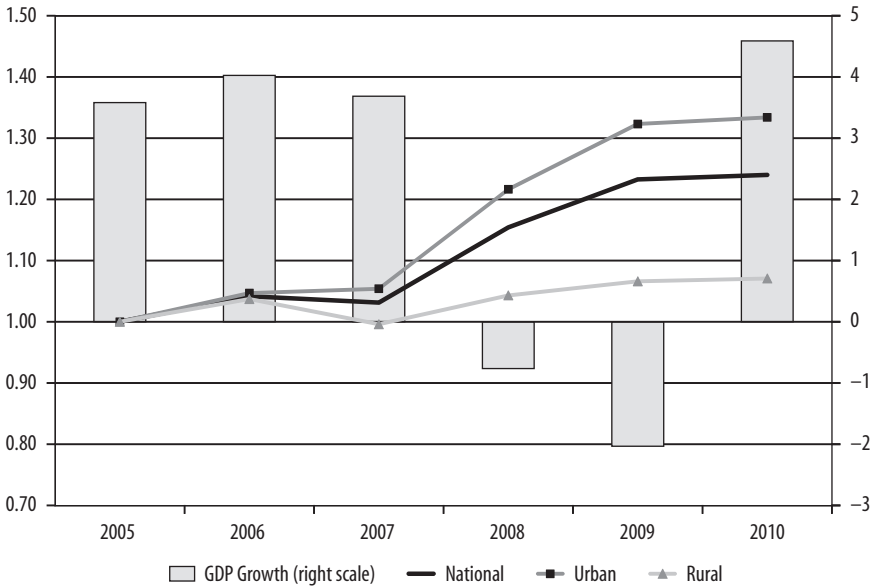
FIGURE 1. Poverty Rate for National and Rural/Urban Populations, Mexico, 1989–2008

Source: CEDLAS and World Bank (2011). Based on Mexico's INEGI biannual survey, Encuesta Nacional de Ingresos y Gastos de los Hogares (ENIGH).

moderate fall in poverty in the early 1990s, followed by a large increase between 1994 and 1996 that can be attributed mainly to the macroeconomic crisis of 1995. From 1996 until 2006, there is a continuous fall in the poverty rates presented in the figure. In fact, this evidence indicates that the notable results from figure 4 in the paper, which show substantial growth in income at the bottom of the distribution in the period 1994–2006, could be even larger if computed using the post-crisis year 1996 as a basis.

This discussion illustrates a further dimension of the distributional dynamics documented in figure 1 of the paper: the reduction in inequality in Mexico was accompanied by a substantial fall in the proportion of the population living under different poverty lines and reflects the increase in standards of living and the pro-poor nature of the growth process in the Mexican economy over the period under study. At the same time, this evidence also indicates that there is still ample room for improvement: about 15 and 30 percent of the population still lived under the US\$2.50 and US\$4.00 poverty lines, respectively, in 2008, and major regional inequalities are evident in the poverty

FIGURE 2. Labor Income Poverty Trend Index and Yearly GDP Growth Rate^a



Source: CONEVAL (2011). The Labor Income Poverty Trend Index indicates the proportion of individuals who cannot cover the cost of a basic food basket with their labor income. It is based on Mexico's INEGI quarterly survey, the Encuesta Nacional de Ocupación y Empleo (ENOE).
 a. Fourth quarter with respect to fourth quarter of the previous year; base fourth quarter of 2005 = 1.

levels in rural areas, which are about twice the national aggregate. While the paper discusses urban-rural differentials, providing more evidence on their nature and discussing their consequences in terms of policy are certainly worthwhile directions for further research. Finally, figure 1 reveals a small but significant increase in poverty between 2006 and 2008; the implications of this change and its underlying factors are discussed next.

The second point of this comment refers to the sustainability of the distributional change process documented in the paper and to its vulnerability with respect to aggregate shocks. The 2010 national household survey (ENIGH) was not available at the time this issue went to press, implying that no aggregate poverty rates comparable to those in figure 1 were available. Figure 2 presents an alternative measure, the Labor Income Poverty Trend Index constructed by the Consejo Nacional de Evaluación de la Política de Desarrollo Social [National Council for Evaluation of Social Development Policy] (CONEVAL) and based on INEGI's quarterly survey, the Encuesta Nacional

de Ocupación y Empleo [National Survey of Occupation and Employment] (ENOE). The index, which indicates the proportion of individuals who cannot cover the cost of a basic food basket with their labor income, has been normalized to 1 for the fourth quarter of 2005. The evidence in the figure illustrates a series of factors. First, the sizable growth in GDP in 2005, 2006, and 2007 (between 3 and 4 percent each year) did not translate into substantial reductions in aggregate poverty. In fact, there was a relatively large increase in urban poverty rates for 2005–07, which can be attributed to the increase in the price of food related to an upward trend in commodity prices and growth in the global economy during that period.

Second, the figure not only provides further evidence on the increase in aggregate poverty between 2006 and 2008 but also illustrates the very large distributional impact of the international economic crisis, with the poverty rate increasing further in the 2008–10 period. That increase was seen even for the rural population, which was relatively spared from the 2005–07 upward trend. The large increase in poverty for 2008–10 is all the more worrying when considering that the international crisis had only a relatively modest effect (at least by Latin American standards) on domestic growth rates, with reductions of about 1 and 2 percent of GDP for 2008 and 2009, respectively. Moreover, the reversal in this trend between 2009 and 2010, with a yearly growth rate of about 4.5 percent, did not translate into a further reduction in poverty: the Labor Income Poverty Trend Index increased (although only slightly) over that period.

The evidence in figure 1 points toward a more fundamental question related to the nature and the limits of the process of distributional change documented by the Esquivel paper for the period 1994–2006. While inequality and poverty fell substantially over the period, the reversal in growth trends resulted in a large increase in aggregate poverty levels and, apparently, a change in the mechanism linking growth with poverty reduction, as witnessed by the stagnant poverty levels of 2010. Moreover, the SEDLAC database (CEDLAS and World Bank 2011), on which figure 1 in the paper is based, indicates an increase of 0.7 in the Gini coefficient between 2006 and 2008 (although the change is not statistically significant at standard levels). While further gains in distributional terms are always harder to accomplish at lower poverty and inequality levels, the impact of the international economic crisis could provide a framework to adjust the policies implemented over the previous period, especially in terms of the breadth, depth, and modality of safety nets and also in terms of the implications of the productive structure of the economy and its links with major economies.

TABLE 1. Changes in the Skilled Wage Premium and Relative Supply of Skilled and Unskilled Workers and Relative Demand, Mexico, 1989–2008

<i>Period</i>	<i>Wage premium</i>	<i>Relative supply</i>	<i>Relative demand ($\sigma_{su}=2$)</i>	<i>Relative demand ($\sigma_{su}=3$)</i>	<i>Relative demand ($\sigma_{su}=4$)</i>
1989–2000	1.8	3.6	7.2	9	10.8
2000–08	–2.8	2.2	–3.5	–6.3	–9.2

Source: Cruces, Galiani, and Gasparini (2011), based on microdata from household surveys.

a. Under alternative elasticity of substitution assumptions; σ_{su} represents the elasticity of substitution in a CES (constant elasticity of substitution) production function. See Katz and Murphy (1992) for more details. $100 \times$ annual log changes. Skilled workers = workers with some tertiary education; unskilled workers = workers with secondary education or less.

This comment's final point is related to the discussion in the paper of skilled wage differentials and their impact on the aggregate income distribution. The paper provides some evidence corroborating the increase in the skilled wage premium over the early 1990s and an apparent reversal of this trend, with the author pointing out the importance of educational upgrading and trading with more skill-abundant countries as underlying factors. The multiple pieces of evidence presented in the paper can be integrated in a Katz and Murphy (1992) framework, as done for an earlier period in Mexico in Montes Rojas (2006) and Manacorda, Sánchez-Páramo, and Schady (2010) and as currently done for several countries in the region in Cruces, Galiani, and Gasparini (2011). Table 1, reproduced from the latter study, depicts the change in the skilled wage premium and the relative supply of skilled to unskilled workers, as well as the magnitude of demand factors implied by these changes under different assumptions for the elasticity of substitution between the two factors, as in the Katz and Murphy (1992) analysis of the United States. The table indicates that the skilled wage premium increased substantially in Mexico in the late 1980s and early 1990s and that it began to fall in the mid-1990s, earlier than in most other Latin American countries (Gasparini, Cruces, and Tornarolli 2011). The table presents only the 1989–2008 change, which indicates an overall increase in the skilled wage premium even in the context of an increase in the relative supply of skilled workers. However, the evidence for the 2000–08 period indicates an acceleration of the fall in this skill premium, with an overall negative change. The pattern for the 1989–2000 period is consistent with a strong increase in the relative demand for skilled labor, while the evidence for 2000–08 implies a substantial reversal in the effect of demand factors.

The conclusion of the paper suggests implicitly a permanent change in the underlying forces driving inequality trends and other distributional changes. However, this brief discussion points out potential vulnerabilities in the

nature of these changes. While innovative social policy certainly played a substantial role in the reduction in poverty over the period under study and changes in labor demand patterns reduced inequality, the ever-evolving nature of the world economy, to which Mexico now seems fully integrated, implies the need to constantly revise policy initiatives and the nature, effects, and stability of the economy's productive structure. The paper does a very good job of documenting the trends and underlying factors for the 1994–2006 period. A possible next step in the analysis is to determine whether the international economic crisis represents only a disturbance in Mexico's continuing path toward reduction of inequality and poverty or whether it may have lasting consequences for growth and distributional dynamics.

References

- Acosta, Pablo, and Gabriel V. Montes-Rojas. 2008. "Trade Reform and Inequality: The Case of Mexico and Argentina in the 1990s." *World Economy* 31 (6): 763–80.
- Airola, Jim, and Chinhui Juhn. 2005. "Wage Inequality in Post-Reform Mexico." IZA Discussion Paper 1525. Bonn, Germany: Institute for the Study of Labor (IZA).
- Atolia, Manoj. 2007. "Trade Liberalization and Rising Wage Inequality in Latin America: Reconciliation with HOS Theory." *Journal of International Economics* 71 (2) (April): 467–94.
- Barros, Ricardo, and others. 2010. "Markets, the State, and the Dynamics of Inequality: Brazil's Case Study." In *Declining Inequality in Latin America*, edited by Luis Felipe López-Calva and Nora Lustig, pp. 134–74. Brookings.
- Bouillón, César, Arianna Legovini, and Nora Lustig. 2003. "Rising Inequality in Mexico: Household Characteristics and Regional Effects." *Journal of Development Studies* 39 (4): 112–33.
- Campos, Raymundo. 2008. "Why Did Wage Inequality Decrease in Mexico after NAFTA?" Mimeo. University of California–Berkeley (October).
- Canonero, Gustavo, and Alejandro Werner. 2002. "Salarios Relativos y Liberalización del Comercio en México." *Trimestre Económico* 69 (273): 123–42.
- CEDLAS and World Bank. 2010 and 2011. SEDLAC (Socio-Economic Database for Latin America and the Caribbean). Centro de Estudios Distributivos, Laborales, y Sociales, Universidad Nacional de La Plata (<http://sedlac.econo.unlp.edu.ar>).
- Chiquiar, Daniel. 2008. "Globalization, Regional Wage Differentials, and the Stolper-Samuelson Theorem: Evidence from Mexico." *Journal of International Economics* 74 (1): 70–93.
- CONEVAL (Consejo Nacional de Evaluación de la Política de Desarrollo Social). 2011. Labor Income Poverty Trend Index. Mexico.
- Corbacho, Ana, and Gerd Schwartz. 2002. "Mexico: Experience with Expenditure Pro-Poor Policies." Working Paper WP/02/12. Washington: International Monetary Fund (January).
- Cragg, M., and Mario Epelbaum. 1996. "Why Has Wage Dispersion Grown in Mexico? Is It the Incidence of Reforms or the Growing Demand for Skills?" *Journal of Development Economics* 51 (1): 99–116.
- Cruces, G., S. Galiani, and L. Gasparini. 2011. "Wage Skill Premiums in Latin America, 1990–2010: Evidence on Supply and Demand Factors for Sixteen Countries." Unpublished work in progress. CEDLAS-UNLP and Washington University in Saint Louis.
- Eberhard, Juan, and Eduardo Engel. 2008. "Decreasing Wage Inequality in Chile." Unpublished paper. Universidad de Chile.
- EIM ("Encuesta Industrial Mensual"). Various years. Aguascalientes, Mexico: Instituto Nacional de Estadística, Geografía, e Informática.
- ENIGH ("Encuesta Nacional de Ingresos y Gastos de los Hogares"). Various years. Aguascalientes, Mexico: Instituto Nacional de Estadística, Geografía, e Informática.

- Esquivel, Gerardo. 2008. "Income Inequality Dynamics in Mexico since NAFTA." RPP-LAC Working Paper 03/2008. New York: United Nations Development Program, Regional Bureau for Latin America and the Caribbean.
- Esquivel, Gerardo, and Alejandra Huerta-Pineda. 2007. "Remittances and Poverty in Mexico: A Propensity Score Matching Approach." *Integration and Trade Journal* (July–December).
- Esquivel, Gerardo, Nora Lustig, and John Scott. 2010. "Mexico: A Decade of Falling Inequality: Market Forces or State Action?" In *Declining Inequality in Latin America*, edited by Luis Felipe López-Calva and Nora Lustig, pp. 175–217. Brookings.
- Esquivel, Gerardo, and Jose A. Rodríguez-López. 2003. "Technology, Trade, and Wage Inequality in Mexico before and after NAFTA." *Journal of Development Economics* 72 (2): 543–65.
- Fairris, David, Gurleen Popli, and Eduardo Zepeda. 2008. "Minimum Wage and Wage Structure in Mexico." *Review of Social Economy* LXVI (June): 181–208.
- Feenstra, R. C., and G. Hanson. 1997. "Foreign Direct Investment and Relative Wages: Evidence from Mexico's Maquiladoras." *Journal of International Economics* 42 (3–4): 371–93.
- Ferreira, Francisco H. G., Phillippe G. Leite, and Matthew Wai-Poi. 2007. "Trade Liberalization, Employment Flows, and Wage Inequality in Brazil." Policy Research Working Paper 4108. Washington: World Bank.
- Gasparini, Leonardo, and Guillermo Cruces. 2010. "Distribution in Motion: The Case of Argentina." In *Declining Inequality in Latin America*, edited by Luis Felipe López-Calva and Nora Lustig, pp. 100–33. Brookings.
- Gasparini, Leonardo, Guillermo Cruces, and Leopoldo Tornarolli. 2009. "Recent Trends in Income Inequality in Latin America." Working Paper 2009-132. Palma de Mallorca, Spain: Society for the Study of Income Inequality.
- . 2011. "Recent Trends in Income Inequality in Latin America." *Economia* 11 (2): 147–90.
- Goldberg, Pinelopi K., and Nina Pavcnik. 2007. "Distributional Effects of Globalization in Developing Countries." *Journal of Economic Literature* XLV (March): 39–82.
- Hanson, Gordon, and Ann Harrison. 1999. "Trade Liberalization and Wage Inequality." *Industrial and Labor Relations Review* 52 (2): 271–88.
- Katz, L., and K. Murphy. 1992. "Changes in Relative Wages, 1963–1987: Supply and Demand Factors." *Quarterly Journal of Economics* 107 (1): 35–78.
- Legovini, Arianna, César Bouillón, and Nora Lustig. 2005. "Can Education Explain Changes in Income Inequality in Mexico?" In *The Microeconomics of Income Distribution Dynamics*, edited by F. Bourguignon, F. H. G. Ferreira, and N. Lustig, pp. 275–312. Washington: World Bank/Oxford University Press.
- Lerman, Robert, and Shlomo Yitzhaki. 1985. "Income Inequality Effects by Income Source: A New Approach and Application to the U.S." *Review of Economics and Statistics* 67 (1) (February): 151–56.

- Levy, Santiago. 2006. *Progress against Poverty: Sustaining Mexico's Progreso-Oportunidades Program*. Brookings.
- Lopez-Acevedo, Gladys. 2006. "Mexico: Two Decades of the Evolution of Education and Inequality." Policy Research Working Paper 3919. Washington: World Bank (May).
- López-Calva, Luis Felipe, and Nora Lustig. 2010. *Declining Inequality in Latin America*. Brookings.
- López-Feldman, Alejandro. 2006. "Decomposing Inequality and Obtaining Marginal Effects." *Stata Journal* 6 (1): 106–11.
- Lustig, Nora. 2007. "A Note on Markets, the State, and the Dynamics of Inequality." Unpublished paper, p. 17. New York: United Nations Development Program, Regional Bureau for Latin America and the Caribbean.
- Manacorda, M., C. Sánchez-Páramo, and N. Schady. 2010. "Changes in Returns to Education in Latin America: The Role of Demand and Supply of Skills." *Industrial and Labor Relations Review* 63 (2).
- Montes Rojas, G. 2006. "Skill Premia in Mexico: Demand and Supply Factors." *Applied Economic Letters* 13 (14): 917–24.
- Pánuco-Laguette, Humberto, and Miguel Székely. 1996. "Income Distribution and Poverty in Mexico." In *The New Economic Model in Latin America and Its Impact on Income Distribution and Poverty*, edited by V. Bulmer-Thomas, pp. 185–221. London: Macmillan Press.
- Ravallion, Martin, and Shaohua Chen. 2003. "Measuring Pro-Poor Growth." *Economics Letters* 78 (1): 93–99.
- Robertson, Raymond. 2007. "Trade and Wages: Two Puzzles from Mexico." *World Economy* 30 (9): 1378–98.
- Stark, Oded, J. Edward Taylor, and Shlomo Yitzhaki. 1986. "Remittances and Inequality." *Economic Journal* 96 (September): 722–40.
- Szekely, Miguel. 2005. "Pobreza y Desigualdad en México entre 1950 y 2004." *Trimestre Económico* 72 (288) (October–December).
- Tornell, Aaron, and Gerardo Esquivel. 1997. "The Political Economy of Mexico's Entry into NAFTA." In *Regionalism versus Multilateral Trade Arrangements*, edited by T. Ito and A. Krueger. University of Chicago Press.
- Verhoogen, Eric. 2008. "Trade, Quality Upgrading, and Wage Inequality in the Mexican Manufacturing Sector." *Quarterly Journal of Economics* 123 (May): 489–530.