

PP 253/ARE 253, Fall 2009
Quantitative Policy Case #1
Poverty Assessment in Mexico

Due in class on Friday, October 2

To be done by teams of two. Your paper should not exceed 12 pages, including text, tables, and graphs. Please follow the structure of the assignment, including the question numbers, to facilitate the correction.

I. Critical review of the Mexico Poverty Assessment

Poverty assessments are a key World Bank contribution to help governments design poverty reduction strategy papers (PRSP). Typically, these assessments review levels and changes over time and across regions in poverty and inequality, and derive policy implications from this analysis. Information and guidelines on poverty assessment can be found on the World Bank Poverty Net webpage:

<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTPOVERTY/EXTPA/0,,contentMDK:20210352~menuPK:435735~pagePK:148956~piPK:216618~theSitePK:430367,00.html>

Among the poverty assessments on this website, you will find that for Mexico made in 2004: *Poverty in Mexico: An Assessment of Conditions, Trends, and Government Strategy*. Download and read the following sections:
Summary and Key Messages
Chapter 3: The structure and trends in deprivation (pp. 39 to 108)

1.1. In not more than a couple of pages, indicate:

- What issues motivated the report?
- What poverty lines and what indicators of poverty were used for the analysis?
- What are the main results of the poverty assessment?
- What are the main policy recommendations made by the report?

1.2. With a focus on the heterogeneity of poverty, indicate which aspects of poverty appear to be most in need of detailed analysis when making a poverty assessment for Mexico.

II. Macroeconomic context for your 1998-2004 poverty assessment

Your analysis of poverty and inequality in Mexico will be for the 1998-2004 period. To understand what you will observe in the data, it is important for you to know what was the macroeconomic context for this period. For this, find the World Bank's *World Development Indicators* on line database at:

<http://ddp-ext.worldbank.org/ext/DDPQQ/member.do?method=getMembers&userid=1&queryId=6>

Download the GDP per capita in constant local currency units (LCU) for Mexico over the 1965-2007 period in an Excel file. Construct an Excel graph with the GDPpc time series. You will see three successive crises: the debt crisis in 1982, the peso crisis in 1994, and the 9/11 shock in 2001. Indicate your two sample years with vertical bars. Was the 1998-2004 period one of growth or recession? What can you expect in terms of changes in poverty?

III. Your poverty assessment

You will find on the course webpage a data file taken from the 1998 and 2004 Mexican Encuesta Nacional de Ingresos y Gastos de los Hogares (ENIGH). It consists in a random sample of observations on 2,000 and 3,000 households for 1998 and 2004, respectively. The file gives information on region of residence, demographic characteristics, education, job characteristics of the head of household, as well as indicators on the quality of the dwelling and ownership of durable goods. For each household, you also have the consumption per capita and the

income per capita in 2004 pesos for both years. The poverty line for consumption per capita is set at 1000.4 pesos in rural areas and 1487.3 pesos in urban areas. Both values are measured in 2004 pesos and apply to both years.

Although this survey, like most others used a stratified random sample scheme, you will ignore this in the analysis and pretend that you have a random sample of Mexican households. Furthermore, you will consider the household as a unit of analysis and ignore its size and composition. Hence poverty rates will be given as percentages of households rather than percentages of individuals that are in poverty. For these two reasons, your results will be different from what you will read in the Poverty Assessment. Just see this assignment as a first step for you to learn how to do a poverty analysis.

3.1. Correlates of poverty in 2004

Useful guidelines for poverty analysis are found in the World Bank's *Poverty Manual* on Google at:

[INTRODUCTION TO POVERTY ANALYSIS](http://siteresources.worldbank.org/PGLP/Resources/PovertyManual.pdf)

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See in particular Chapter 7, "Describing Poverty: Poverty Profiles". How to characterize the poor was also discussed in class.

Provide a description of the poor (in contrast to the non-poor) in 2004 answering the following questions:

- Who are the poor (gender and education of the household head, and family size)?
- Where do they live (rural/urban, regions)?
- What do they do (employment position/sector of the household head)?
- What are their living conditions (dwelling quality)?

In order to do this, construct a table with the average values of the following variables for the poor and for the non-poor in 2004: female head, head with less than primary education, household size, rural, live in the South region, head is self-employed, head is self-employed in commerce, has running water in dwelling, number of person per room. Analyze the differences in means or percentages between poor and non-poor for each characteristic. Make sure to use a test of the significance of these differences (t-test for difference in means of continuous variables, chi2 for difference in percentages).

You can also estimate a linear probability model (OLS regression) using a 0/1 indicator for nonpoor/poor on the left and side, and the above characteristics on the right hand side. This will help you see which variables are significantly correlated with the status of being poor.

Comment on your findings: what did you learn from this analysis?

3.2. Poverty profiles

Draw on one graph the two poverty profiles for the sample populations in 1998 and in 2004, including the poverty line. What do these profiles tell you about changes in poverty over the period? Are your conclusions about change in poverty between the two periods robust to the choice of the poverty line?

3.3. Poverty indicators

Calculate the P_0 , P_1 , and P_2 indicators for 1998 and 2004. Discuss what they tell you about poverty in these two periods?

3.4. Contributions to poverty by population sub-groups

Calculate P_0 for the following population subgroups in 2004:

Rural vs. urban.

Education of the household head: with at most primary education vs. with more than primary education.

For the rural/urban dichotomy, compute the contribution that each group makes to total poverty according to the P_0 indicator in 2004.

Discuss what this is telling you about the structure of poverty in Mexico.

IV. Your inequality assessment

4.1. Inequality indicators

Compute the Gini coefficients and a selected Kuznets ratio for the rural and urban populations for the two years 1998 and 2004, using the formulas given in the class handout. What do they show?

4.2. Lorenz curves

Draw the Lorenz curves for the rural and urban populations for 2004. What do they tell you?

V. Your conclusions and policy recommendations

5.1. Summary

Briefly summarize the main messages of your analysis. What is the nature of poverty in Mexico and how is it changing? How can you contrast what happened with poverty with what happened with inequality?

5.2. Policy implications

How do your results complement the results in the *Poverty in Mexico* report? What are the policy implications of your results for the Mexican government?