

SUMMARY

Bodin Civilize, Class of 2009

During the past summer, I had a great opportunity to work with Professor Melissa Tartari on the project titled: “The Evolution of the Documented and Undocumented Population of Mexican Migrants to the U.S.” The project aims finally to uncover a collection of distribution functions that describe the characteristics of Mexican migrants to the US for each time period. These functions will allow us to explore how the characteristics of the migrants have evolved over time. We were still in the early phases of research, so no conclusion has really been drawn yet.

As a research assistant, I was responsible for various tasks, including the following:

- **Construction of the sex-ratio dataset**

We were interested in using sex ratios, namely the ratio between male and female population, at the community level, to help derive conclusions about how the pattern of migration throughout Mexico evolves over time. Unfortunately, the data was not readily available, so I needed to write Perl and Java Script to massively data-mine INEGI’s website (Mexico’s *National Institute of Statistics and Geography*) for relevant data that would allow us to calculate the needed sex ratios, whenever possible from 1900 to 2005. These were done at the community level for the entire Mexico, and the web site contained some confusing formats and faulty codes, so the task turned out to be complicated and extremely involved. Several computers were used for simultaneous data-mining sessions. After done obtaining the raw data, I wrote STATA codes to clean up the dataset and conducted various checks thoroughly.

- **Spatial analysis of the dataset**

Besides computing statistics, we also want to use the dataset to describe the pattern of migration geographically, so I have been trying to devise a way to do so. I made use of the so-called ‘shape file’ containing 32 polygons each of which representing each state of Mexico, then superimposed the latitudes and longitudes of the communities on the shape file and constructed various thematic diagrams using a STATA module called *smap*. There are many problems to that approach, for example, the limitation that the plots for the communities inevitably overlap. That is, in many areas of Mexico with sufficiently high density of communities, it is impossible to represent all the communities fairly in our diagrams. One possible solution is to divide up Mexico into non-overlapping polygons. I will continue to work on the project in the fall, and my first focus is to pursue this solution and conduct further spatial analysis using STATA and a geospatial analysis software suite called ArcGIS.

- **Miscellaneous tasks**

- Collected probabilities of dying at each age (i.e. 0-1, 1-2 ... 84-85, and 85 and over) for male and female population from the annual US Life Tables, from 1966 to 2004. This involved performing OCR (optical character recognition) to convert numerous tables in PDF into Excel format.
- Conducted a literature review on how the estimation of the number of undocumented Mexican-born immigrants in the U.S. has been done. This involved summarizing methodologies and figures from a number of papers and various other sources, including reports published by the Pew Hispanic Center and the Yearbook of Immigration Statistics by the US Department of Homeland Security.

Although I ended up spending many more laborious hours than expected, I found the experience to be rewarding. I taught myself many great research tools, developed strong work ethics, and climbed up a steep learning curve. I also learned a lot through working with and being around my professor, most importantly the judgment and decision making process required in order to tackle with the unexpected. Having seen a more complete picture of what economic research is about, now I feel prepared to embark on any future research projects of my interest, as well as confident with my desire to pursue graduate study in economics. I look forward to seeing the expansion of the program, possibly with some organized activities among participants or involvements with the Cowles Foundation.