Extended Abstract

Using Qualitative Methods for Ex Post Analysis of Local Population Projections

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Perhaps the most immediate and discernable impact any new economic activity has on a community is the way that activity alters trends in population growth. Changes in expected growth patterns require altering public planning for school growth, government service activity (such as police and fire protection), for infrastructural growth (roads, water and sewer systems) etc. Local area projections are built upon the assumption that there are continuities between past patterns of population growth and future patterns. Based upon previously observed relationships, interactions among the components of demographic and economic processes are specified as constants in a model.

Departures and readjustments are expected due to random variations over time, poor measurement in the original data and/or deterioration in the constant elements in the projection and estimation models. These sources of error and degree of error can, to an extent, be estimated ex ante (Keyfitz, 1985). This paper assesses population projection error associated with one time events, such as the gain or loss of a major employer, by integrating shift-share projection methods and qualitative interviews.

In order to clarify when and why population projections become unstable, we examine the degree of instability between past and future trends in four port communities on the Gulf of Mexico Coast. These communities, highly dependent upon oil revenues, experienced series of booms and busts in growth, during the last 35 years. Our study uses ex ante or back cast projections to assess divergence from expected growth in these areas.

Ex ante projections use historical data to project present trends under a number of assumptions, then evaluates errors in projection to determine the timing and causes of projection instability using shift-share projections of population growth. The variation in errors between actual and projected population across base periods and projection horizons provide measures of discontinuity between the growth before and after the takeoff year due to unexpected events as well as to limitations in the accuracy of method. Our interest is quantitatively assessing the effect of such events. To do so we use qualitative methodology.

The use of field research for gathering detailed information in a specific location is a long-standing and highly significant, but often overlooked, tradition in the social sciences. However it is one of the most effective means of collecting data that reflect social relationships and processes at the community level (Orum, Feagin and Sjoberg, 1991). One of the major advantage of using a field study methodology is that it involves the collection of data from various sources and covers numerous time periods, allowing the systematic analysis of social patterns and processes unavailable from more conventional cross-sectional and aggregated data collections.

We use qualitative interviews with local planners to determine events which lead to this discontinuity between projected and actual growth. In each community we collected information on four major topics: industrial development, local infrastructure, political environment and historical events. Presenting local informants with graphs and tables of both projected and actual growth we gathered descriptive, comparative and historically based information on the demographic history of the communities under study. These interview produced information on:

- What industrial activities take place at the Port?

- How is the oil and gas industry organized at this location? What activities within the oil and gas industry take place at this location? What do these activities contribute to the local economy?

- What is the current (and recent past) condition of other local infrastructure (roads, etc)?

- What are local, state and Federal regulations and programs that may have an effect on economic development?

- What is the financial status of the local government? The state? How have these statuses changed in the last 35 years?

- What plants have closed in the past 35 years? Which plants have opened? How many workers did (do) these plants employ?

- What kind of economic development strategies have been pursued in the past 35 years? What are the results?

- What are the changes in the natural environment in the past 35 years?

- How has the community grown (in terms of physical space) over the past 35 years?

Information on the timing of these events is used to assess the effect upon projection error and then integrated into new back-casts to assess the degree that error is

minimized as projection series are adjusted proportionally forward. Comparing the two sets of back-casts (actual and adjusted) to actual population trends yields estimates of projection error associated with each type of local event and provides a quantitative measure of the increased accuracy gained by using qualitative information.