

Population Response to Employment Growth in the Gulf Coast Region: Assessing the Oil and Gas Related Employment on Population Change

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- This research is part of a larger project funded by a cooperative agreement with the BOEMRE (BOEMRE09HQPA0005).
- The project is designed to assess the potential demographic and economic impact of oil and gas activity on the Gulf Coast Region with special attention to Louisiana (w/Fannin, Schafer, Slack)

Demographic Responses to Change in Oil and Gas Activity

- Sociologists have a long standing interest in the social impacts of economic growth in the energy sector.
 - For example, does rapid economic growth in energy-related employment cause decreases in noneconomic well-being (e.g. higher crime rates, poor public health)?
- The key mechanism is that employment growth attracts new residents.
 - The community loses cohesiveness and ability to address local problems.

Demographic Responses to Change in Oil and Gas Activity

- Regional economists also focus on this relationship.
- Key question: Does job creation benefit local residents or ...
 - The addition of jobs may increase population (i.e. new jobs are taken by in-migrants).
 - The addition of jobs may increase commuting (i.e. new jobs are taken by residents of nearby communities via commuting)

Demographic Responses to Change in Oil and Gas Activity

- Although this issue has been addressed for local markets in selected states (regional economists) and for the energy sector in the West (sociologists), much less is known about how this relationship may work in the Oil and Gas Sector in the Gulf Coast region.
- In this paper, we explore this relationship.
 - Research Question: Are changes in oil and gas related employment associated with population change in Gulf Coast counties/parishes?

Data

- Key Variables:
 - Oil and Gas Employment
 - WholeData, 1998 – 2008
 - Annual Employment in Oil and Gas Related Industries
 - Population Change
 - U.S. Census Population Estimates, 1998 – 2008
 - Annual Population Count

Regression Analysis

- Fixed Effect OLS Regression Model
 - Refined version of exploratory analyses
- Fixed Effects:
 - Year (binary variable for each year)
 - EIA/Commuting Zone (binary variable for each commuting zone area)
- Control Variables:
 - Baseline Measures from 2000 Census
 - Difference Measures from 2000 Census and 2005–2009 American Community Survey

Regression Analysis

- Dependent Variable: Annual Population Count Disaggregated by Age.
 - Less than 20
 - 20 to 64
 - 65 and Older
- Key Independent Variable: Annual Count (March Count) of Oil and Gas Sector Employment.

Regression Analysis

- Control variables used in prior studies, Yeo and Holland (2004) and Bartik (1993):
 - Baseline:
 - County Population in 2000
 - % Rural 2000
 - Baseline and Difference Scores
 - % of LF Working Outside of County
 - % Age 25+ with Associate's Degree or Better
 - % Unemployed Age 16+
 - Average Wage for Workers Age 16+ with Wage and Salary Income
 - % Age 16+ Not in the Labor Force

Age Disaggregated Models

Age Group	Coefficient	p-value	R2
Age 0–19	1.36	<.001	.996
Age 20–64	2.23	<.001	.995
Age 65 and Over	0.56	<.001	.991

Conclusions

- Growth in oil and gas employment in Gulf Coast counties is associated with population growth of specific demographics segments (less than 65).
- Suggests that new jobs may be attracting new residents directly or by creating vacancies in existing jobs.
- Next step:
 - Identify the industries that catch the surplus population.
 - Identify whether newcomers work in oil and gas or are working in ‘multiplier effect’ jobs (i.e. non-oil and gas jobs created by growth in the oil and gas sector).
 - Identify the origin and characteristics of migrants to EIA regions.

References

- Bartik, T. 1993. Who benefits from local job growth: Migrants or the original residents? *Regional Studies* 27(4):297–311.
- Yeo, J. and D. Holland. 2004. Economic growth in Washington: An examination of migration response and a test of model accuracy. *International Regional Science Review* 27(2):205–237.