

The Effect of Local Economic Development Policy on Employment Growth in Rural Counties in the Mid-Atlantic Region

Sara-Beth James
Tom Ilvento
Steven Hastings

Department of Food and Resource Economics
University of Delaware



Presented at the 2002 Annual NAREA Meeting,
June 9-11, Harrisburg / Camp Hill, PA

1

Overview

- Introduction
- Literature Review/Economic Theory
- Data and Methods
- Analysis and Results
- Conclusions

2

Statement of the Problem

- Does local economic development policy in rural counties affect employment (economic) growth?
 - Does having an economic development professional lead to jobs?
 - Does using various policies lead to jobs?
 - Does having a web site lead to jobs?

3

Economic Development and Economic Growth

- **Economic development** is a process in which governments or communities engage to stimulate or maintain business activity – it is very broad.
- **Economic growth**, for the purposes of this thesis, is the absolute increase or decrease in total employment

4

Economic Theory

- **Location Theory** ... profit maximization
 - **Primary Location Factors**
 - Often out of the control of local communities, particularly in the short-run
 - **Secondary Location Factors**
 - Local economic development activities fall here
- **Agglomeration Economies**

5

Past Research

- The impact of local economic development activities on employment growth is not clear
- Gruidl and Walzer found the direct measures, such as incentives, did not explain employment growth
- Finsterbusch and Kunnen found that business recruitment activities were successful mainly for counties that were already growing

6

Economic Theory

- Economic Model using OLS Regression:

$$Y = \text{GAIN} = \text{EMP99} - \text{EMP90}$$

$$Y = f(\text{Local Economic Development Activities; Labor Quality; Labor Cost; Labor Supply; Agglomeration Economies; Adjacency; Highway; Airport}) + \epsilon$$

7

Data and Methods: Study Region

- Nonmetro counties in DE, MD, PA, VA, WV (146)
 - County is a reasonable entity to focus on economic development
 - Sufficient in size
 - Data are available
 - Past research
 - Rural as nonmetro using Beale codes, including adjacency
 - Rural counties engage in similar economic development activities
 - They face similar challenges

8

Data and Methods: Local Development Survey

- Survey
 - A mail survey was sent to local county economic development offices or other representatives in January 2002
 - Questions focused on economic development activities and emphasis on the past decade
 - Used Dillman's Tailored Design method with three mail contacts and a final phone/fax contact
 - The Response Rate was 67.8% or 99 completed surveys

9

Results and Key Findings from the Survey

- 65% of counties had an economic development professional on staff during the 1990s
- 75% maintained a county web site on the county government
- In terms of how active or very active in economic development activities
 - 80% indicated the county was active
 - 67% indicated the state was active
 - 41% indicated the federal government was active

10

Results and Key Findings from the Survey

- Some questions were asked for two time periods (1990 to 2000) and 2001
- The importance of some economic development activities increased over time
 - In 2001, 83% indicated existing business retention was important, up from 51% in the 1990s.
 - In 2001, 53% indicated Labor Force Training was important, up from 22% in the 1990s

11

Analysis

- Estimation Technique: OLS Regression Analysis of a Gain score Model (based on Kessler and Greenberg)
- The dependent variable is the Gain in employment from 1990 to 1999
 - To control for relative change among counties we included the base employment (EMP90) in all of the models
 - The average Gain in employment was 1,768 jobs, with a range from -4,887 to 14,926
 - Using Q^2 as a measure of the components of change, 71% of the change reflected shifting positions between counties – some were winners and some losers

12

Q² as a measure of the Gain in Employment

- Kessler and Greenberg suggest Q² as a way to decompose the gain over two time periods

$$Q^2 = \frac{\sum_{i=1}^n (X_{2i} - X_{1i})^2}{n}$$

- If we rewrite the equation we can see
 - One part due to shifts among units – variance of the Gain
 - One part is due to changing means

$$Q^2 = \text{var}(X_2 - X_1) + (\bar{X}_1 - \bar{X}_2)^2$$

Most of Gain in employment (71%) was due to shifts among counties

13

Independent Variables

▪ *Base Variables*

- EMP90 Employment in 1990
- PA, WV, VA Dummy state location variables

▪ *Location Factor Variables*

- COLL Presence of a college
- COLDEG % with college degree in 1990
- ADJ 1 = Adjacent to metro county
- HWY 1 = presence of inter-state highway
- AIRPORT Distance to closest major airport
- COS Coefficient of Specialization
- MANINC Average income from manufacturing
- UNEMP Unemployment rate in 1990

14

Coefficient of Specialization

$$COS = \frac{1}{2} \sum_{i=1}^k |C_i - R_i|$$

- COS is bounded between 0 and 1.
- Zero indicates the county was as diverse as the region.
- One indicates the county was specialized in comparison.

Where k is the number of industry sectors (k=9)
C_i is the proportion of employment in sector i for the county
R_i is the proportion of employment in sector i for the base region

Industry sectors: (1) extractive (farm, agricultural services, and mining), (2) construction, (3) manufacturing, (4) transportation and public utilities, (5) wholesale trade, (6) finance, insurance, and real estate, (7) retail trade, (8) services, and (9) government.

15

Data and Methods

Independent Variables: Table 1

▪ *Local Economic Development Factor Variables*

- EDIMPORT Scale of importance of economic development activities
- TAX 1 = Offers tax incentives to businesses
- TRAIN 1 = offers training programs
- DEVPRO 1 = Economic Development Professional
- WEBSITE 1 = Website available
- PROGAIN **Gain in the importance of economic development programs over time**

16

PROGAIN: Program Gain Scale

- A scale based on 6 items measured over two time periods.
- Each item was rated in importance from not important (10) to very important (4).
- Items Included:
 - Existing business retention and expansion
 - Recruitment of new firms
 - Small business development
 - Helping new business starts
 - Tourism Development
 - Labor force training programs

17

PROGAIN: Program Gain Scale

- We calculated the change in importance for each item
- We looked at:
 - The correlations between the items (ranged from .51 to .75)
 - Cronbach's Alpha as a measure of scale reliability = **.90**
 - All items loaded on a single scale using Factor Analysis
- As a result we created an additive scale of the gain in importance across the 6 items
- **PROGAIN measures the overall change in importance of economic development activities in the county over the decade**

18

Location Factor Models – based on all counties, n= 131

- **Model 1-2: Base Models**
 - Variables: EMP90, PA, WV, VA
 - Model 2 Adjusted R² = .46
- **Model 3: All Location Factors Model**
 - Variables: EMP90, PA, WV, VA, COLL, COLDEG, ADJ, HWY, AIRPORT, COS MANINC, UNEMP
 - Key Significant Variables: COLDEG(+), HWY(+), COS(-)
 - Model 3 Adjusted R² = .51
- **Model 4: Refined/Reduced Model**
 - Variables: EMP90, PA, WV, VA, COLDEG, HWY, COS
 - Model 4 Adjusted R² = .52

19

Local Economic Development Models – based on survey data, n= 88

- **Model 5: All Local Economic Development Variables/Base variables/Significant location factors**
 - Variables: EMP90, PA, WV, VA, COLDEG, HWY, COS, PROGAIN, EDIMPORT, DEVPRO, WEBSITE, TAX TRAIN
 - Key Significant Variables: COLDEG(+), HWY(+), COS(-), PROGAIN (+)
 - Model 5 Adjusted R² = .50
- **Model 6: Final Reduced Model with Base/Significant Variables *0.53**
 - Variables: EMP90, PA, WV, VA, COLDEG, HWY, COS, PROGAIN,
 - Key Significant Variables: COLDEG(+), HWY(+), COS(-), PROGAIN (+)
 - Model 6 Adjusted R² = .53

20

CONCLUSIONS

- Classic Location Factors Related to Employment Growth (COS, HWY, COLDEG) were significant in the expected direction
- There is evidence to suggest that diversifying the economic base (i.e., a lower COS) is a reasonable economic development strategy which can lead to employment growth
- Some limited evidence that highway infrastructure may lead to job growth

21

Conclusions

- Most of the Local Economic Development Factors were insignificant
 - Whether a county had an economic development professional
 - Whether a county had a website
 - Whether they offered a tax break
- This study does not provide evidence that economic development activities leads to employment growth
- **With the exception, that counties that increased the importance of a range of economic development programs over time (PROGAIN) realized an increase in jobs over the time period**

22

CONCLUSIONS

- **Limitations of the Study**
 - Limited measure of success – employment growth is only one outcome measure of economic development activity
 - Conclusion may be limited to the study area
 - Use of proxy variables
 - Potential bias of a single respondent
- **Possibilities for Future Research**
 - Larger study of Metro and nonmetro counties
 - Multiple respondents per county – increase validity
 - Better insight into use/level of state and federal funding

23