

# **DETERMINANTS OF U.S. MICROPOLITAN AREA POPULATION GROWTH**

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# INTRODUCTION

- 1989: Thomas G. Scott-Micropolitan America
- 2000: Official adoption of the term “ Micropolitan Area”
  - 674 counties
  - a single urban area with at least 5,000 residents with surrounded by rural communities

# PURPOSE AND CONTRIBUTION OF THE STUDY

- Current State of Micropolitan Areas
  - 10% of U.S. population in 2000 but has since declined to 8% as of 2019
- Determinants
  - Sector Composition
  - Amenity Attractiveness
  - Human Capital

# LITERATURE REVIEW

- Gleaser and Tobio (2008)
  - Found housing amenities, housing supply, and firm productivity to be significant
- Davidsson and Rickman (2011)
  - Sector composition and state & local policy are significant
- Liu, Qian, and Haynes (2020)
  - Significant positive relationship between educated middle aged individuals and entrepreneurship

# DATA

- U.S. CENSUS BUREAU
  - 1990-2000
  - 550 OBSERVATIONS
- EViews
  - CROSS-SECTION
  - OLS



# THE EMPIRICAL MODEL

## Sector Composition

- Agriculture, Construction, Farming, manufacturing, mining, services, and government

## Amenity Attractiveness

- Highways
- Education
- Public Safety
- Property taxes
- Government administration
- Housing
- Natural amenities scale

## Educational Attainment Level

- Bachelor's degree or higher (25 or older)

## Control Variables

- Age
- Median Income
- Births per thousand

# THE EMPIRICAL MODEL

- Breusch-Pagan-Godfrey Test for Heteroskedasticity
  - Rejected  $H_0$  of homoskedasticity
- Empirical model includes Huber-White-Hinkle Covariance Matrix
  - Adjusted R-Squared: 58.42%
  - F-statistic Probability: 0.0000
  - Durbin-Watson Statistic: 1.8563

# FINDINGS

- Let \*\*\* denote statistical significance at 1%.
- Let \*\* denote statistical significance at 5%.
- Let \* denote statistical significance at 10%.

Variable	Coefficient	t-Statistic	Prob.	
% Employed in Agriculture	0.2243	0.4156	0.6777	
% Employed in Construction	0.2726	1.0058	0.3150	
% Employed in Farming	0.5514	3.2590	.0012	***
% Employed in Government	-0.1613	-1.4300	0.1534	
% Employed in Manufacturing	0.0330	0.3713	0.7106	
% Employed in Mining	-0.4545	-2.9396	0.0034	***
% Employed in Service	0.2659	1.7025	0.0893	*
Per Capita Spending on Education	16.8047	0.3953	0.6928	
Per Capita Highway Expenditures	328.5704	2.6787	0.0076	***
Per Capita Property Taxes	-24.71638	-0.6230	0.5291	
Per Capita Public Safety	-425.3819	-1.6665	0.0962	*
Per Capita Tax Revenue	172.5520	1.4472	0.1485	
Per Capita Gov Administration	-1023.1320	-2.71623	0.0068	***
Housing Units: 1985 - 1988	-0.0022	-1.4488	0.1480	
Housing Units: 1980 - 1984	-0.0019	-1.7188	0.0863	*
Housing Units: 1970 - 1979	0.0002	0.3866	0.6992	
Housing Units: 1960 - 1969	-0.0026	-2.3575	0.0188	**
Housing Units: 1950 - 1959	-0.0012	1.4049	0.1607	
Housing Units: 1940 - 1949	0.0002	0.1970	0.8439	
Housing Units: 1939 - Prior	-0.0000	-0.6344	0.5261	
Natural Amenity Scale	2.8328	3.9597	0.0001	***
Birth Rate per Thousand	0.6544	2.5084	0.0124	**
Higher Education Attainment	0.3000	1.7387	0.0827	*



# THE EMPIRICAL MODEL CONCLUSIONS

- Educational Attainment Level is important in determining population growth, but there is no evidence to suggest that any key age demographic exists.
- Sector Composition and Amenity Attractiveness are statistically significant determinants of population growth.