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An Analysis of Retail Sales in Micropolitan Areas in the Year 2000

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Miller, Brett and Davidsson, Michael, "An Analysis of Retail Sales in Micropolitan Areas in the Year 2000" (2018). *Paper Presentations*. 12.

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RESEARCH COLLIQUOUM

2018

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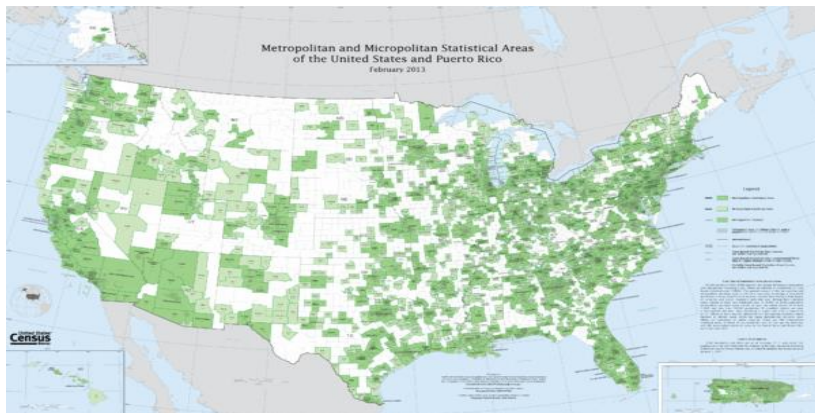


An Analysis of Retail Sales in Micropolitan Areas in the year 2000

By: Brett Miller

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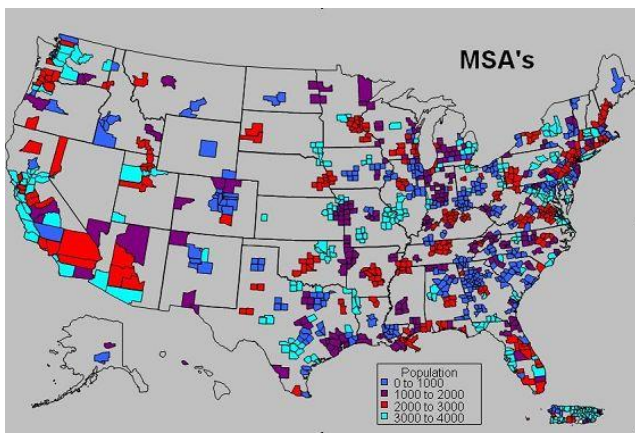
2018



Intro

- ◆ Retail sales in Micropolitan areas is being used to understand the consumer spending habits in these areas in the year 2000.
- ◆ Main question to be answered?

“Did certain factors affecting consumer wealth in the year 2000, effect the retail sales of Micropolitan areas?”



Y2K

Micropolitan Areas

- ◆ What are Micropolitan areas?
 - > 10,000 people “but” < 50,000
- ◆ Currently 554 areas
- ◆ Why are Micropolitan areas significant?
- ◆ Thought of as being emerging metropolitan areas

Retail sales

- What actually are retail sales?

“Measure of consumer demand for finished goods in the economy”

- Good indicator of the economy

- Consumer spending 2/3 of the US GDP

Consumer Confidence

- What is consumer confidence?

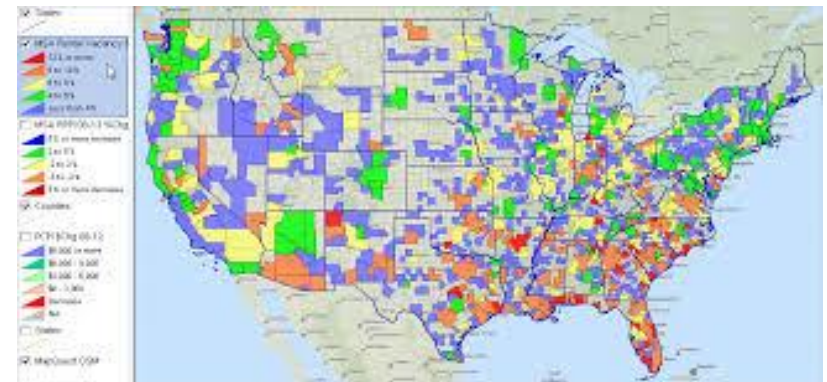
“how consumers feel about the economy at the time”

- Optimistic consumers

- Pessimistic consumers

PURPOSE AND CONTRIBUTION OF THE STUDY

- ◆ The purpose of this study is to...
 1. Find a relationship between certain independent variables on retail sales in order to explain consumer spending in Micropolitan areas
 2. Most studies focus on Metropolitan areas, this study is the first to focus on Micropolitan areas



LITERATURE REVIEW



- ◆ Gholipour & Tajaddini 2017

- Found that higher levels of consumer confidence about future economic conditions tend to increase the influence of home wealth on consumption expenditure

- ◆ Ludvigson 2004

- Relationship between Michigan Index of consumer sentiment and GDP growth. Also brings up a new question about consumer confidence.

- ◆ Donihue & Avramenko 2007

- Found that despite a 369% appreciation in stock mkt assets followed by 55% decrease, consumer spending was increasing

- ◆ Ashley & Li 2014

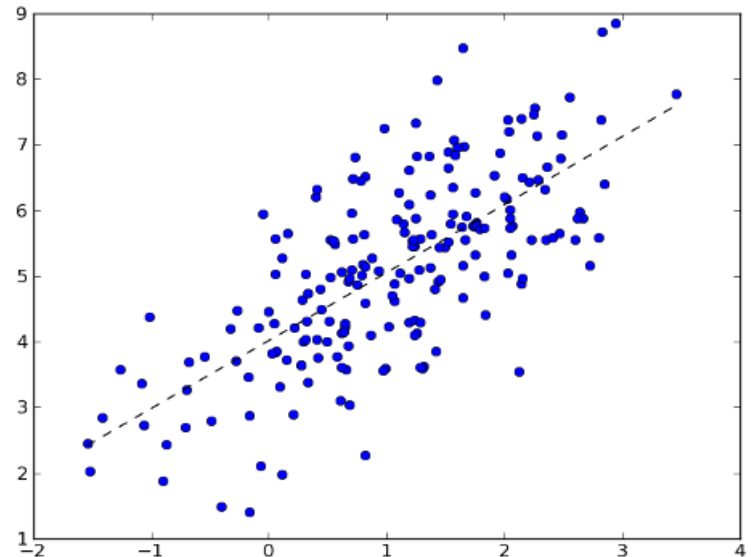
- Retail sales respond most strongly to housing wealth

Methodology

- ◆ OLS method

$$Y_i = \beta_1 X_{i1} + \beta_2 X_{i2} + \dots + \beta_p X_{ip} + E_i$$

- ◆ Cross Section Analysis



THE EMPIRICAL MODEL

$$\begin{aligned} YMIARESALES2000 = f (& P2000, AVGWAGES, UNEPLY2000, \\ & SALESTAX2000, TONEXTCITY2000, NATAMEN2000, \%POVERTY2000, \\ & MEDINC2000) \end{aligned}$$

Variables

- ◆ P2000 = population in 2000
- ◆ AVGWAGES = average payroll the payroll/employee 2000
- ◆ UNEPLY2000 = Unemployment 2000
- ◆ SALESTAX2000 = Per capita general sales tax- state level 2000
- ◆ TONEXTCITY2000= distance to next city
- ◆ NATAMEN2000 = NATURAL amenity scale
- ◆ %POVERTY2000 = people of all ages in poverty % 2000
- ◆ MEDINC2000 = Median household income 2000 s



DATA

- Data provided by the US Census Bureau
- 554 micropolitan areas
- 668 counties
- 48 states



THE EMPIRICAL MODEL

Findings

Variables	Coefficient	Std. Error	T-Stat	Prob.
_POVERTY2000	36014.04	233534.1	0.154213	0.8900
AVGWAGES	-699.5404	1814.665	-0.385493	0.7087
MEDINC2000	-0.547259	1.631956	-0.335339	0.7472
NATAMEN2000	-3832.644	2228.278	-1.720003	0.0272
P2000	0.143438	0.191432	0.749288	0.4810
Salestax2000	138827.5	621818.6	0.223260	0.7855
TONEXTCITY2000	214.5395	108.1664	1.983420	0.0574
UNEMPLY2000	-620770.4	331168.9	-1.874483	0.0597

THE EMPIRICAL MODEL

Findings continued.

R-squared = 0.023391

Adj. R-squared = 0.008949

Durbin-Watson stat = 1.304586

R²

THE EMPIRICAL MODEL

Findings continued.

White Test

- NATAMEN2000 = Prob.0.0272
- TONEXTCITY2000 = Prob. 0.0574
- UNEMPLY2000 = 0.0597
- Durbin Watson = 1.934152



THE EMPIRICAL MODEL

Conclusions

Retail sales seem to be effected by geography and location

Unemployment has a negative effect on the retail sales

Further study is needed to help explain this

Natural amenities scale

