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Foreclosures In Wisconsin 2000 through 2007

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The Relationship between Time, Subprime Lending and Foreclosures in Wisconsin

What Issues does This Research Focus on?

Are Foreclosures Actually Rising?

Is this Altered by Multiple Filings?

Are There Regional Effects?

Are There Income Effects?

Regression

- We Regress the Number (or Change in) of Foreclosures.
- We look at Significant Variables that contribute to an increase (or decrease) in Foreclosures.
- We use the OLS process to review these issues
- We look at 71 counties from 2000-2001 (Portage County is omitted due to reporting problems)

A Few Preliminary Notes

The Default Process

- The Borrower Decides to Technically default on the Mortgage Contract by missing the scheduled payment

- At this point, the Borrower has a number of avenues to pursue
  - Sale of Property
  - “Cure” the Account
  - Foreclosure and Sale by Lender

Some Issues

- SubPrime Loans
  - 4th Quarter of 2003– 2.13% of all Subprime Loans entered foreclosure
  - Approximately 16% of subprime loans with adjustable rate mortgages (ARM) are 90-days into default or in foreclosure proceedings as of October 2007, roughly triple the rate of 2005. (Speech Ben Bernancke, Oct 15, 2007)

Number of Subprime Mortgages

- 50% of All Subprime Mortgages are ARM's (Chicago Fed– Sumit Argawal)
- 80% of all Subprime Mortgages are ARM's (Susan Wachter—University of Pennsylvania's Wharton School)
- 13.73% of all mortgages are Subprime (Mortgage Bankers Association)
- Mortgage Market is about $10 Trillion (Board of Governors, FRB)
- Subprime Loans are about $1.5 Trillion
- ARM Subprime Loans are between $750 Billion and $1.2 Trillion

MORTGAGE DELINQUENCY AND FORECLOSURE RATES, 1997-2006
(Percent, annual average)

Financial Services Factbook and the Mortgage Bankers Association

	Delinquency Rates					Foreclosures Started		
Year	All Loans	Prime	SubPrime	FHA Loans	VA Loans	Prime	SubPrime	VA Loans
1998	4.74	2.59%	10.87%	8.57	7.55	0.22%	1.46%	0.59
1999	4.48	2.26	11.43	8.57	7.55	0.17	1.75	0.59
2000	4.54	2.28	11.9	9.07	6.84	0.16	2.31	0.56
2001	5.26	2.67	14.03	10.78	7.67	0.2	2.34	0.71
2002	5.23	2.63	14.31	11.53	7.86	0.2	2.14	0.85
2003	4.74	2.51	12.17	12.21	8	0.2	1.61	0.9
2004	4.49	2.3	10.8	12.18	7.31	0.19	1.5	0.98
2005	4.45	2.3	10.84	12.51	7	0.18	1.42	0.85
2006	4.61	2.39	12.27	12.74	6.67	0.19	1.81	0.83

4th Quarter 2006 Homeownership Financial

Compositionhttp://www.iii.org/financial2/pdf/

- Free and Clear Homes 35%
- Homes with Mortgage 65%

Mortgage Breakdown

• Prime Fixed Rate	60.8%
• Prime ARM	15.8%
• Subprime Fixed	5.9%
• Subprime ARM	7.9%
• FHA Fixed	6.5%
• FHA ARM	0.6%
• VA	2.6%

Relationship between Subprime and Foreclosures

- From: The Impact of Predatory Loan Terms on Subprime Foreclosures (2005) by Quercia, Stegman and Davis
- The probability of foreclosure is increased by 50% for Adjustable Rate Mortgages
- The probability of foreclosure is increased by 50% for a Balloon Mortgage
- A FICO score of:
  - 620-659 increases the probability of foreclosure by 31%
  - 580-619 increases the probability of foreclosure by 44%
  - 300-579 increases the probability of foreclosure by 67%

Foreclosure

- A Two Step Process
  - Technical Default
    - However Borrower Reaffirms or Cures the Account
      - The future is in question (does the borrower default again)
  - Borrower does not “Cure” the deficiency

Default Outcome

- Modeling the Conditional Probability of Foreclosure by Ambrose and Capone (1998)

- Data– Looks at FHA borrowers (43,751) who defaulted between 1988 and 1993
- Two types of Debtor
  - High Loan to Value (LTV) Defaulters– high probability of Negative Equity
  - Low Loan to Value Defaulter– Lower probability of negative Equity

Today's Market indicates High LTV is a possible situation (falling values)

Ambrose and Capone (cont)

- The First Time Foreclosed Upon
- High Loan to Value (Negative Equity)
  - 50% Reinstate (1151)
  - 45% Foreclosed
  - 3% Sold or Paid off prior to Foreclosure
- Low Loan to Value (Some Equity)
  - 58% Reinstate (9,966)
  - 34% Foreclosed
  - 4% Sold or Paid off prior to Foreclosure

Ambrose and Capone (cont)

- The Second Time Foreclosed Upon
- High Loan to Value (Negative Equity)
  - 55% Reinstate (344– however 176 don't default again)
  - 39% Foreclosed
  - 3% Sold or Paid off prior to Foreclosure
- Low Loan to Value (Some Equity)
  - 66% Reinstate (9,966—however 2,586 don't default again)
  - 27% Foreclosed
  - 3% Sold or Paid off prior to Foreclosure

Ambrose and Capone (cont)

- Applicable Points
  - There is a learning curve regarding reinstatement– if you default once and are reinstated, you are less likely to be foreclosed upon in a subsequent default.
  - However, negative equity is a critical issue
    - Tenure– debtors with negative equity are less likely to reinstate as they own the home longer
    - Prepayment Penalty– for the negative equity debtor– it discourages Reinstatement
    - Time in Default– the longer a debtor is in default, the less likely it is that the negative equity debtor will reinstate (relative to the high equity debtor)
    - Bankruptcy– for the negative equity debtor, bankruptcy reduces the likelihood that they will reinstate

Our Data

- Milwaukee County
  - 2000 2,049 Foreclosure Filings
    - » However, only 1,724 Unique Names
  - 2007 5,083 Foreclosure Filings
    - » However, only 4,276 Unique Names
    - » 5,083 foreclosures/409,133 = 1.25% of Housing Units

Our Data

- Racine County
  - 2000 347 Foreclosure Filings
    - » However, only 308 Unique Names
  - 2007 745 Foreclosure Filings
    - » However, only 705 Unique Names
    - » 745 foreclosures/79,129 = 0.95% of Housing Units

Regression Results

- What is Significant with “All” Foreclosures

- Income — **Lower** Per Capita Income: More Foreclosures
- Population — Higher Population: More Foreclosures (This works out to be a control for the larger counties in later analysis)
  - » Note: # of Housing Units and Population are Collinear, thus Housing Units is not included as a variable.
- Year Impact
  - 2000 is the Base Year
    - Question– do other years differ significantly from 2000. **Yes!**
      - Since the raw numbers of foreclosures have been increasing across the State for the last 8 years, it is not surprising that every year has a positive and significant beta value (based on a 10% significance level).

Regression Results

- What is Significant with **“Edited”** Foreclosures

- Results are Similar

- Income **Lower** Per Capita Income: More Foreclosures
- Housing Units **More** Housing Units: More Foreclosures
  - » Ran as a proxy for Population
- Year Impact

  2000 is the Base Year
  - Question– do other years differ significantly from 2000
    - Only 2007 is significantly different from 2000 (based on a 10% significance level)

Regression Results

- What is Significant with "**Change in"** Foreclosures Data

- Results are Similar:

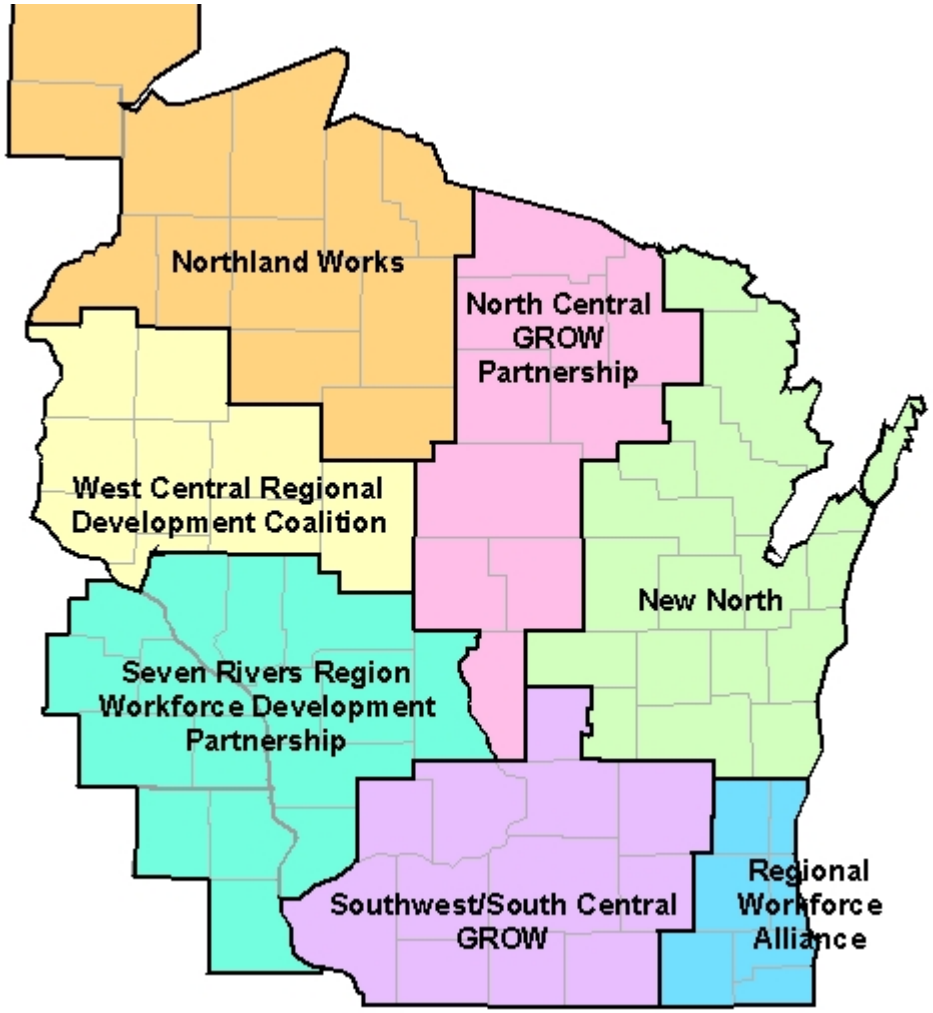
- Income — Lower Per Capita Income: More Foreclosures
- Population — Higher Foreclosures, even controlling for population
  - » Note Results do not change if regression is run as Per Capita Foreclosures
- Year Impact

  - Change from 2000 to 2001 is the Base Period
    - Question– do other years differ significantly from 2000-2001
      - In the last 8 years, foreclosures have been rising all over the State of Wisconsin. As a result, the coefficients for the dummy variable are all positive and significant: The Problem is getting worse.

Fixed Effects Model

- A Fixed Effects Model was run in an attempt to identify the impact on individual Counties, however it was difficult to identify an “omitted” County that would stand as the typical County.
- As a result, the Significance level varied based on the County that was selected.

- Regional Workforce Alliance
  - – Region 1
- New North– Region 2
- North Central—Region 3
- Northland—Region 4
- West Central—Region 5
- 7 Rivers– Region 6
- SouthWest– Region 7



Regional Analysis

- Used the Grow Regional Metric to reduce the number of Dummy Variables in the Analysis (not enough Discrete Variables).

- Results From “All” Foreclosures
  - Income and Population continue to be significant (Income “negative”; Population “positive”)
  - SouthEastern Wisconsin’s “Regional Workforce Alliance” is positive and significant. Other Regions do not significantly vary from the omitted variable “Southwest/South Central”

    - **Problem in the SouthEastern Wisconsin Area is greater than the rest of the State.**

Regional Analysis with Race as a Variable

- This analysis included Percentages “White”, “Black”, “American Indian and Alaskan Native”, “Asian” and other/omitted as reported by county in the 2000 US Census.
- Regression used “All” Foreclosures as the dependent Variable.
- Once again– Income and Population are used as dependent variables, along with race.
- Finally, the regional dummies are used with SouthWest as the omitted variable.

Why is this important?

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-145.676	50.608		-2.879	.004		
	Income 1997-2004	.005	.002	.062	2.677	.008	.435	2.301
	Population by Year 2000-2007	.002	.000	.572	14.234	.000	.144	6.952
	Region 1	-54.949	32.082	-.040	-1.713	.087	.432	2.314
	Region 2	86.017	19.642	.094	4.379	.000	.503	1.987
	Region 3	79.111	23.983	.064	3.299	.001	.610	1.639
	Region 4	69.791	22.499	.063	3.102	.002	.573	1.745
	Region 5	87.517	23.007	.075	3.804	.000	.599	1.670
	Region 6	28.141	23.725	.023	1.186	.236	.623	1.604
	Percentage Black	6208.836	478.804	.506	12.967	.000	.153	6.535
	Percentage American Indian and Alaska Native	-26.895	60.096	-.007	-.448	.655	.874	1.144
	Percentage Asian	-3912.568	934.077	-.094	-4.189	.000	.458	2.182
	V111	-1611.590	1126.369	-.042	-1.431	.153	.273	3.665

a. Dependent Variable: All Foreclosures Year 2000-2007

Why is this important?

- The earlier regressions looked at variables common throughout the State of Wisconsin. They found that Income is negatively related to foreclosures.
- The also found that population is positively related to foreclosures.
- They also found that over time, the foreclosure problem is getting worse.

Why is Race Important?

- However, on the Micro Level, once Race is included as a variable, we find that the sign for Income changes.
- We also find that Race absorbs the significance formerly attributed to the Southeastern Wisconsin Region.
- While Macro Solutions should focus on issues common to the State of Wisconsin, Micro Solutions should recognize the difficulties that are faced in Counties with large Black populations.

Conclusion

- Race is a critical component to the Micro Analysis.
- On a Macro basis, Income is consistently a negative and significant variable to the number of foreclosures in a County– As income rises, foreclosures go down.
- Population is a positive and significant variable in the analysis of foreclosures. While it is possible to use per capita foreclosures, this avoids the result– more populous counties have a larger problem.
- The Foreclosure Problem has been growing throughout the past 8 years.
- The Southeastern Wisconsin Region has a foreclosure problem that is significantly different from the omitted region and the rest of the State.
- Further work needs to be conducted to examine the relationship between the various census definitions of Hispanic/Latino and the incidence of foreclosure.