THE EFFECTIVENESS OF POST-KATRINA DISASTER AID

SBA Loans and Small Businesses in Mississippi

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Introduction

- Hurricane Katrina is the costliest hurricane in the history of the United States
 - \$108 billion in damages
 - 1,800 lives lost
- Enormous recovery effort
 - Red Cross provided \$2 billion in emergency aid
 - United States government gave both immediate relief and future loans
 - \$75 billion in immediate relief
 - \$45 billion pledged for loans and other recovery efforts
- SBA disaster loans
 - Support families and businesses in recovery after natural disasters

Introduction

1. Determine which characteristics of small businesses and their owners are associated with:
 - A. application for an SBA loan
 - B. receipt of an SBA loan
 - C. amount of loan received
2. Examine targeting programs: are certain characteristics more likely to result in loan receipt?

Background: SBA Disaster Loans

- Declared disaster areas

- Loan Types

1. home and personal property
2. business physical
3. economic injury

States	Declaration #	Incident	Incident Period	Effective
Indiana	13883, 13884	Indiana Severe Storms, Straight-line Winds, and Tornadoes	11/17/2013	02/05/2014
Indiana	13569, 13570	Indiana Severe Storms and Flooding	04/17/2013 through 04/23/2013	05/10/2013
Illinois Indiana	13217, 13218	Severe Storms, High Winds, Large Hail	07/31/2012	08/16/2012
Indiana	13174, 13175	Indiana Severe Storms and High Winds	06/29/2012 through 07/03/2012	08/06/2012
Indiana	13035, 13036	Indiana Severe Storms, Straight-line Winds, and Tornadoes	02/29/2012 through 03/03/2012	03/09/2012

- Preferential terms: female, minority, and veteran business owners, as well as coastal businesses

Background: SBA Disaster Loans

- Of **318,953** applications processed: **175,463** were rejected and **143,490** were approved
 - **45** percent acceptance rate
- Government Accountability Office (GAO) has undertaken large scale review of SBA loan process.

Methodology

- Three questions:
 - 1) did the business attempt to apply for an SBA loan?
 - 2) was the business approved for an SBA loan?
 - 3) what loan amount was received?

Methodology

Methodology

- Stage 1: participation
 - Probit regression
- Stage 2: participation
 - Probit regression
 - Only the firms who applied for a loan – pass Stage 1
- Stage 3: consumption
 - Log normal regression
 - Only the firms who received a loan – pass Stage 2

Methodology

Participation equations:

$$\Pr[d_i = 0 | \mathbf{x}_i] = \Phi(\mathbf{x}_i' \boldsymbol{\beta}_i)$$

$d_i = \text{decision}$

1 – did the business owner apply?

2 – did the business receive a loan?

3 – what amount was received?

Consumption equation:

$$\ln y_3 | d_3 = 1, x_2 \sim N[\mathbf{x}_2' \boldsymbol{\beta}_3, \sigma_3^2]$$

Data

- Small Business Disaster Recovery Study
 - 499 small businesses in the ten southern-most counties of Mississippi
 - Eligible businesses were founded before August of 2005 and were operating during the period of Hurricane Katrina

Data

- 499 businesses
 - 153 applied for loan
 - 64 receive a loan
- Average loan: \$114,524
- Median loan: \$57,500

Results: first hurdle

Variable	Coefficient	Standard Error
gender	0.291**	0.138
education	0.020**	0.008
race	0.068	0.228
veteran	-0.079	0.170
married	-0.039	0.144
ownership	-0.010	0.007
experience	0.005	0.006
home	-0.031	0.128
insurance	-0.068	0.127
past	0.074	0.134
qual_damage	0.235***	0.235
coast	0.036**	0.143

*** is significant at the 99th percent level, ** is significant at the 95th percent level, and * is significant at the 90th percent level

Results: second hurdle

Variable	Coefficient	Standard Error
employees	0.032***	0.010
insurance	0.082	0.201
residence claim	-0.268***	0.018
business claim	0.658**	0.247
residence claim paid	-0.209*	0.111
business claim paid	0.035**	0.012
quant_damage	-0.003	0.014
business age	-0.006	0.010
gender	0.077	0.326
race	0.084	0.052
veteran	0.349	0.390
experience	0.014***	0.005
coast	0.153***	0.020

Revenue dummies also included

*** is significant at the 99th percent level, ** is significant at the 95th percent level, and * is significant at the 90th percent level

Results: third hurdle

Variable	Coefficient	Standard Error
employees	0.033	0.029
insurance	-1.046	1.087
residence claim	-0.985*	0.094
business claim	0.170	0.704
residence claim paid	-0.577*	0.076
business claim paid	0.274	0.265
quant_damage	0.126	0.040
business age	0.008*	0.001
gender	0.219	0.435
race	-0.369	0.063
veteran	0.252	0.630
experience	0.008*	0.001
coast	-0.156	0.221

Revenue dummies also included

*** is significant at the 99th percent level, ** is significant at the 95th percent level, and * is significant at the 90th percent level

Conclusions

- Traits which encourage loan application differ from loan receipt
 - Business characteristics generally influence receipt while owner characteristics tend to increase application
 - Experience of business owner
- Targeted SBA programs
 - Female owners and those in coastal locations applied more
 - Veterans and minority business owners were not significant factors in increasing application or receipt