

# The Effects of Environmental Uncertainty on Young and Small Businesses

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# Overall Motivation

- Extreme Environmental Uncertainty over past few years...
- Small/young businesses have less influence over environment than F-500
- Possible effects of high uncertainty:
  - Hinders formation, survival, growth?
  - ...Or creates opportunities for entry, growth?

# Overview

- Uncertainty: key obstacle in decision-making
- Various categories of uncertainty
  - Levels of uncertainty
  - Sources of uncertainty
- Applies to both young & small firms
- Theoretical model and pilot test

# *Prior Research*

# Levels of Analysis

- Environmental uncertainty:
  - **Macroenvironment:** all firms and industries
  - **Industry:** common to rivals and their value chains
  - **Regional:** business cycle impacts different locations differently
- **Firm-specific** uncertainty

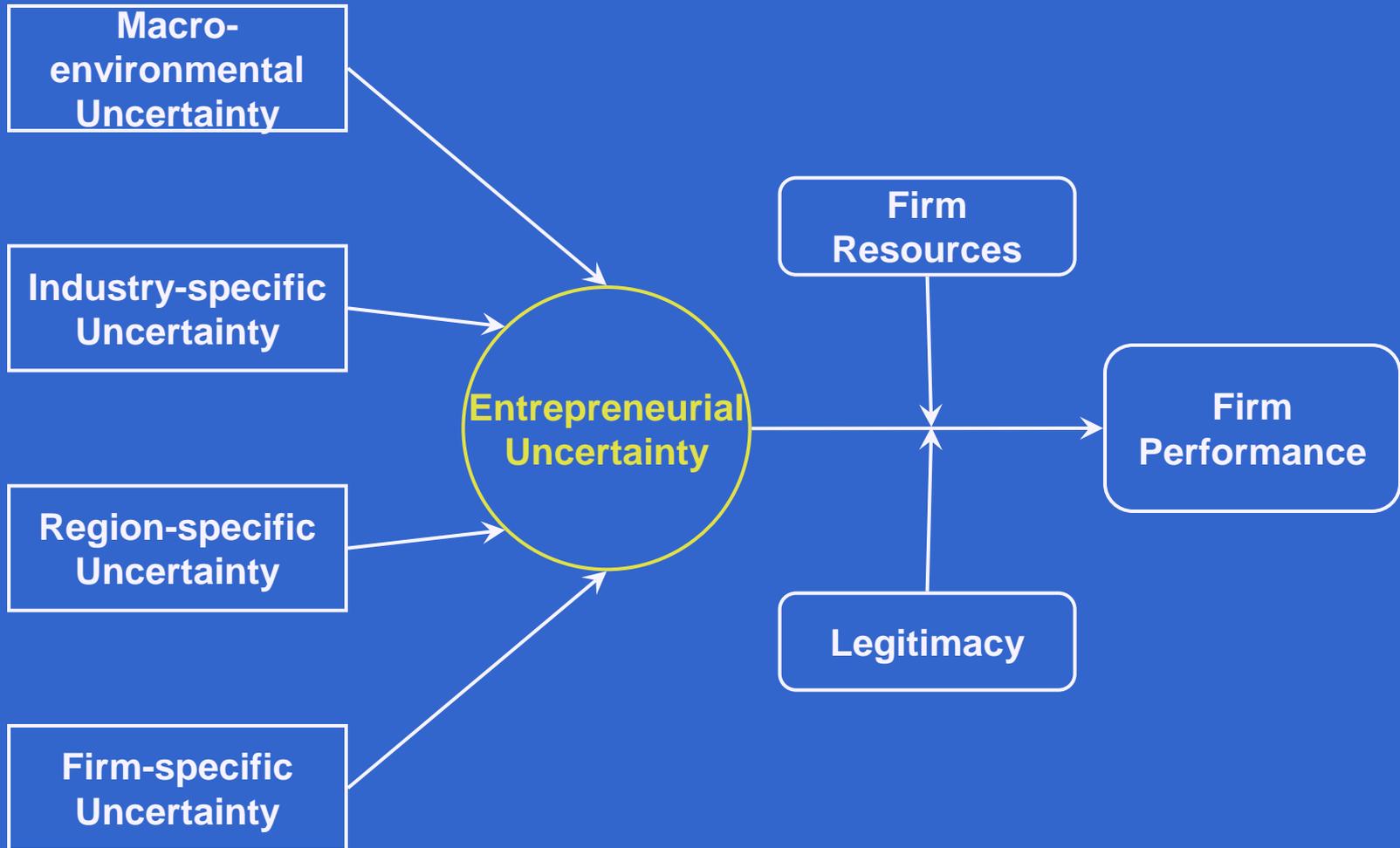
# Macro-level uncertainties

- **Economic:** financial markets, economic growth, consumer confidence, inflation
- **Political:** political risk, increased regulation, unstable governments
- **Technological:** high innovation undercuts order, creates opportunity

# Cognitive vs. objective measures

- Two different measures of uncertainty
  - **Objective measures**, e.g. economic volatility
  - **Subjective measures**, e.g. managerial surveys
- Objective capture industry-level effects
- Subjective capture firm-level effects, match most closely impact on decisions

# Causal Model



# Focus: Both Young, Small Firms

Young, low growth	Mature, small
Young, high growth	Mature, big

# Uncertainty and Young Firms

- New firms face liability of newness (Stinchcombe 1965)
- Hard to attract for resources
  - For all young firms (Garnsey, 1998; Ebben and Johnson, 2006)
  - Harder in uncertain environments
- Attracting resources creates firm-level uncertainty (van Gelderen et al, 2000)

# Uncertainty and Small Firms

Is uncertainty better or worse for small firms?

- Possibly better
  - Small firms less bureaucratic, more nimble, flexible (Brock & Evans, 1987; Dean et al 1998)
- Possibly worse
  - SME thinner margins (Brock & Evans, 1987)
  - Uncertainty reduces SME investment more (Loungani & Ghoshal, 2000)

# Hypotheses

1. Young firms perceive uncertainty to be more negatively related to firm performance than established firms.
2. Small firms perceive uncertainty to be more negatively related to firm performance than large firms.

# *Pilot Study*

# Initial Test: NFIB Data

- Pilot test using existing NFIB survey
- NFIB telephone survey (Fall 2005)
- Stratified random sample of 753 SMEs
- Focus: technological uncertainty and competitive advantage
  - Ambiguity after dot-com crash, 9/11

# Measures

Self-reported survey measures:

- DV: perceived competitive advantage<sup>†</sup>
- Environmental uncertainty<sup>†</sup>
- Firm size (1-249 employees)
- Firm age (years)
- Prior performance<sup>†</sup>
- Industry: service, mfr., retail or other<sup>†</sup>

† Categorical variable

# Correlations

	Mean	Std. Dev.	1	2	3	4	5	6	7
1. CA	2.30	1.005							
2. Mfr. Ind.	.19	.396	-0.02						
3. Service Industry	.56	.497	-0.04	-0.55**					
4. Retail Industry	.17	.375	0.04	-0.22**	-0.51**				
5. Prior Perform.	2.84	1.25	0.15**	-0.01	-0.05	0.05			
6. Uncertainty	2.24	.99	0.24**	0.07	-0.13**	0.10**	0.12**		
7. Age	17.25	14.80	0.02	0.11**	-0.22**	0.13**	0.20**	0.02	
8. Size	18.31	27.69	-0.05	0.05	-0.02	0.00	-0.03	-0.08*	0.05

N = 753. Note: \* p < .05, \*\* p < .01

# OLS Results

Dependent Variable:	Competitive Advantage
Uncertainty	0.170**
Firm Age	-0.178†
Age x Uncertainty	0.208*
Firm Size	0.078
Size x Uncertainty	-0.118
Control Variables:	
Past Performance	0.126**
Mfr. Industry	-0.102
Service Industry	-0.093
Retail Industry	-0.061
R <sup>2</sup>	0.085
F	7.269
N	753

# Analysis

## Significant results:

- Effects of uncertainty are **positive**
  - Uncertainty creates opportunities for C.A.
  - More likely for tech. uncertainty than others
- H1: Young firms hindered more by uncertainty
- H2: No effects for size
  - Sample truncated for small/medium firms

# *Conclusions*

# Limitations

- Indirect performance measure
- One measure of uncertainty
- Not a period of high uncertainty
- In process of parcelling out industry, region effects

Seeking suitable existing or new dataset for post 2008 examination

# Implications

- Model:
  - Different levels, types of uncertainty
  - Linkage of objective, subjective measures
- Empirics:
  - Uncertainty has both risks, opportunities
  - Effects on young, small firms are different



# Thank you!

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