

Agenda

- Explanation of policy implementation.
- Structure of analyzed research
- Reasons for and against grade cards
- Overall effects on public health

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Introduction

- Throughout the US, consumers rely on local health authorities to **regulate** and **inspect** restaurants in an attempt to assure that high-quality hygiene standards are maintained.
- If hygiene were left unregulated and unmonitored, it is likely that restaurant workers would **shirk in their efforts to maintain good hygiene**, and **customers would generally have little idea** that their meals may have been prepared without meeting appropriate health standards.
- Of course, not all restaurants would be irresponsible in this way, but it only takes one shirking restaurant to give rise to a public health emergency.



Transformation of Health Scores

SAMPLE OF RESTAURANTS

Quarter	DHS Sample		Matched (SBE) sample		Our sample	
	No. restaurants	Ave. hygiene score	No. restaurants	Ave. hygiene score	No. restaurants	Ave. hygiene score
1996 Q1	19590	75.62	11917	75.02	9647	75.40
Q2	19774	75.37	12821	74.67	9962	74.97
Q3	20155	75.03	13079	74.45	10054	74.84
Q4	20389	75.27	13445	74.73	10159	74.95
1997 Q1	20665	75.81	13521	75.35	10198	75.75
Q2	20898	75.31	13555	74.56	10181	74.96
Q3	21358	83.99	13492	83.34	10128	83.63
Q4	21647	81.82	13364	81.04	10052	81.27
1998 Q1	21951	86.69	13328	86.10	10126	86.44
Q2	22147	90.26	13316	89.65	10238	89.93
Q3	22514	89.85	12867	89.27	10222	89.56
Q4	22652	90.30	12061	89.83	9883	90.01
Total	23921	81.22	17284	80.50	13544	80.86

Effect of Policy Implementation

THE EFFECTS OF GRADE CARDS AND DISCLOSURE REGULATION ON HYGIENE SCORES

	Without fixed-effects		With fixed-effects	
	Coefficient	Std. error	Coefficient	Std. error
Mandatory disclosure	4.9432	1.1384***	4.3958	1.4046***
Voluntary disclosure	4.0585	0.3199***	3.2528	0.3550***
Inspection criteria II	7.7192	0.9181***	8.0886	0.9907***
Inspection criteria III	9.9838	1.2233***	10.4158	1.3542***
Observations	69,991			
No. restaurants	13,544			
R^2	0.3574		0.5874	

Effects of GC on Food-Related Illness Hospitalizations



	Coefficient	Std. error
Mandatory disclosure	0.0569	0.0153***
Voluntary disclosure	0.0326	0.0149**
B-grade	-0.0074	0.0084
C-grade	0.0039	0.0074
D-grade	-0.0023	0.0057
Mandatory × B-grade	-0.0497	0.0151***
Mandatory × C-grade	-0.0670	0.0304**
Mandatory × D-grade	-0.0565	0.0437
Voluntary × B-grade	-0.0029	0.0128
Voluntary × C-grade	-0.0238	0.0216
Voluntary × D-grade	-0.0758	0.0469
Missing grade	-0.0001	0.0096
Observations	74,321	
R^2	0.9506	

Why Differentiate Before GC?

■ Consumers know nothing

- ❏ Restaurants don't bother to maintain good hygiene
- ❏ pure noise

■ Consumers know everything

- ❏ restaurants choose to “be dirty” or “be clean”
- ❏ Chain affiliation
- ❏ Repeat customers

■ Consumers have lousy information

- ❏ equally lousy everywhere
- ❏ dispersion in the amount of information noise



Why Differentiate After GC?




- Information is equal
- Different cost to maintain good hygiene
 - Ex: Burger joint, Chinese cuisine, Sushi Bar
- Different benefit from good hygiene
 - consumer WTP for good hygiene
 - local competition



Chain Affiliation

	Before GC	After GC
All restaurants	76.77	89.62
In Zagat	77.43	88.97
Chains	82.5	92.76
Company-owned chains	82.94	92.70
Franchised chains	81.84	92.87

Specific Examples

	Before GC	After GC
 com-owned	86.98	94.04
franchised	82.09	94.14
 com-owned	81.49	90.83
franchised	78.12	92.04
 com-owned	81.09	91.50
franchised	81.78	92.69

Chain Facts

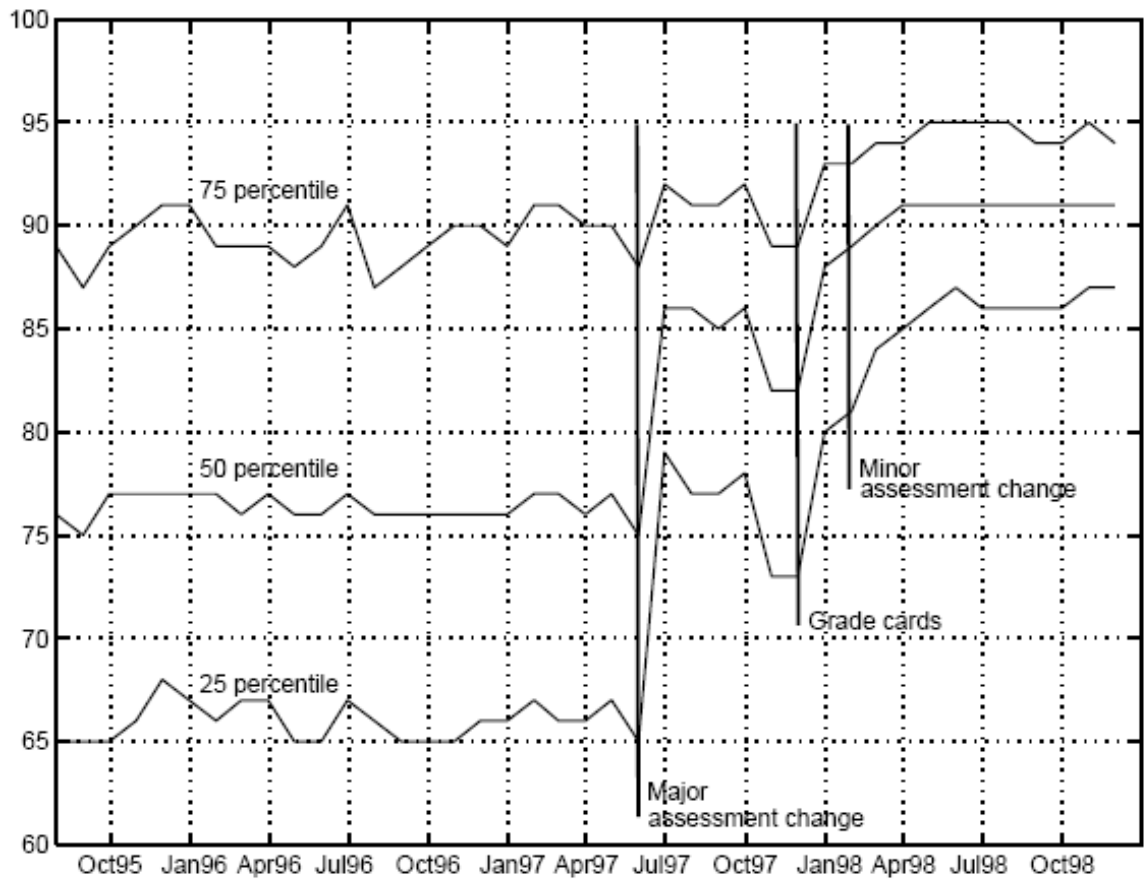
- Chains have better hygiene than independent restaurants
- Company-owned chain units have better hygiene than franchised units
- A chain has better hygiene if it owns a greater number and concentration of units in LA county

Hygiene Facts

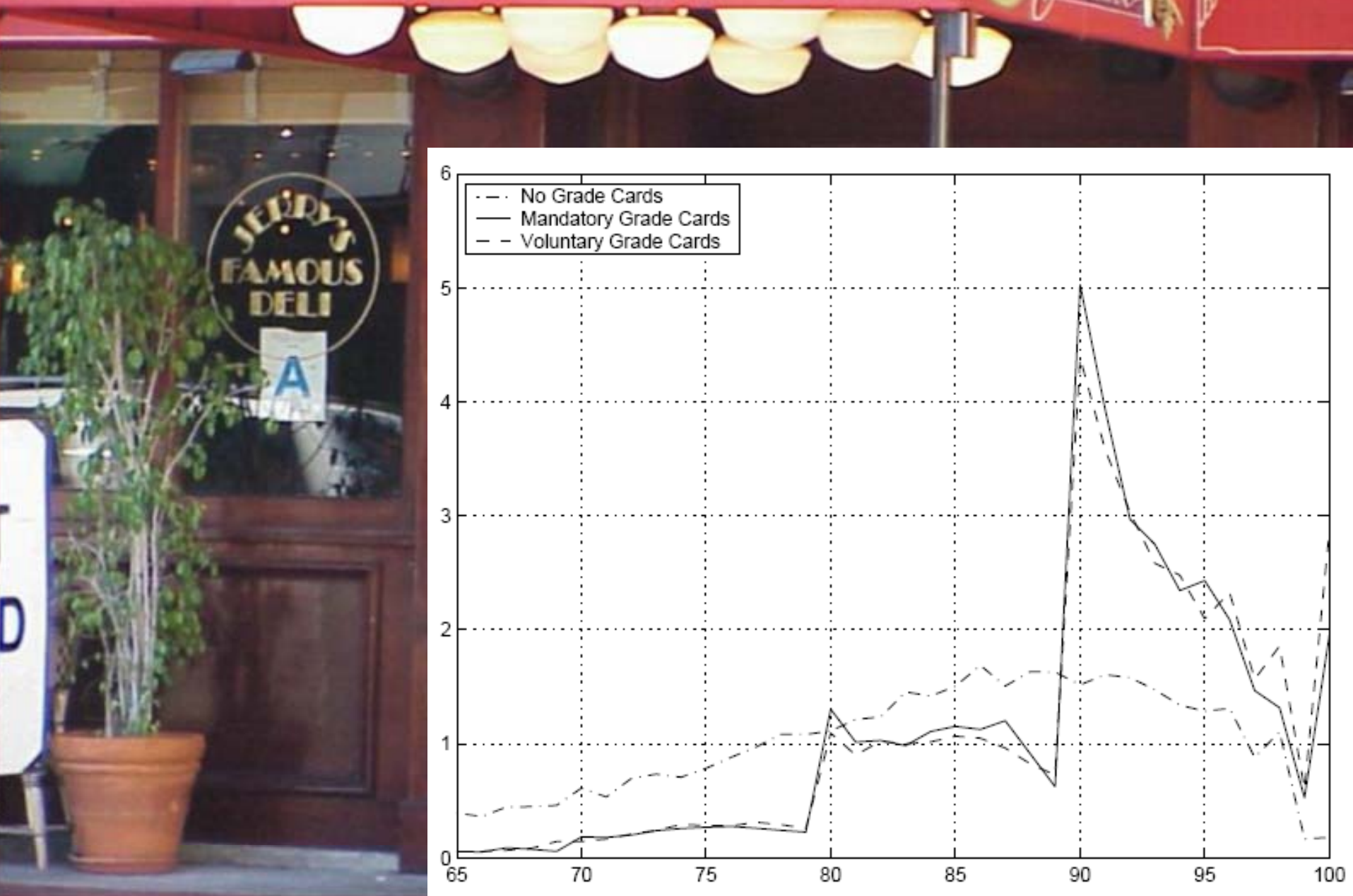
- better hygiene in heavy retail districts
- better hygiene in hotel districts
- worse hygiene in recreational districts
- no difference in white-collar employment districts



Hygiene Quality Distribution over Time



Effect of Hygiene GC on Hygiene Scores



Major impacts after GC

- Dramatic increase in hygiene quality
- Decrease in the dispersion of hygiene quality
- Revenue more responsive to hygiene grade
- Food-borne illnesses drop 20%
- Only 25% “A” restaurants before GC, now is over 80%

