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**Marketing Transformation at Upstream Dairy Chain after Milk Scandal in
China: Evidence from Greater Beijing**

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***Selected Poster prepared for presentation at the International Association of Agricultural
Economists (IAAE) Triennial Conference, Foz do Iguaçu, Brazil, 18-24 August, 2012.***

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Introduction:

- Dairy farming in China experienced rapidly expansion before 2008, while the small-scale backyard dairy farms were dominated.
- The 2008 Milk Scandal was the largest food safety incident in China.
- After the milk scandal → Consumer panic; Smallholder dumped tons of milk; Farmers also slaughtered cows; ...



Government response

Restore and reconstruct a new marketing chain by:

- Subsidizing dairy farmers' losses
- Inspecting milk procurement stations
- Moving backyard dairy farmers to Dairy Complexes

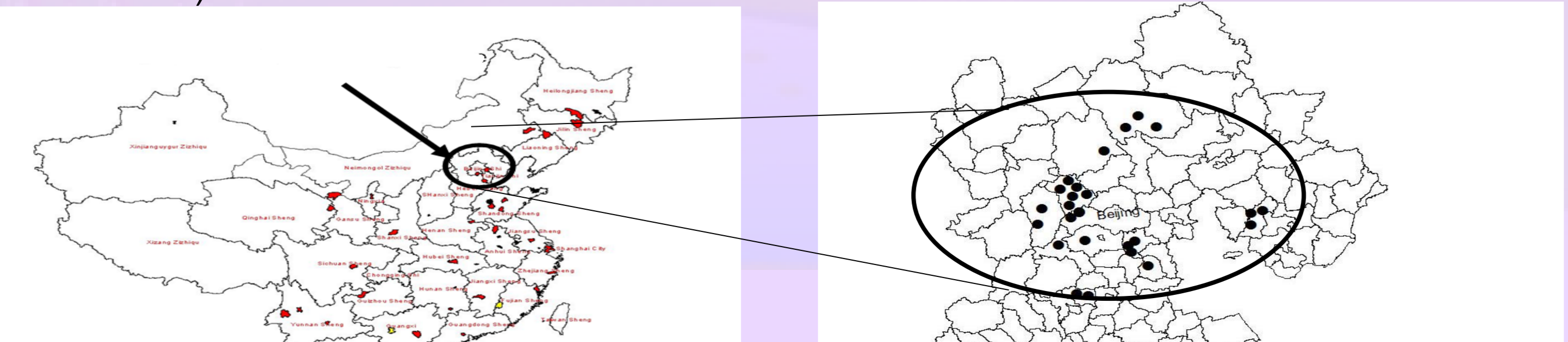


Objectives

- Investigate the transformation of marketing at farm-gate—both before and after the Milk Scandal.
- Empirically analyze the effects of the government policies on milk marketing arrangements.
- Identify the policy implication in China's food safety issues.

Sampling and Data Collection

Longitudinal data of townships, villages and households for 2004, 2008 and 2009.
Farm gate marketing in 2004 (150 households), 2008 (121 households), and 2009 (104 households).



Results: Changes of Marketing at Farm Gate

	2004	2008	2009
Total household sample	150	121	104
Share by marketing channels (%)			
-- Direct consumer	4	3	2
-- Mobile broker	16	45	1
-- Milk station	66	40	13
-- Dairy complex	0	2	37
-- Not sold	14	10	48

- ◆ Marketing through mobile brokers and milk stations have been declining.
- ◆ Milk Scandal resulted in great marketing difficulties in early 2009.
- ◆ After the Milk Scandal, marketing channel changed radically; Dairy complex became the dominating channel.

Policy Intervention

	2008				2009		
	Sep.	Oct.	Nov.	Dec.	Mar	Jun	Sep.
Number of township that received Marketing Management Policies	0	9	10	11	12	12	12
Number of village having dairy complexes	1	4	4	5	5	5	5

Note: In the Greater Beijing dairy study, we surveyed 25 dairy villages in 15 townships

- ◆ There is a rapid response of government to restore and transform marketing channels after the Milk Scandal.
- ◆ Dairy complexes emerged (but not universally) after the crisis.

Econometric Estimation

$$Y_{ijkmt} = a_1 + a_2 * \text{Scandal} + a_3 * \text{Policy}_{kt} + a_4 * \text{Complex}_{jt} + a_5 * T + a_6 * Z_{ijkt(t=2004)} + e_{ijkt}$$

Dairy Farmers Sold Milk through... (Yes=1; No=0)

	Mobile broker	Milk station	Dairy Complex	Not sold
Marketing Management Policies (MMP)	-0.048*** (4.87)	-0.020*** (2.94)	0.009** (2.29)	0.024*** (4.81)
Complex in village	-0.128 (1.26)	0.005 (0.05)	0.085*** (3.31)	-0.107* (1.72)
Time trend	0.044*** (5.03)	-0.055*** (4.89)	0.080* (1.66)	0.009 (0.73)
Other Control

- ◆ MMP is the most important determinants of marketing changes; Mobile brokers were banned, Milk station were inspected and MMP caused marketing difficulty to sell milk.
- ◆ Emergence of dairy complexes helped farmers in marketing their milk.

Safety Implications

Primary buyers	Share of Households Inspected (%)			
	Anti-Biotic	Somatoplasm	Fat rate	Lacto-protein
2004				
Milk station	56	0	0	0
Dairy complex	na	na.	na.	.na
2009				
Milk station	77	8	69	77
Dairy complex	95	24	79	79

- ◆ Safety and quality monitoring has been significantly improved

Conclusions

- ◆ China's milk scandal and corresponding policy directives have resulted in significant transformation of upstream dairy marketing.
- ◆ To restore and restructure the dairy industry, China's government implemented effective policies ranging from marketing to production.
- ◆ The marketing transformation is expected to have profound implications in food safety and vertical coordination of the dairy chain.
- ◆ The emergence of cow hotels poses mixed opportunities and challenges.