

**MASTER RECHERCHE**  
**Stratégie Croissance Profitabilité et**  
**Adaptation de l'entreprise**

**Séance 9 - 9 Juin**

**Alternative Theories of Vertical Integration**  
**&**  
**Strategic Value Creation**

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# Class Outline

- Empirical papers on determinants of firms' boundaries
  - Social and Business Networks: Drycleaning in LA
  - Value of Ex-Post Adaptation: US regional airline industry
- The Role of Internal Organization and Market for Corporate Control on Value Creation
  - The Rise and Fall of a Creamery Named Beatrice
  - General Dynamics by William Anders or How to Create Value While Shrinking and Exiting

# Airing Your Dirty Laundry: Vertical Integration, Reputational Capital and Social Networks

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# Motivation

- Social Networks & Economic Performance
  - Limited evidence of underlying mechanisms
- Potential Mechanism to Evaluate
  - Better outsourcing opportunities in networks

# Social Networks and Economic Performance

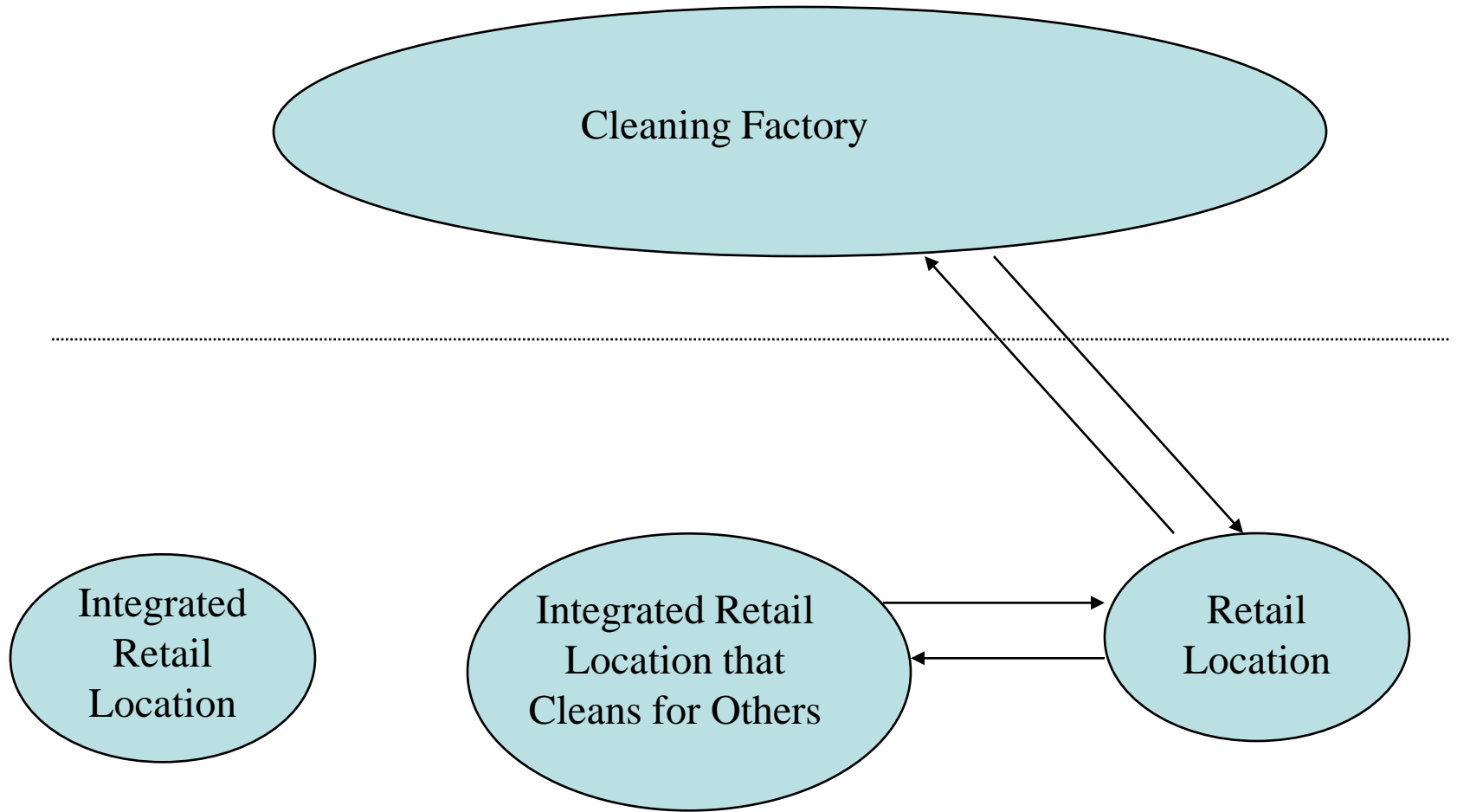
- Greater firm survival rates from social ties
  - Kalnins and Chung (2004)
- Social network facilitates contracting
  - Greif (1993)
    - Does not consider the margin between contracting and VI
    - Does not provide a data analysis
- Social networks open access to credit
  - Fafchamps (2000), Fisman (2003)

# 3 Primary Questions

- Are firms in social networks more willing to outsource (i.e. less likely to vertically integrate)?
- What does the relationship between social networks and vertical integration suggest about the determinants of the boundaries of the firm?
- What do our estimates imply about the role social networks play in access to credit in developed countries?

# Why Laundry Services and Koreatown?

- Each store makes 2 “make-or-buy decisions”:
  - Laundry and Dry Cleaning
- Over 80 cleaners within a 2 mile radius of many addresses in Los Angeles
- Useful institutional details for identifying the determinants of the boundaries of the firm
- 2000+ Korean cleaners in southern CA indicate the likely presence of a network



# Framework Predictions for Relationship Between SN and VI

## Positive Relationship

- Reputations with workers lower the costs of “managed coordination”
- Reputations with creditors lower the capital costs of integrating

## Negative Relationship

- Reputations with suppliers lower the costs of “using the market”
- Poor access to formal credit in SN decreases ability to integrate

Table 1

**Approximate Investments and Expenses by Type of Laundry Service Firm**

	<b>Drop-off Location</b>	<b>Fully Integrated</b>	<b>Difference</b>
<b>Fixed Costs Analysis</b>			
<b>Typical Outlet</b>			
Total Investment	\$49,900	\$179,900	\$130,000
Required Downpayment	20%	20%	20%
Interest Rate (Prime +2.75%)	11.00%	11.00%	11.00%
Term (in years)	10	10	10
Appx. Monthly Loan Payments	\$550	\$1,982	\$1,433
<b>Better Access to Credit</b>			
Interest Rate (Prime)	8.25%	8.25%	8.25%
Appx. Monthly Loan Payments	\$490	\$1,765	\$1,276
Difference from Typical Outlet	-\$60	-\$217	-\$157
<b>Poor Access to Credit</b>			
Interest Rate (2 x Prime)	16.50%	16.50%	16.50%
Appx. Monthly Loan Payments	\$681	\$2,456	\$1,775
Difference from Typical Outlet	\$131	\$473	\$342
<b>Marginal Costs Analysis</b>			
<b>Typical Outlet</b>			
Monthly Sales	\$26,000	\$26,000	\$0
Cost of Operating Supplies (% of Sales)	0%	5%	5%
Outsourcing Expenses (Percent of Sales)	50%	0%	-50%
Monthly Marginal Costs (Total)	\$13,000	\$1,300	-\$11,700
<b>Better Relationship with Upstream Supplier</b>			
Cost of Operating Supplies (% of Sales)	0%	5%	5%
Outsourcing Expenses (Percent of Sales)	45%	0%	-45%
Monthly Marginal Costs (Total)	\$11,700	\$1,300	-\$10,400
Difference from Typical Outlet	-\$1,300	0	\$1,300

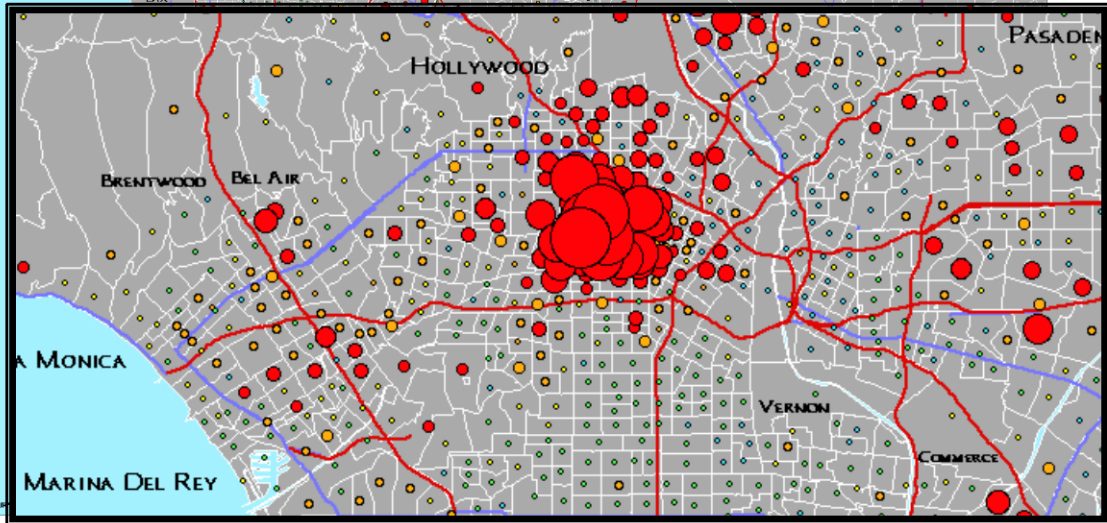
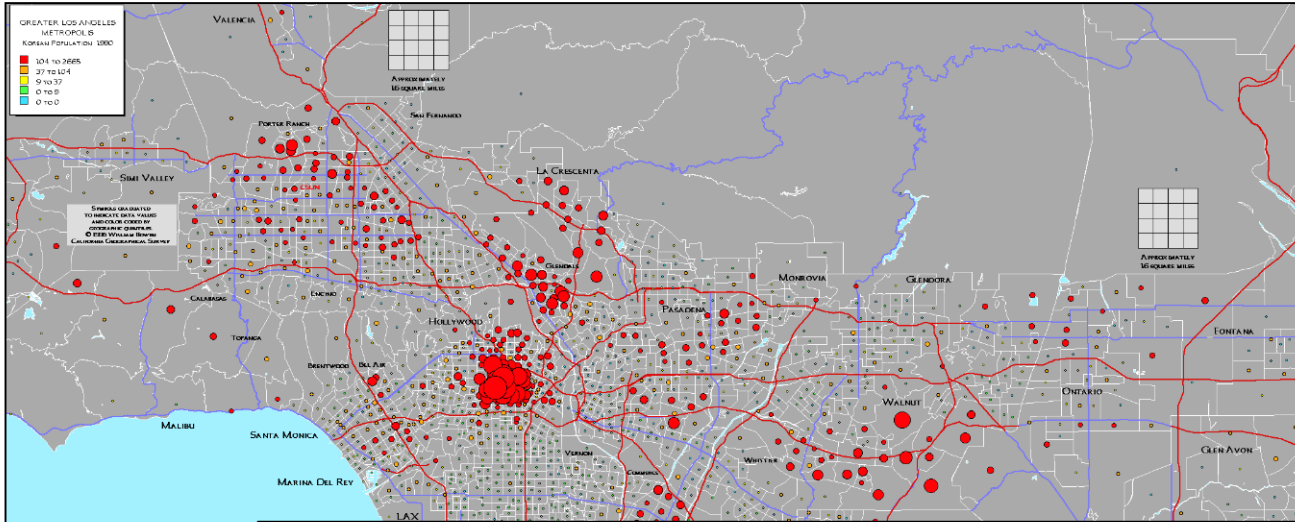
The above reported estimates come from business package descriptions reported at <http://www.americleancorp.com/business.cfm> on October 9, 2006

# Definition of the Social Network

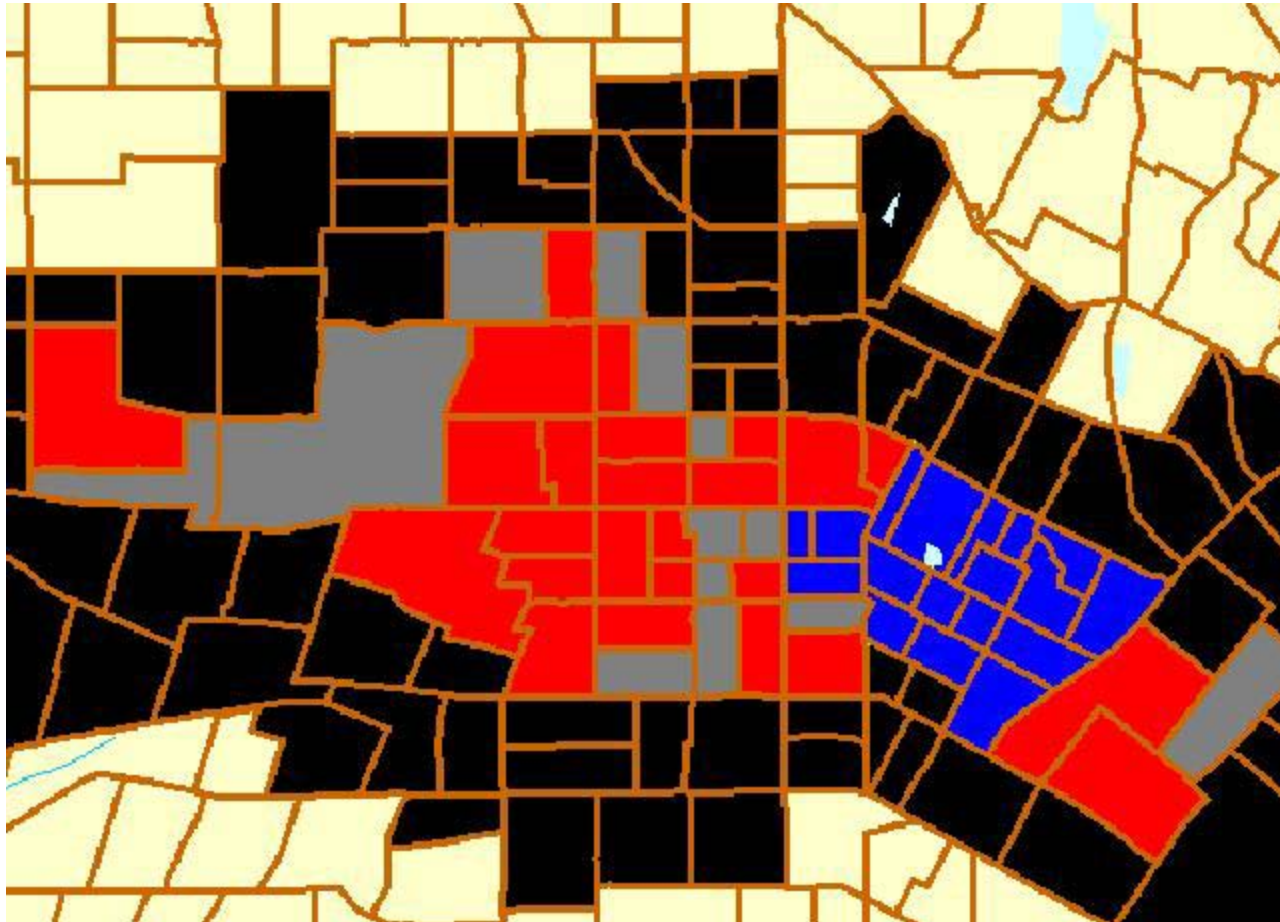
- Members:
  - Koreans in Koreatown
- Non-members:
  - Koreans elsewhere
  - Non-Koreans in Koreatown or elsewhere
- Communication and therefore reputation should be enhanced in Koreatown

# Relationships of Interest

- Communication only between Korean laundry storefronts.
  - Past, present and future store owners.
  - Increases the future sales at stake when outsourcing to any supplier
- Communication between Koreans outside of laundry industry as well.
  - Does not require communication between buyers
  - A Korean supplier's future stream of social capital benefits more generally may be at stake as well.
    - e.g. excommunication



# Figure 1



**Red:** At least 15 percent Korean speakers

**Gray:** Tracts bordered by a red on at least 2 sides

**Blue:** Tracts connecting divided red areas

# Data Description

- Data from laundry service stores.
  - 178 stores surveyed.
  - 142 stores answered.
  - 4 areas in LA:
    - Korea Town (52)
    - China Town/Downtown (30).
    - Century City (30)
    - Santa Monica (30).
- Tract level demographic information.

# Questionnaire

Name of Cleaners:

Address of Cleaners:

1. Do you launder the clothes here? Yes No
2. Do you dry clean the clothes here? Yes No
3. Do you have any family in the business? Yes No
  - a. Do they provide either of those services?
    - i. Laundry Yes No
    - ii. Dry Cleaning Yes No
4. Are you part of a chain or not? Yes No
5. Prices
  - a. Laundered Shirt? \_\_\_\_\_
  - b. Dry cleaned dress \_\_\_\_\_
6. Turnaround times?
  - a. Laundry \_\_\_\_\_
  - b. Dry Cleaning \_\_\_\_\_
7. What languages do you speak?
8. Other services displayed
  - a. Tailoring
  - b. Wash and Fold laundry
  - c. Other \_\_\_\_\_

**Table 2a. Summary Statistics**

	<b>Mean</b>	<b>Std. Dev.</b>	<b>Count</b>	<b>Min</b>	<b>Max</b>
<b>Dry Cleaning</b>					
<b>Integration</b>	0.68	0.47	142	0	1
<b>Price</b>	7.28	5.78	126	2	50
<b>Turnaround Time</b>	0.95	0.88	113	0	3
<b>Laundering</b>					
<b>Integration</b>	0.53	0.50	142	0	1
<b>Price</b>	1.78	0.98	125	1	10
<b>Turnaround Time</b>	1.00	0.92	113	0	4
<b>Store Characteristics</b>					
<b>Korean Speaking</b>	0.42	0.50	142	0	1
<b>Located in Koreatown</b>	0.31	0.46	142	0	1
<b>Chain</b>	0.15	0.36	142	0	1
<b>Stores within 1/2 mile</b>	9.29	4.64	142	1	26
<b>Census Tract Characteristics by Store</b>					
<b>% Korean Speakers</b>	0.09	0.12	142	0	0.42
<b>Median Income</b>	38630.10	17832.13	142	8125	96691.00
<b>Apparel Expenditure per Capita</b>	575.01	204.99	142	136	1031.07
<b>Textile Expenditures per Capita</b>	38.61	18.26	142	6	139.34
<b>Emp. By Ethn Firm</b>	1286.16	978.29	142	11	3921.00
<b>Fem Emp by Ethn Firm</b>	593.29	472.62	142	2	1801.00
<b>Credit Score</b>	87.79	8.57	128	31	100.00
<b>Less than 2,500 sq. ft.</b>	0.68	0.47	128	0	1.00
<b>Employees</b>	3.48	5.28	112	1	35.00

This table presents summary statistics of the variables used in our statistical analysis.

**Table 2b. Summary Statistics of Koreatown Stores by Korean or Not**

	Korean			Non-Korean		
	Mean	Std. Dev.	Count	Mean	Std. Dev.	Count
<b>Dry Cleaning</b>						
<b>Integration</b>	0.48	0.51	27	0.71	0.47	17
<b>Price</b>	5.62	1.39	24	5.92	1.60	11
<b>Turnaround Time</b>	1.27	0.80	15	0.56	0.73	9
<b>Laundering</b>						
<b>Integration</b>	0.33	0.48	27	0.71	0.47	17
<b>Price</b>	1.66	0.35	23	1.95	0.67	11
<b>Turnaround Time</b>	1.40	0.74	15	0.78	0.67	9
<b>Store Characteristics</b>						
<b>Korean Speaking</b>	1.00	0.00	27	0.00	0.00	17
<b>Located in Koreatown</b>	1.00	0.00	27	1.00	0.00	17
<b>Chain</b>	0.11	0.32	27	0.06	0.24	17
<b>Stores within 1/2 mile</b>	12.22	6.70	27	9.71	3.51	17
<b>Census Tract Characteristics by Store</b>						
<b>% Korean Speakers</b>	0.26	0.10	27	0.16	0.11	17
<b>Median Income</b>	24893	7713	27	36910	30794	17
<b>Apparel Expenditure per Capita</b>	407.00	81.22	27	527.14	175.37	17
<b>Textile Expenditures per Capita</b>	24.45	6.75	27	35.03	15.16	17
<b>Emp. By Ethn Firm</b>	782.70	537.84	27	1281.77	893.78	17
<b>Fem Emp by Ethn Firm</b>	360.00	258.34	27	507.94	473.29	17
<b>Credit Score</b>	87.28	6.69	25	85.41	15.25	17
<b>Less than 2,500 sq. ft.</b>	0.88	0.33	25	0.88	0.33	17
<b>Employees</b>	1.53	0.70	19	1.87	1.30	15

This table presents summary statistics of the variables used in our statistical analysis for drycleaning stores located in Korea Town within our sample.

**Table 3. Integration Statistics by Social Network Status**

	<b>Dry Cleaning</b>	<b>Laundering</b>
<b>Korea Town</b>		
<i>Korean</i>	0.4815 (0.0980) 27	0.3333 (0.0925) 27
<i>Non Korean</i>	0.7059 (0.1139) 17	0.7059 (0.1139) 17
<b>Elsewhere</b>		
<i>Korean</i>	0.7576 (0.0758) 33	0.6061 (0.0864) 33
<i>Non Korean</i>	0.7231 (0.0559) 65	0.5231 (0.0624) 65
<b>Difference in Differences</b>	-0.2589 (0.1773)	-0.4555 (0.1813)

The table describes average integration incidence by service (dry cleaning or laundering), location (korea town or elsewhere) and language (korean or non-korean). Standard Errors are in parenthesis.

# Empirical Approach: Diff in Diff

$$v_i = \alpha K \times KT + \delta_K K + \delta_{KT} KT + \beta X + \gamma Z + \varepsilon$$

- Korean\*Koreatown proxies for enhanced reputations
- K controls for Korean specific factors, KT controls for Koreatown specific factors
- Identification problems lie in systematic differences between Koreans and Non-Koreans in Koreatown
  - We do not expect marginal cost determinants to systematically differ
  - There may be differences in demand characteristics: use controls, Z

**Table 4. OLS regressions with Conley Standard Errors**

**Dependent Variable: Integrate or Not**

	(1)	(2)	(3)	(4)	(5)
<b>Korean*Korea Town</b>	-0.6436 (0.1224)***	-0.3635 (0.1935)*	-0.4223 (0.1748)**	-0.5647 (0.1695)***	-0.4955 (0.2332)**
<b>DryCleaning</b>	0.6683 (0.0600)***	0.1778 (0.0448)***	0.1785 (0.0448)***	0.1693 (0.0488)***	0.1692 (0.0490)***
<b>Chain?</b>	0.0663 (0.0950)	-0.1452 (0.0828)*	-0.0971 (0.0819)	-0.0654 (0.1037)	-0.0934 (0.1050)
<b>Korean</b>	0.5202 (0.0780)***	0.0563 (0.1332)	0.1333 (0.1279)	-0.8256 (0.6939)	-10.0459 (7.7230)
<b>Korea Town</b>	0.5470 (0.0794)***	0.2254 (0.1576)	0.4000 (0.1354)***	0.6038 (0.6258)	10.9819 (6.9539)
<b>Korean*DryCleaning</b>	-0.3570 (0.1068)***	0.0154 (0.0794)	0.0153 (0.0797)	-0.0304 (0.0919)	-0.0410 (0.0929)
<b>Korea Town*DryCleaning</b>	-0.3583 (0.1122)***	-0.0968 (0.0862)	-0.0965 (0.0859)	-0.0555 (0.0948)	-0.0554 (0.0960)
<b>Credit Score</b>				-0.0044 (0.0064)	-0.0071 (0.0059)
<b>Korean*Credit Score</b>				0.0118 (0.0078)	0.0254 (0.0078)***
<b>Korea Town*Credit Score</b>				-0.0011 (0.0068)	0.0002 (0.0078)
<b>Less than 2,500 sq. ft.</b>				-0.2851 (0.0978)***	-0.2861 (0.0986)***
<b>Korean*Less than 2,500 sq. ft.</b>				0.0979 (0.1384)	0.1736 (0.1451)
<b>Korea Town*Less than 2,500 sq. ft.</b>				-0.0711 (0.1723)	-0.1507 (0.1916)
<b>Local Demand Interactions</b>	No	No	No	No	Yes
<b>Neighborhood Fixed Effects</b>	No	No	Yes	Yes	Yes
<b>Observations</b>	284	284	284	256	256

Robust Conley standard errors in parentheses. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

# Confounding Factors?

- Are there systematic demand differences for Koreans and non-Koreans within Koreatown?
  - Use employment of Asians/non-Asians based on Asian language of store
  - Allow for female employment separately
    - May have more explanatory power for dry-cleaning
  - Use median income to account for differences in purchasing power
  - Use apparel and textile expenditure per capita to account for differences in taste
  - Include log of local competition

**Table 5. Logit regressions with Conley Standard Errors**

**Dependent Variable: Integrate or Not**

	(1)	(2)	(3)	(4)	(5)
<b>Korean*Korea Town</b>	-1.5841 (0.5645)***	-1.6557 (0.9996)*	-1.8989 (0.8205)**	-2.9168 (0.9537)***	-2.4476 (1.4668)*
<b>DryCleaning</b>	1.0327 (0.2624)***	0.8581 (0.2182)***	0.9498 (0.2291)***	1.0320 (0.2776)***	1.0795 (0.2956)***
<b>Chain?</b>	-0.5685 (0.3808)	-0.6734 (0.3778)*	-0.4383 (0.3933)	-0.3151 (0.5716)	-0.4930 (0.7582)
<b>Korean</b>	0.3837 (0.3110)	0.2241 (0.6276)	0.7288 (0.6439)	-3.1542 (3.9097)	-79.0011 (52.5817)
<b>Korea Town</b>	0.6950 (0.3484)**	1.1836 (0.8737)	1.7240 (0.6564)***	3.1752 (3.7787)	45.6086 (61.2877)
<b>Korean*DryCleaning</b>	-0.0820 (0.4362)	0.0607 (0.4188)	0.0555 (0.4226)	-0.1010 (0.5804)	-0.1346 (0.6429)
<b>Korea Town*DryCleaning</b>	-0.5773 (0.4181)	-0.4690 (0.4395)	-0.5665 (0.4372)	-0.4533 (0.5771)	-0.4378 (0.6190)
<b>Credit Score</b>				-0.0173 (0.0364)	-0.0358 (0.0348)
<b>Korean*Credit Score</b>				0.0601 (0.0448)	0.1597 (0.0484)***
<b>Korea Town*Credit Score</b>				-0.0137 (0.0400)	0.0098 (0.0463)
<b>Less than 2,500 sq. ft.</b>				-1.6315 (0.5900)***	-1.6829 (0.5849)***
<b>Korean*Less than 2,500 sq. ft.</b>				-0.2861 (1.4831)	0.2020 (1.8982)
<b>Korea Town*Less than 2,500 sq. ft.</b>				0.3569 (1.4587)	-0.0213 (1.7519)
<b>Local Demand Interactions</b>	No	No	No	No	Yes
<b>Neighborhood Fixed Effects</b>	No	No	Yes	Yes	Yes
<b>Observations</b>	284	284	284	256	256

Robust Conley standard errors in parentheses. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

# Social vs. Business Networks?

- What is the underlying mechanism driving the result?
  - Common social institutions of customer base disciplines store behavior
  - Information sharing across stores of same business network disciplines store behavior
- Since firm entry depends on costs, store entry and location is endogenous to network formation ...
  - Instrument the business network variable
  - Still take social network as given ... not perfect but best we could do

**Table 6. Decomposing the Impact of Networks and Applying IV****Dependent Variable: Integrate or Not**

	<b>OLS</b>	<b>IV-OLS</b>	<b>Logit</b>	<b>IV-Probit</b>
<b>Korean*Pctg Kor Population</b>	-1.4567 (0.9496)	-1.5016 (0.8617)*	-5.3101 (6.9138)	-2.4942 (3.2253)
<b>Korean* Out Kor Stores w/in 5 m.</b>	-0.2543 (0.0695)***	-0.4367 (0.2006)**	-2.2177 (0.5339)***	-2.0346 (0.8530)**
<b>DryCleaning</b>	0.1573 (0.0535)***	0.1578 (0.0710)**	0.9790 (0.3342)***	0.5843 (0.2665)**
<b>Chain?</b>	-0.1136 (0.1066)	-0.1154 (0.0889)	-0.7228 (0.6272)	-0.3950 (0.3235)
<b>Korean</b>	-0.7862 (6.3246)	-1.1548 (5.7325)	-85.6505 (61.4854)	-49.3545 (32.6944)
<b>Percentage Kor Population</b>	0.7221 (0.8362)	0.8568 (0.6254)	1.2252 (4.1936)	1.6774 (2.2653)
<b>Outsourcing Kor Stores w/in 5 m.</b>	0.0468 (0.0591)	0.2633 (0.2010)	0.3587 (0.3814)	0.9697 (0.8127)
<b>Korean*DryCleaning</b>	-0.0405 (0.0941)	-0.0420 (0.1173)	0.0521 (0.6900)	0.0681 (0.4744)
<b>Korean*Pctg Kor Population</b>	-0.0112 (0.3669)	-0.0188 (0.4800)	-1.0229 (2.3849)	-0.6583 (1.8104)
<b>Credit Score</b>	-0.0055 (0.0043)	-0.0062 (0.0041)	-0.0256 (0.0244)	-0.0186 (0.0153)
<b>Korean*Credit Score</b>	0.0193 (0.0087)**	0.0205 (0.0091)**	0.1241 (0.0718)	0.0686 (0.0361)*
<b>Less than 2,500 sq. ft.</b>	-0.3234 (0.1013)***	-0.3960 (0.1030)***	-1.9087 (0.6785)***	-1.4134 (0.4324)***
<b>Korean*Less than 2,500 sq. ft.</b>	0.2596 (0.1649)	0.3429 (0.1969)*	-0.0394 (1.7963)	0.6810 (0.8639)
<b>Constant</b>	0.2885 (0.8946)	0.4577 (1.1300)	44.3906 (28.7608)	25.8417 (18.6167)

# Summary of Results

- Koreans in Koreatown less likely to integrate (i.e. more likely to outsource).
- Dry-cleaning is more likely to be integrated.
- Stores that are part of chains are less likely to integrate.

# Social Networks and Economic Performance

- If the social network is beneficial:
  - The costs of using the market have been lowered relative to the costs of managing activities within the firm.

# Social Networks and Boundaries of the Firm

## Benefits to Using The Market

- **Reputational capital of sellers**
  - Future rents from buyer
  - **Future rents from other buyers (and network members)**
- **Monitoring of sellers**
  - Buyers can observe cheating
  - **Other buyers can observe cheating**

## Disadvantages to Using the Market (not empirically validated)

## Benefits to Managed Coordination

(not empirically validated)

- Reputational capital of employees
  - Future rents from employer
  - **Future rents from other employers?**
- Monitoring of employees
  - Employers can observe cheating
    - Social Network does not provide additional monitors within the firm

## Disadvantages to Managed Coordination

- Negative effects of employing agents within the network
  - **Potentially hire poor labor as a favor**
    - However, poor performance will damage that persons reputational capital.

# Boundaries of the Firm

- The role of opportunism
  - Klein, Crawford and Alchian (1978) and Williamson (1975) ... ex-post bargaining or hold-up problems in the presence of asset specificity.
  - Laundry services lacks hold-up potential
    - Assets are not specific
    - Cleaning is outsourced with spot transactions.

# Opportunism w/o specific assets

- Klein and Leffler (1981)
  - Opportunism concerns can arise if firms lack incentives to deliver expected quality
  - Communication between buyers affects the premium stream a firm needs to deliver expected quality
- In a B2B context
  - Greater communication can lead to lower input prices or greater delivered quality
    - More willing to use the market

# Opportunism w/o specific assets in laundry services

- Empirical finding of less VI in social networks is consistent with this.
- Quality concerns are more important in dry cleaning than any other industry.
  - Greater for dry cleaning than laundry
    - Garments are more expensive and sensitive
- Empirical finding of more VI in dry cleaning than laundry, despite greater integration costs.

# Access to Credit in Networks?

- Developing countries
  - Social/ethnic networks support reputation that leads to greater access to credit
- Developed countries
  - Formal credit institutions are stronger
  - Kalnins and Chung (2004) suggest possibility for hotels
  - Implies VI would be easier
    - If true, effect is dominated by greater ability to “use the market”

# Another Possible Credit Interpretation

- Koreans in Koreatown have less access to formal credit markets
  - May be more likely to be immigrants
  - Credit constraints could reduce ability to vertically integrate.
- If true, then credit access created by networks is vastly inferior to formal credit markets.
- We control for store owner's credit score

# Conclusions

- Social network members are less likely to vertically integrate.
- This supports the notion that better outsourcing opportunities may help explain the relationship between social networks and vertical integration.
- VI appears to be affected by opportunistic concerns in the absence of firm specific assets.
- The role of access to credit in a social network is diminished in this developed country context.

# **Adaptation and Vertical Integration in the Airline Industry**

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# The Research Question

**Does vertical integration mitigate incentive problems that arise under incomplete contracts by facilitating adaptation decisions?**

Approach:

- Setting is the US regional airline industry
- Simple framework of benefits and costs of VI in this industry
- Benefits of VI result from facilitating the execution of adaptation decisions when unforeseen disruptions necessitate real-time adjustments
- Costs of VI result from institutional characteristics of the industry
- Identify market characteristics that affect the value of having adaptation decisions resolved optimally
- Test trade-off between these costs and benefits with data on use of owned and independent regional carriers by 7 major airlines on city pairs between top 300 U.S. airports in the spring of 2000

# Why Are We Interested in VI?

- Understanding the costs and benefits of vertical integration (VI) is a central question in industrial organization and organizational economics (e.g. inform merger policy).
- Much of IO literature has focused on double marginalization and on anti-competitive motivations for VI.
- Transaction cost and property rights theory have emphasized residual control rights as a benefit of common ownership when contracts are incomplete. Difficult to test empirically because limited in what is observable.
- Tadelis (2002) suggests that contracts may deliberately be left incomplete to facilitate *ex post* adaptation decisions.

# Why the Regional Airline Industry?

1. **Several features that make it particularly suitable for an empirical investigation of vertical integration decisions:**
  - Clear definition of “upstream” and “downstream” activities. For all major network carriers, **all** turboprop and regional jet flights are operated by regional partners.
  - There is variation both *across* and *within* airlines in whether they use independent or owned regional partners (owned regionals are wholly-owned subsidiaries). All major airlines use several regional partners.
  
2. **Benefits of vertical integration result from operational and institutional features of the industry and can be linked to observables:**
  - Network structure of industry makes adaptation decisions frequent and potentially costly:
    - Disruptions in one part of the network may necessitate adaptations in many parts of the network.
    - Adaptations to disruptions must be based on optimization of network, not just “transaction” – i.e.: there are externalities across transactions.

# The Role of Regional Airlines

- Regional airlines operate as subcontractors for large network carriers – “major airlines”. The routes they operate are short and medium-haul, typically low-density routes.
- Regionals operate under codeshare agreements on behalf of majors:
  - Majors market and ticket the flight under their own code
  - Regionals use brand/logos of major (e.g. Delta Connection)
  - Schedules, check-in, baggage handling are coordinated or even dictated by major (Note that regional retains no significant identity of its own)
- Other Characteristics:
  - Service by regional jet or turbo-prop, mostly planes with 30-70 seats
  - 84.6 million passengers in 2000 ( about 20% of total domestic)
  - 25.27 billion in 2000 ( about 10% of total domestic)
  - Total fleet size (as of Jan. 1, 2004): 2,569 (RJs are 53%)
  - Over 15,000 daily regional airline departures in 2004
  - 655 U.S. commercial airline airports are served by regional airlines (as of Jan. 1, 2005)479 airports are served exclusively by regional airlines

# Top 10 Regional Carrier Airports – 2000 Operations

## DAILY NONSTOP DEPARTURES BY U.S. CARRIERS

RANK	AIRPORT	CODE	REGIONAL/		TOTAL	PERCENT
			COMMUTE	OTHE		REGIONAL/
			R	R		COMMUTE
						R
1	CHICAGO, IL	ORD	523	718	1,242	42.1
2	CINCINNATI, OH	CVG	456	156	613	74.4
3	DALLAS/FT. WORTH, TX	DFW	409	619	1,028	39.8
4	ATLANTA, GA	ATL	408	797	1,205	33.9
5	PITTSBURGH, PA	PIT	273	148	421	64.8
6	HOUSTON, TX	IAH	265	316	581	45.6
7	NEW YORK, NY	LGA	254	253	508	50.0
8	DENVER, CO	DEN	252	425	677	37.2
9	CHARLOTTE, NC	CLT	238	279	517	46.0
10	DETROIT, MI	DTW	230	384	614	37.5

# Why Do Majors Use Regional Airlines?

- Regionals have a cost advantage on the routes that they serve.
  - Primarily labor cost savings due to lower salaries paid to regional airline employees
  - Potentially gains to specialization
- Regionals are either:
  1. Independently owned and contract with one or more major carriers
  2. Wholly-owned by the major with which they partner (but maintain separate labor contracts and operations)
- There is substantial heterogeneity *across* majors in whether or not they own their regionals. There is also heterogeneity *within* majors – some have owned regionals but also contract with others
- Wholly-owned regionals could, in principle, contract for other majors but never do so in practice.

**Codeshare Arrangements and Ownership in 2000 (bold are owned)**

MAJOR	REGIONAL PARTNER
American Airlines	<b>American Eagle Airlines , Business Express</b>
Continental Airlines	<b>Continental Express</b> , Gulfstream International Airlines
Delta Air Lines	Atlantic Coast Airlines, <b>Atlantic Southeast Airlines, Comair</b> , SkyWest Airlines, Trans States Airlines
Northwest Airlines	<b>Express Airlines</b> , Mesaba Aviation
Trans World Airlines	Chautauqua Airlines, Trans States Airlines
United Airlines	Air Wisconsin, Atlantic Coast Airlines, Great Lakes Aviation, SkyWest Airlines
US Airways	Mesa Air Group/Air Midwest, <b>Allegheny Airlines</b> , Mesa Air Group/CCAair, Chautauqua Airlines, Colgan Airways, Commutair, Mesa Air Group/Mesa Airlines, <b>Piedmont Airlines, PSA Airlines</b>

# Differences Between Owned and Independent Regionals

- Different responses to unanticipated schedule disruptions
- **Example: bad weather necessitating reduction in takeoffs/landings:**
  - Wholly-owned regionals have an incentive to act in the best interest of the major
  - Independent regionals' incentives not fully aligned with the major's: May "drag their feet" in carrying out the schedule changes requested by the major
- Labor cost differential: demand for higher salaries harder to resist when regional employees are part of the same organization
- Costs of managing two distinct labor forces that perform similar tasks but for very different pay and benefits

# Incentive Problems between Majors and Regionals

- Majors and regionals interact on 2 types of decisions:
  1. Ex ante scheduling decisions
  2. Real-time adjustments to planned schedules
- *Ex ante* scheduling decisions are specified by contracts, but real-time schedule adjustments are not → **Contracts are incomplete**
- Different incentives for majors and independent regionals when schedule disruptions occur (re-optimization based on entire network versus route)
  - Incentive problems either lead to (costly) renegotiation or to an outcome that is not optimal from the major's perspective
- Ownership can mitigate incentive problems because regional carries out the schedule adjustments that the major requests
  - **This is the benefit of vertical integration in this industry.**
  - **Cost of VI:** Wholly-owned regionals have higher operating costs.

# Empirical Propositions

- If ownership mitigates incentive problem, then the likelihood of ownership should increase with the size of the incentive problem
- Magnitude of incentive problem varies across routes with:
  - costliness of adaptation decisions
  - frequency of adaptation decisions
- 2 sources of variation in these:
  - **Network structure**: Incentive problem greater when a route is more integrated into the major's network because schedule adjustments more frequent and because of externalities across routes
  - **Weather patterns**: When adverse weather more common, then schedule adjustments necessary more often
- Assume cost difference between owned and independent regionals constant across routes after controlling for distance

# Empirical Approach

- Construct *airline-city pair*-level variables that measure the magnitude of the incentive problem between majors and regionals
- Estimate the impact of these variables on the likelihood of using an owned regional on a particular city pair in a simple logit model
- Estimation is cross-sectional but can exploit within-airline variation in organizational form
- As robustness check, estimate decision of what type of regional to use at a particular airport

# Data

## 3 sources of data:

1. OAG Flight Schedule Data
  - Complete flight schedules for all airlines
  - Identifies if a major's flight is operated by a regional and, if so, which regional
  
2. RAA Data on Partnerships and Ownership
  - Lists partnerships between majors and regionals and whether regionals owned or not
  
3. Spatial Climate Analysis Service
  - For weather variables

# Sample

- 2000, 2<sup>nd</sup> quarter
- 7 majors (AA, CO, DL, NW, TW, UA, US), 20 regionals
- CO, DL, NW and US have both owned and independent regionals
- City pairs between top 300 U.S. airports
- City pairs on which regional operates at least one flight/day
- Level of observation is the “airline-city pair” (not directional)

# Variables

VARIABLE NAME	DEFINITION	SOURCE
OWNED_REGIONAL (dep. variable)	= 0 if airline operates city pair through an independent regional partner, = 1 if airline operates city pair through a regional partner which it owns	OAG and RAA
HUB	= 1 if either endpoint is carrier's hub	Authors' construction
FREEZING	= Average # of months per year in which average daily minimum temperature is below 0 Celsius; maximum of the two endpoint airports of a city pair (based on 1970-1995 data)	Spatial Climate Analysis Service
PRECIP	= Average annual precipitation, in millimeters; maximum of the two endpoint airports of a city pair (based on 1970-1995 data)	Spatial Climate Analysis Service

## Variables – cont.

VARIABLE NAME	DEFINITION	SOURCE
FREEZ_PRECIP	= Average annual precipitation, in millimeters, during months in which the average daily minimum temperature is below 0 Celsius; maximum of the two endpoint airports of a city pair (based on 1970-1995 data)	Spatial Climate Analysis Service
LARGER_FLIGHTS	= Major's # of departing domestic flights on other city pairs from endpoint at which it is larger, in hundreds	OAG
SMALLER_FLIGHTS	= Major's # of departing domestic flights on other city pairs from endpoint at which it is smaller, in hundreds	OAG
DISTANCE	= Distance of the route, in hundreds of miles	Authors' construction

## Summary Statistics

<b>VARIABLE NAME</b>	<b>N</b>	<b>MEAN</b>	<b>ST. DEV.</b>	<b>MIN</b>	<b>MAX</b>
<i>Regional</i>	1745	0.44	0.50	0	1
<i>Owned Regional, given Regional=1</i>	773	0.58	0.49	0	1
<i>Hub</i>	1745	0.76	0.43	0	1
<i># of Flights at Larger Endpoint</i> (in 00s)	1745	3.58	2.13	0.02	8.3
<i># of Flights at Smaller Endpoint</i> (in 00s)	1745	0.19	0.41	0	4.9
<i>Precipitation</i>	1745	37.3	8.7	6.5	55.9
<i>Snowfall</i>	1745	33.5	25.1	0	118.1
<i># of Freezing Months/Year</i>	1745	3.26	1.58	0	6.3
<i>Distance</i> (00s of miles)	1745	5.57	3.63	0.2	15
<i>Slot</i>	1745	0.20	0.40	0	1
<i>Population at Larger Endpoint</i> (in 000s)	1745	6716	5794	89.3	20197
<i>Population at Smaller Endpoint</i> (in 000s)	1745	1637	1592	63.2	8886

# Estimation

- Airline-city pairs on which regional carriers are used
- Nested logit estimation, top-level decision of whether to use major or regional, bottom-level decision between owned and independent regional (conditional on having chosen a regional)
- Dependent Variable:  
OWNED\_REGIONAL = 1 if major uses owned regional on city pair
- City pair-level estimation on full sample of 7 majors without airline dummies
- City pair-level estimation on 4 majors which have both types of regionals, including dummies for major airlines
- Airport-level estimation on full sample of 7 majors

# Identifying Assumptions

- No omitted factors that affect the relative returns to owned vs. independent regionals
  - For example, no systematic cost differences between owned and independent regionals across routes, after controlling for route characteristics
- Network structure is predetermined
  - Hubs were established before regional flights became a large share of operations
  - Cost of moving hubs very high

# Nested Logit Model – Bottom Nest

	(4-1)	(4-2)	(4-3)	(4-4)
<b>Panel A: Bottom Nest</b>	<i>Dependent Variable = 1 if Owned Regional is Used</i>			
<b>Hub</b>	1.418 (0.204)**	0.959 (0.281)**	3.450 (0.377)**	3.464 (0.433)**
<b>Precipitation</b>	0.022 (0.005)**	0.004 (0.005)	0.015 (0.006)*	0.002 (0.006)
<b>Snowfall</b>	0.020 (0.005)**	0.020 (0.005)**	0.022 (0.006)**	0.019 (0.006)**
<b># of Freezing Months/Year</b>	-0.699 (0.087)**	-0.725 (0.091)**	-0.733 (0.121)**	-0.712 (0.122)**
<b>Distance</b>	0.028 (0.040)	0.032 (0.040)	-0.119 (0.063)+	-0.088 (0.062)
<b>Slot</b>	0.617 (0.222)**	0.561 (0.225)*	1.339 (0.369)**	1.137 (0.382)**
<b># of Flights at Larger Endpoint</b>		0.238 (0.063)**		0.031 (0.071)
<b># of Flights at Smaller Endpoint</b>		2.230 (0.451)**		2.301 (0.533)**

# Nested Logit Model – Top Nest

<b>Panel B: Top Nest</b>	<i>Dependent Variable = 1 if Any Regional is Used</i>			
<b><i>Hub</i></b>	0.060 (0.161)	0.270 (0.168)	1.037 (0.383)* *	1.502 (0.395)**
<b><i>ln(Population at Larger Endpoint)</i></b>	0.856 (0.064)**	0.841 (0.065)**	0.796 (0.081)* *	0.735 (0.082)**
<b><i>ln(Population at Smaller Endpoint)</i></b>	-0.713 (0.071)**	-0.664 (0.073)**	-0.599 (0.088)* *	-0.500 (0.092)**
<b><i>Distance</i></b>	-0.432 (0.025)**	-0.439 (0.028)**	-0.510 (0.042)* *	-0.525 (0.045)**
<b><i>Slot</i></b>	-0.852 (0.174)**	-0.774 (0.189)**	-0.416 (0.300)	-0.115 (0.326)
Carrier dummies	No	No	Yes	Yes
Observations	1745	1745	1162	1162

# Hub Routes vs. Non-Hub Routes: Bottom Nest

	(5-1)	(5-2)	(5-3)	(5-4)
	Hub Routes	Hub Routes	Non-Hub Routes	Non-Hub Routes
<b>Panel A: Bottom Nest</b>	<i>Dependent Variable=1 if Owned Regional is Used</i>			
<i>Precipitation</i>	0.086 (0.009)**	0.058 (0.010)**	-0.006 (0.011)	-0.013 (0.009)
<i>Snowfall</i>	0.019 (0.006)**	0.024 (0.006)**	0.020 (0.011)+	0.024 (0.008)**
<i># of Freezing Months/Year</i>	-0.874 (0.119)**	-0.947 (0.123)**	-0.377 (0.163)*	-0.549 (0.154)**
<i>Distance</i>	-0.009 (0.050)	-0.003 (0.049)	0.015 (0.115)	-0.122 (0.091)
<i>Slot</i>	0.365 (0.318)	0.303 (0.326)	0.792 (0.330)*	0.306 (0.340)
<i># of Flights at Larger Endpoint</i>		0.182 (0.071)*		1.444 (0.329)**
<i># of Flights at Smaller Endpoint</i>		4.864 (1.108)**		-0.768 (0.719)

# Hub Routes vs. Non-Hub Routes: Top Nest

Panel B: Top Nest

*Dependent Variable=1 if Any Regional is Used*

<i>ln(Population at Larger Endpoint)</i>	0.815 (0.070)**	0.807 (0.071)**	0.931 (0.168)**	0.850 (0.150)**
<i>ln(Population at Smaller Endpoint)</i>	-0.684 (0.081)**	-0.612 (0.083)**	-0.805 (0.158)**	-0.767 (0.159)**
<i>Distance</i>	-0.419 (0.028)**	-0.432 (0.030)**	-0.513 (0.057)**	-0.495 (0.058)**
<i>Slot</i>	-1.430 (0.221)**	-1.500 (0.231)**	0.114 (0.478)	0.014 (0.327)

# Weather and Flight Delays

- Explore the relationship between *actual* weather and *actual* delays to check our hypotheses about adverse weather and the frequency of adaptation decisions
- We do not have data on delays of regional carriers, but do have data on delays of major carriers
  - These carriers always operate their own flights so we do not need to worry about correcting for selection into vertical integration
- Data:
  - Monthly precipitation and monthly average minimum temperature for all airports in our sample for all months, 1998 – 2000
  - Average flight delays for each major on all city pairs served in each of these months between airports in our sample
- Regress actual flight delays on actual monthly weather variables

# Weather and Flight Delays - Results

	<i>Dependent Variable = Average Arrival Delay on the Day</i>			
	(A1-1)	(A1-2)	(A1-3)	(A1-4)
<b><i>Precipitation</i></b>	0.1097 (0.0008)**	0.1106 (0.0008)**	0.1107 (0.0008)**	0.1107 (0.0008)**
<b><i>Below Freezing</i></b>	-0.5537 (0.0433)**	-0.6633 (0.0435)**	-0.7650 (0.0440)**	-0.7715 (0.0440)**
<b><i>Below Freezing * Precipitation</i></b>	0.2649 (0.0049)**	0.2650 (0.0049)**	0.2631 (0.0049)**	0.2631 (0.0049)**
<b><i>Hub</i></b>	0.8398 (0.0516)**	0.4634 (0.0530)**	2.0204 (0.1557)**	-- --
Fixed effects	None	Carrier	City Pair	Carrier-City Pair
Observations	1,520,703	1,520,703	1,520,703	1,520,703

# Weather and Flight Delays – Results cont.

- Find that delays are longer when there is more precipitation, esp. more precipitation during cold months
- Delays longer at hubs (consistent with Mayer/Sinai, 2003)
- Surprising: Delays *shorter* in cold and dry areas compared to warm and dry areas (though consistent with pattern in ownership regressions)
- Possible explanation:
  - These areas tend to have low population density. E.g. CO, MT, UT, WY.
  - No airport expansion but rapid population growth in warm and dry areas. E.g. AZ, CA, NV

# Conclusions

- Vertical integration is more likely when:
  - Adaptation decisions more costly (due to integration into network)
  - Adaptation decisions more likely (due to adverse weather)
- Results are robust to limiting sample to airlines with “both types” and to estimating at the airport level
- Results suggest that ownership is used to mitigate incentive problems that arise under incomplete contracts
- Compared to previous empirical work on this issue:
  - We do not exploit asset specificity, but variation in costliness and frequency of adaptation decisions that result from operational characteristics of industry – in particular, integration of transactions into a network
  - Costs of integration result from institutional characteristics of this industry

# 2<sup>nd</sup> Part of the Lecture

Value Creation by Downsizing and Exit

And

The Market for Corporate Control

# General Dynamics

Dial and Murphy, *JFE* 1994

- GD was the 3rd largest defense contractor in the world as the Berlin Wall fell in 1989
- 1991: 1.05B market value; \$23B backlog
- CEO William Anders
  - Changed the strategy to efficiently liquidate the backlog (and much of the company)
  - Put a strong incentive compensation plan in place
  - Created about \$4.5B in shareholder value over a three-year period

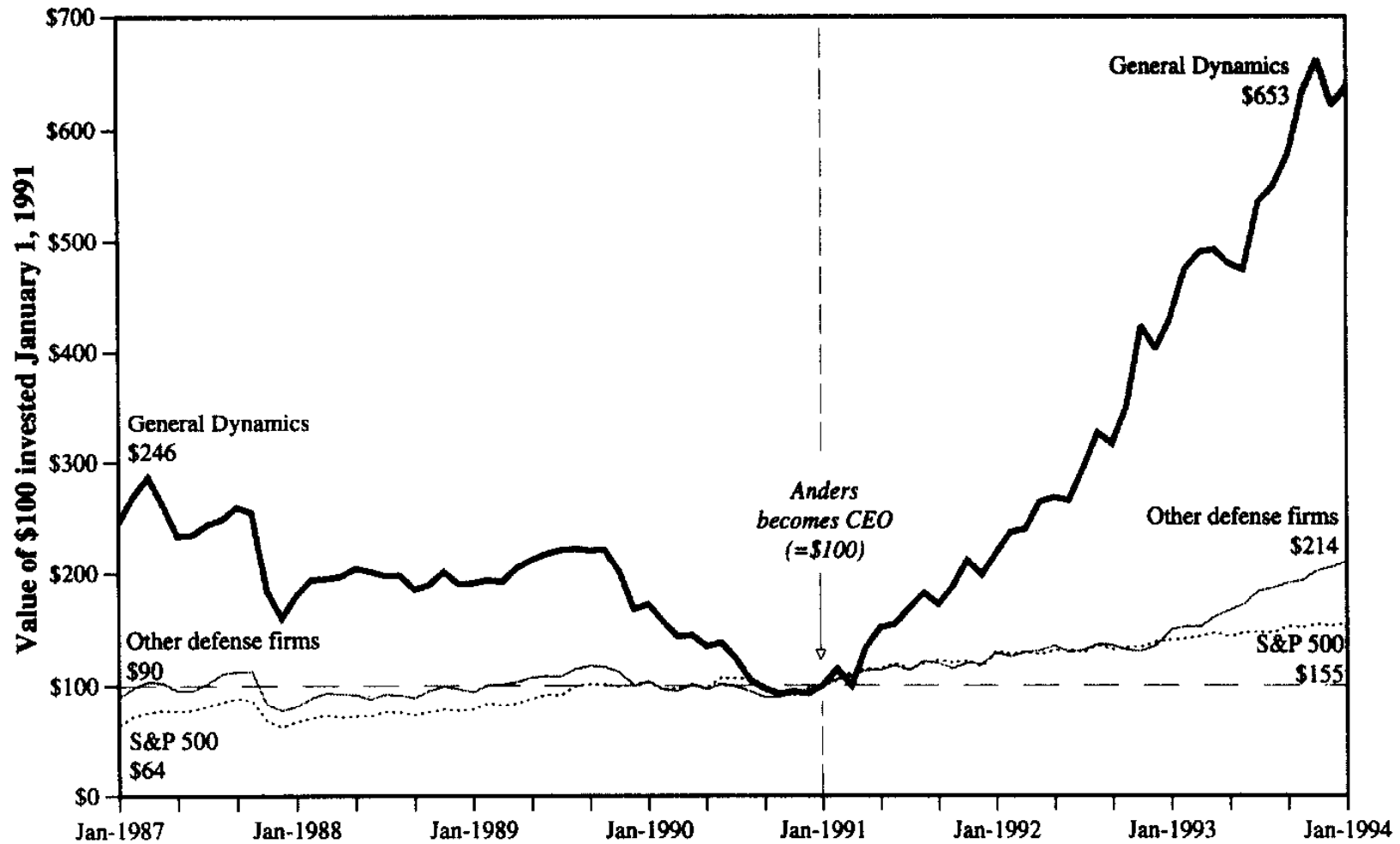


Fig. 1. Value of investment worth \$100 on January 1, 1991 in General Dynamics, other defense firms, and the S&P 500, 1987–1993.

Returns assume that dividends and proceeds from repurchases are reinvested. Other defense firms include those listed in Table 7 (excluding General Dynamics). Weights for industry value-weighted returns are 1/1/91 market capitalizations.

# Change of Mindset

- Cold war is over and expected PERMANENT decline in demand for major weapons platforms
- Efficient response moving human and physical capital from defense sector to alternative higher-valued uses
  - This will happen anyway in the LR
- How to do this?
  - Traditional executive incentive packages will not work because optimal when size and value creation are correlated
  - Need to set up new incentive package that correlates downsizing with value creation

# Company Background

- GD since 1899
- Major supplier in WW I and II
  - “GM of the weapon industry”
- Will Anders hired in 1989 as vice-chairman
  - Air Force pilot and Apollo 8 astronaut
  - Spent 1<sup>st</sup> year studying LR for the firm
    - 80% revenues from Pentagon
    - GD headed towards serious financial trouble
  - CEO since January 1<sup>st</sup> 1991

# Anders's Initiatives as CEO

- Transform GD into shareholder-driven enterprise
- Change executive compensation
  - 25 top exec gain/sharing bonus for improvement in stock price
  - 150 upper-level exec accel stock options and restricted stock grants
  - 1,150 managers and execs “option exchange”
- Transition from bonus based on accounting performance to stock market performance

# GD's Performance 1991

- May 1<sup>st</sup> compensation plan approved
- First Gain-Sharing payoff within a week
  - Same time, announcement of massive layoffs
  - Negative PR campaign from Pentagon
- Sale of Data Systems unit for \$184 m on 9/22
  - Second Gain-Sharing payoff on 10/8
  - PR nightmare continues

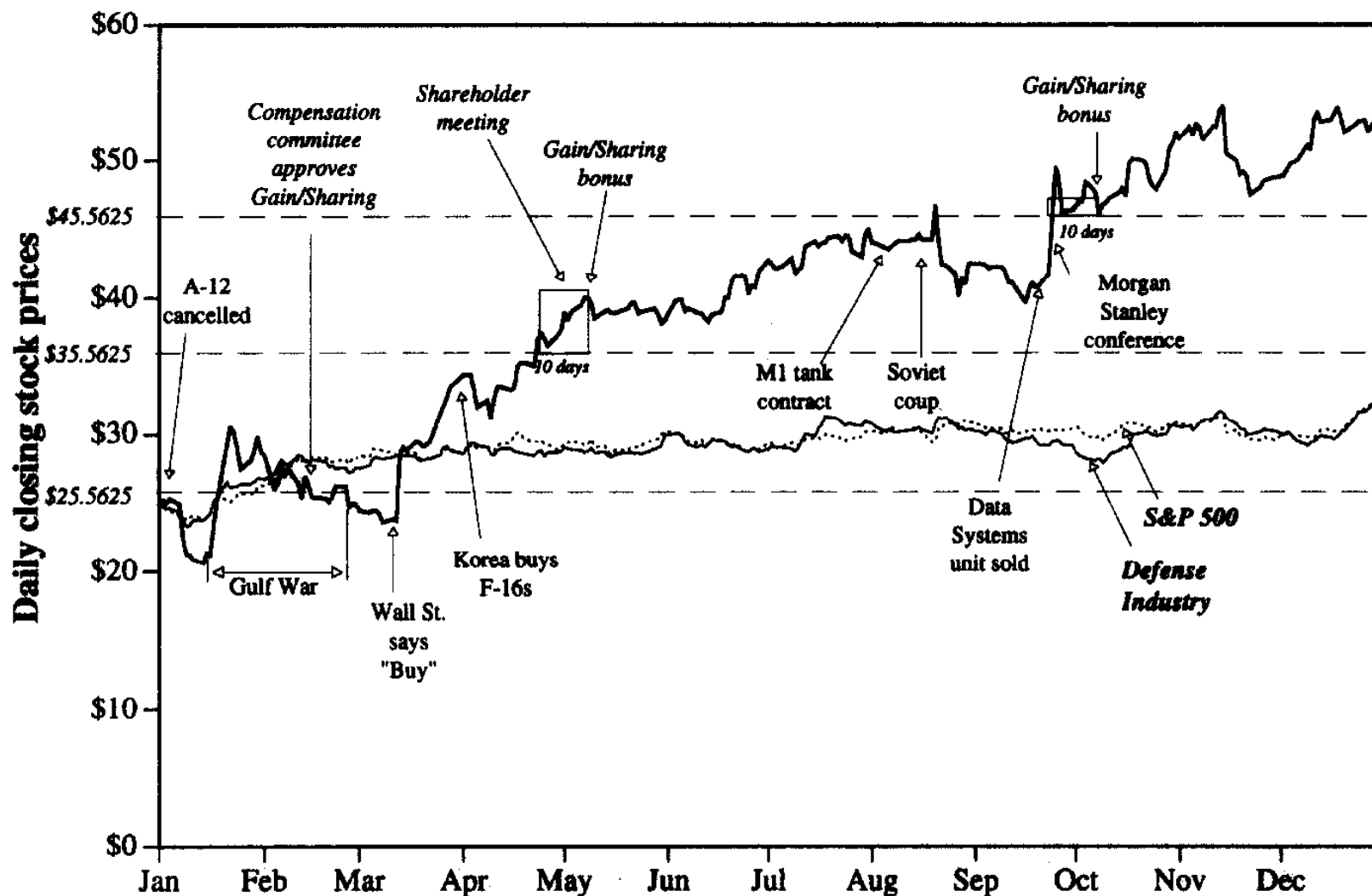


Fig. 2. Stock-price performance of General Dynamics, 1991.

Daily stock prices from Dow Jones News Retrieval and Compustat. GD-related events from company press releases, analyst reports, and the *Wall Street Journal*. Industry and S&P 500 prices are determined by appreciating GD's January 1, 1991 price by the cumulative returns on the industry and S&P 500 portfolios.

# Political Cost to Anders' Plan

- Nobody had been able to join efforts of politicians, labor unions, GD employees and shareholder groups
- Great quote,  
“ ... this ill-conceived plan smacks of the Marie Antoinette School of Management ...”
- Media did not see with good eyes simultaneity of massive layoffs and substantial exec bonuses

# Morgan Stanley Conference

- In September 1991 Anders announced at a conference the core of his plan
  - Downsize GD through specialization
  - Separate all non-defense companies
  - Between 9/1991 and 12/1993 sales for more than \$3 billion and reported sales of \$3.2 billion (down 66% from 1991)
  - 73% employment reduction (98K to 27K)
    - HQ from 650 to 200
- Leader in defense industry

# GD's Performance 1993

- GD's cash balance grew from \$100 m in 1/1991 to over \$4 b in 12/1993
- By 12/1993 had returned \$3.4 b to shareholders and debtholders, remaining cash balance of \$600 m
- Plus millions in bonuses and exec compensation
- Anders renounced as CEO in 3/1993 and from board of directors in 3/1994

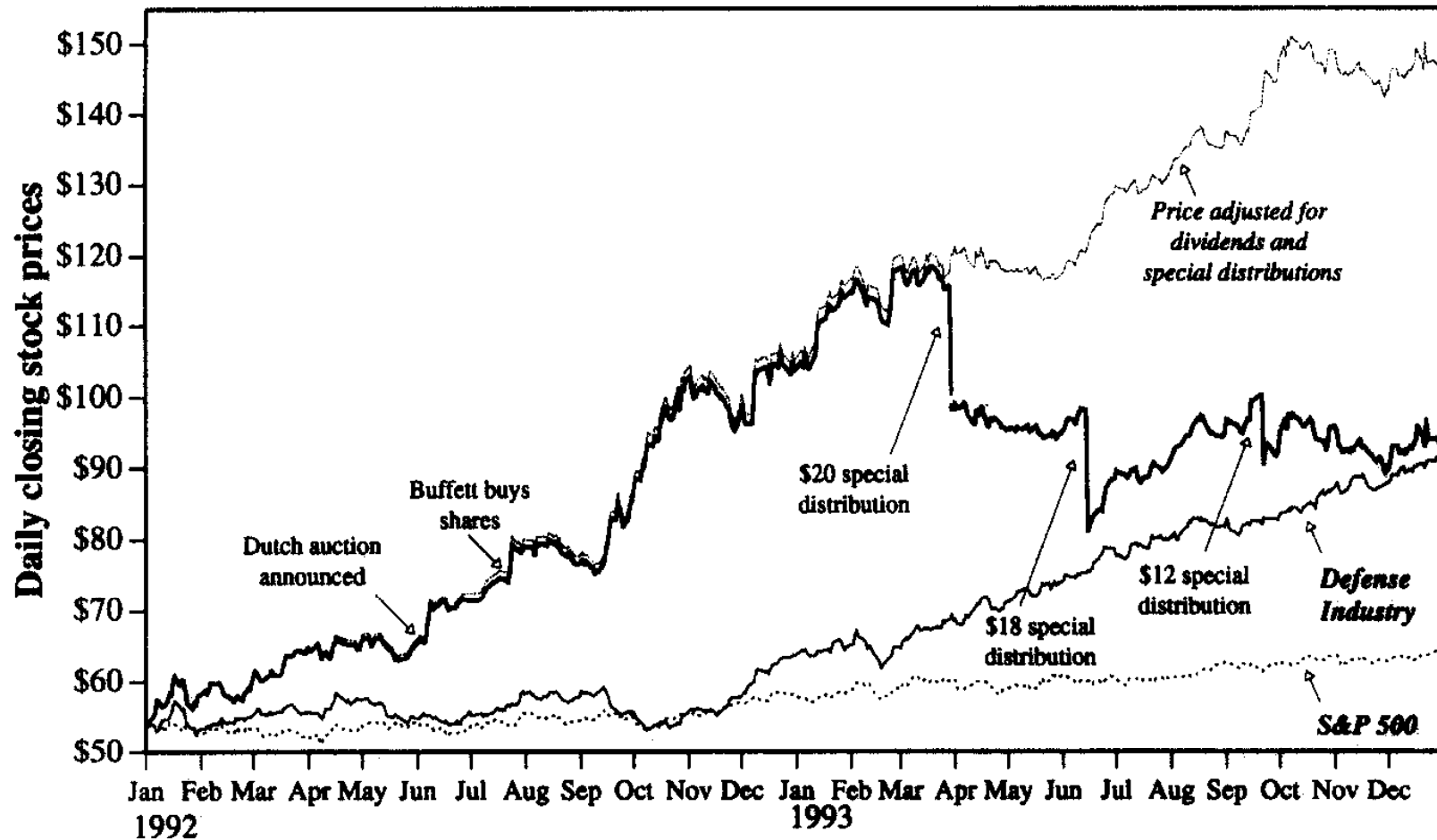


Fig. 3. Stock-price performance of General Dynamics, 1992–1993.

Daily stock prices from Dow Jones News Retrieval and Compustat. GD-related events from company press releases, analyst reports, and the *Wall Street Journal*. Industry and S&P 500 prices are determined by appreciating GD's January 1, 1992 price by the cumulative returns on the industry and S&P 500 portfolios.

# Overall GD Performance

- GD facilitated consolidation in defense industry as other firms followed its strategy
  - \$10 b returned to shareholders by 1994
- \$4.5 b gain in GD
  - \$2.3 b directly related to Anders' strategy
  - \$2.1 b market, industry and exog factors

# Insights and findings

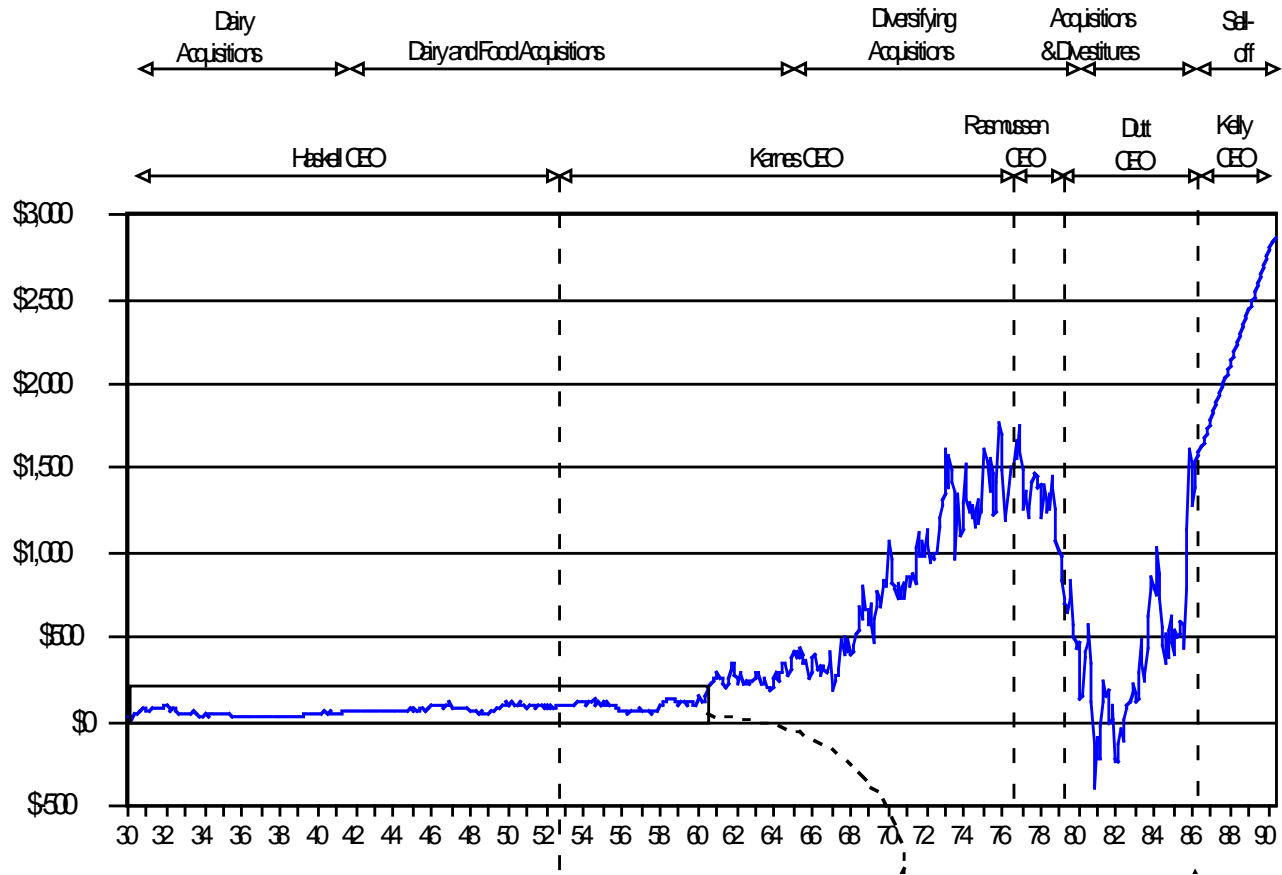
- Economic value was created from efficiently shrinking the organization
  - Putting assets to their highest-valued use
  - Even in a shrinking industry
  - Trade-off between political costs and economic benefits of downsizing
- Doing so may have required strong incentives for management
- Lesson may apply to overcapacity in non-profit sector (hospitals)

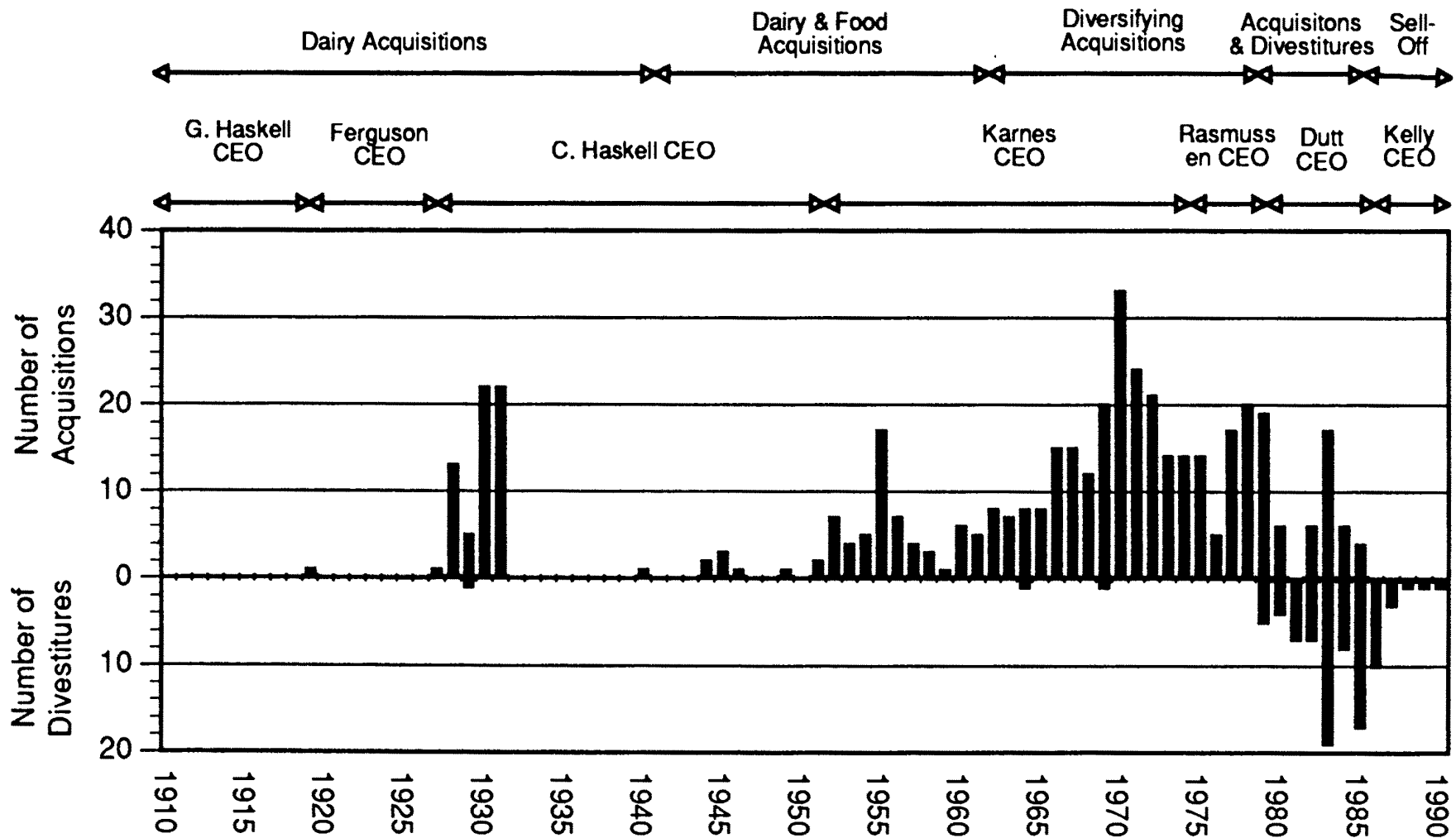
# Beatrice: A Study in the Creation and Destruction of Value

Baker, *Journal of Finance* 1992

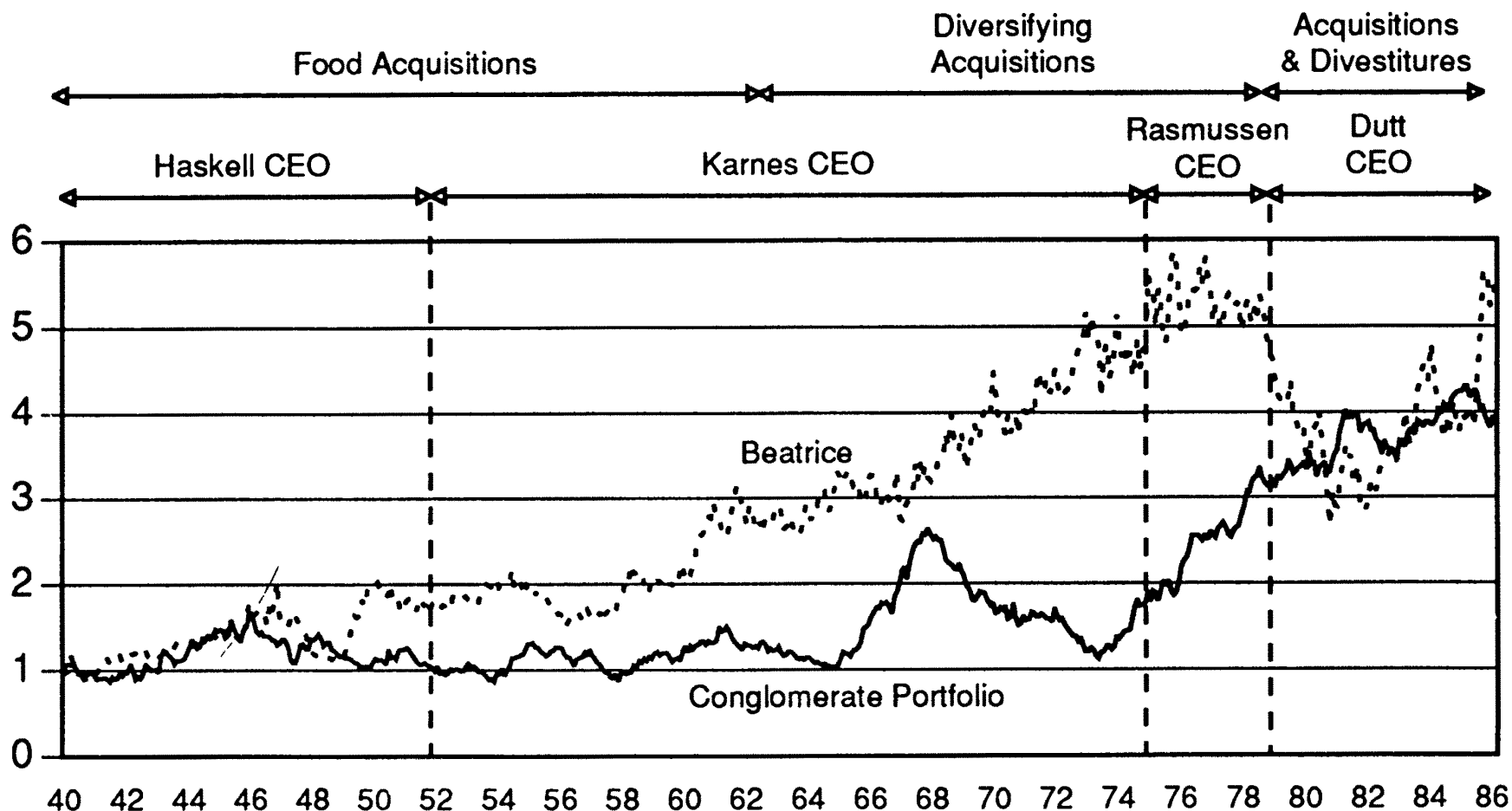
- Follow history of Beatrice from its founding in Beatrice, Nebraska in 1891 as Haskell & Bosworth
  - Middle-man distributors between producers and retail outlets
  - 1897 incorporated as Beatrice Creamery Company to enter rapidly growing dairy industry
- With George Haskell as CEO, slow growth through acquisitions geographically close
  - In 1905, B acquired Continental Creamery from Topeka, KS and became largest creamery in the world

# Beatrice: A Study in the Creation and Destruction of Value





**Figure 2. Number of acquisitions and divestitures by year, 1910–1990.**

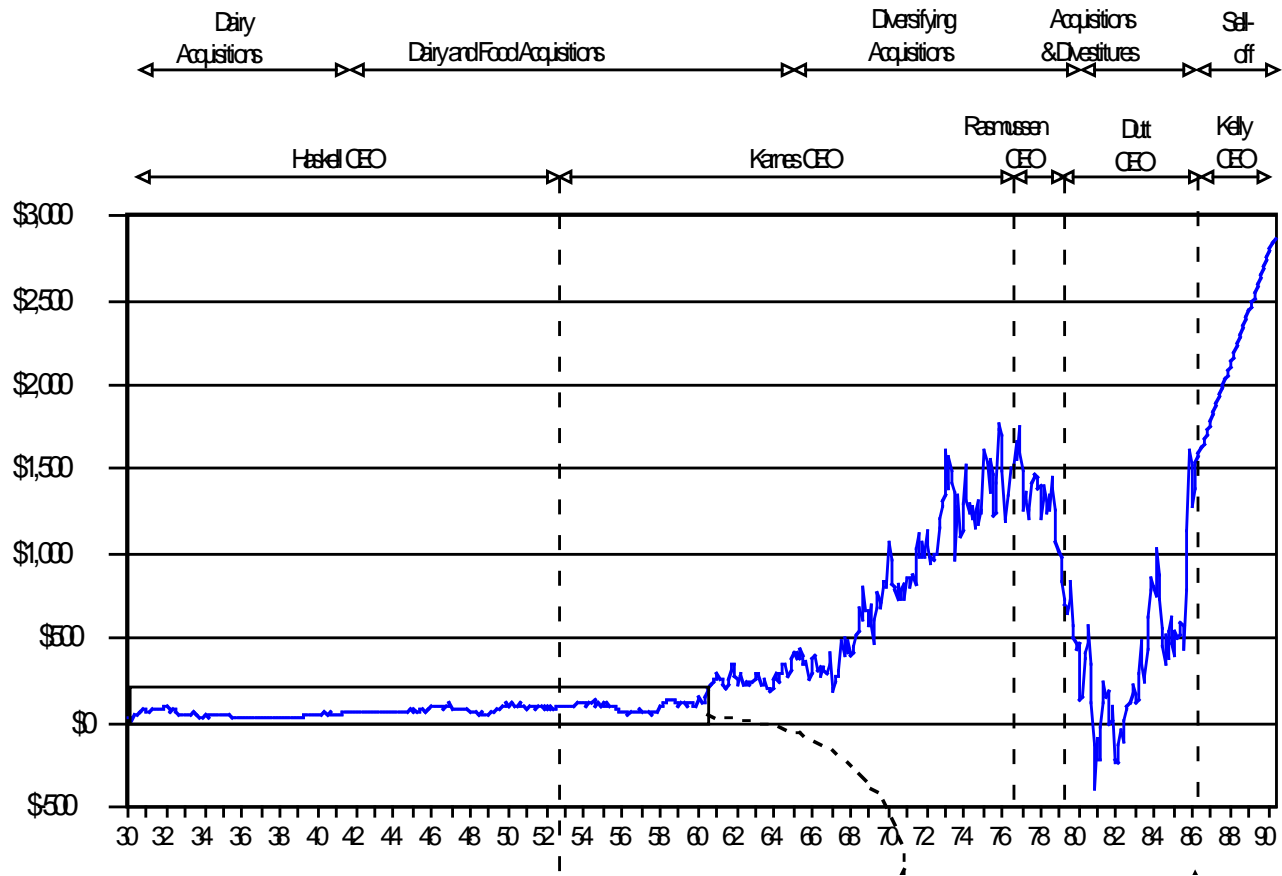


**Figure 10. Stock market performance of Beatrice and a portfolio of conglomerates, 1940–1986.** Conglomerate portfolio is made up of companies in *Business Week's* list of conglomerates for three out of four years 1972, 1975, 1980, 1985. The companies are Avco, Colt Industries, Household International, IC Industries, Kidde, LTV, Martin Marietta, Gulf & Western, Signal, Teledyne, Textron, and Whittaker. The performance index is calculated as follows: expected returns for Beatrice are generated using the Capital Asset Pricing Model, with betas estimated using a 60-month moving window. The performance index is the ratio of Beatrice's cumulative (multiplicative) actual return divided by Beatrice's cumulative expected return. The performance index for the conglomerate portfolio is calculated in the same manner.

## History of Beatrice (cont.)

- 1928, Clinton Haskell (nephew of George Haskell) becomes president of Beatrice
- Three new goals
  - Expand creamery
  - Diversify into other product lines
  - Geographical expansion to East Coast
- To do so, 1929 NYSE accepts Beatrice application for listing
- Between 1929-39 slow growth through close geographic acquisition (decentralization) ... economies of scale in mktg and production

# Beatrice: A Study in the Creation and Destruction of Value



# History of Beatrice: 1940-1976

- 11/1/1943, acquisition La Choy Food (Archbold, OH)
  - Becomes Beatrice Foods Company
- Haskell died in 1952 and William Barnes takes over accelerating expansion under same rules
  - Acquisition of small companies geog. close by
  - Decentralized structure
  - Provision of access to financial and managerial capital
- 1952-55: more creameries and confectionery

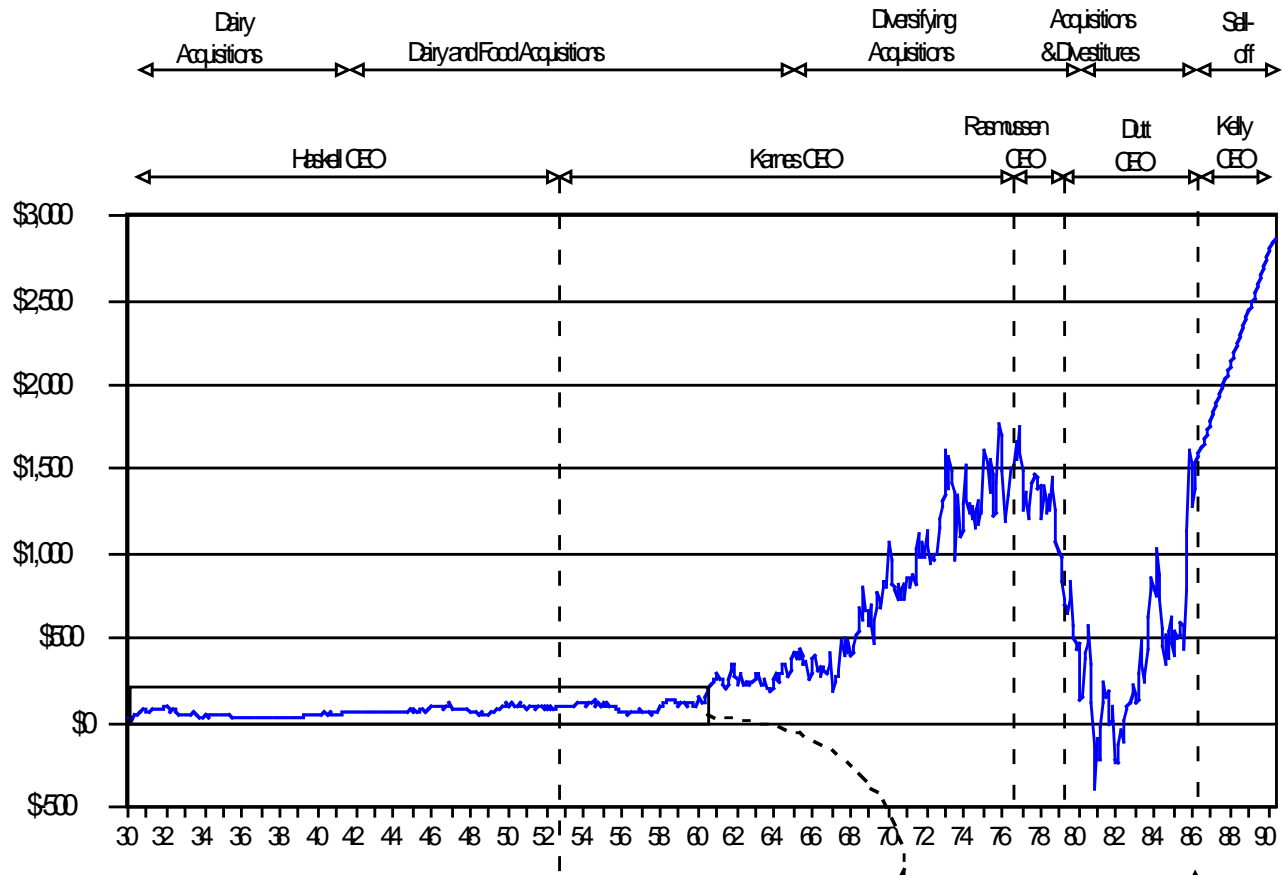
# History of Beatrice: 1940-1976 (cont.)

- 1957 enter the grocery business through Bond Pickle Co
- Expansion abroad
  - 1961, factory in Malaysia
  - 1962, Belgian dairy Cie Lacsoons, SA
- Expansion in unrelated industries (1964-65)
  - FTC complaint in 1956 drove entry into unrelated industries
  - Bloomfield Industries, food service equipment
  - Stahl Finish and Polyvinyl Chemicals
  - By 1975, only 29% sales from dairy firms

# History of Beatrice: 1940-1976 (cont.)

- Unrelated expansion would continue
  - Home gardening equipment btwn 1967-69
  - Bakeries btwn 1963-75
  - Recreational equipment btwn 1967-73
- Expansion strategy
  - Growth within industry and geographical area
  - Karnes delegated decision power to “local” CEOs but decided on allocation of funds
  - Beatrice outsourced managerial capital
- Lots of value creation for new companies and Beatrice overall

# Beatrice: A Study in the Creation and Destruction of Value



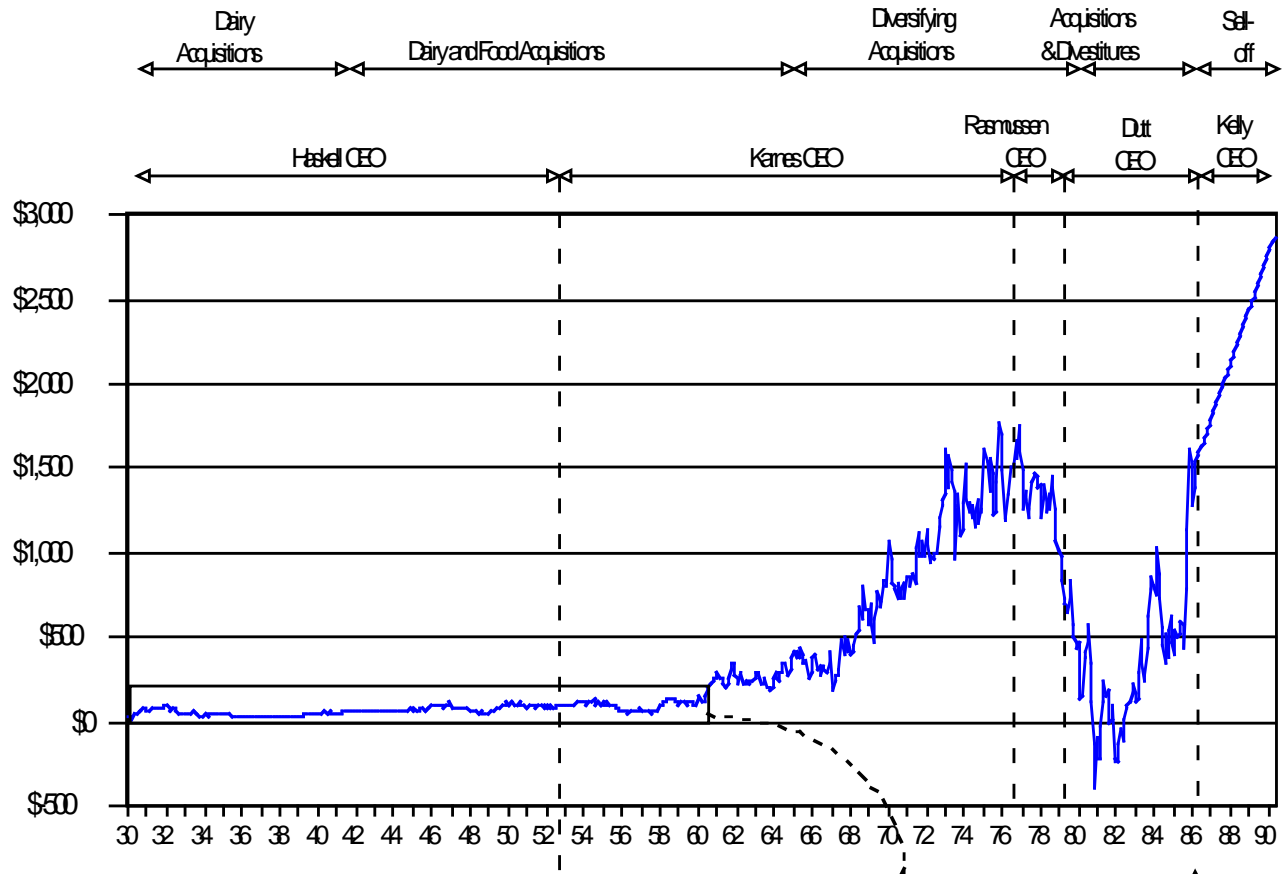
# History of Beatrice: 1977-1986

- William Karnes retires in 1976
- After internal conflict, Wallace Rasmussen (62) took over and James Dutt replaced him at retirement
- Complete change in organization and expansion strategy
  - More centralization of decisions
  - Acquisitions of larger companies (Tropicana 1978 and conglomerate Esmark 1984 - CEO Don Kelly)
  - Large new HQ in downtown Chicago
  - “We’re Beatrice” marketing campaign

# History of Beatrice: 1977-1986 (cont.)

- KKR (private equity firm) tried to outbid Beatrice in buying Esmark
  - James Dutt took it personally and ended up paying unreasonable high price
- By 8/3/1985, Dutt forced to resign by board of directors
  - Abuse of power
  - Two auto racing teams with no clear benefit
  - 39 out of 58 top execs left during Dutt's period
  - \$2 b in market value destroyed during Rasmussen/Dutt

# Beatrice: A Study in the Creation and Destruction of Value



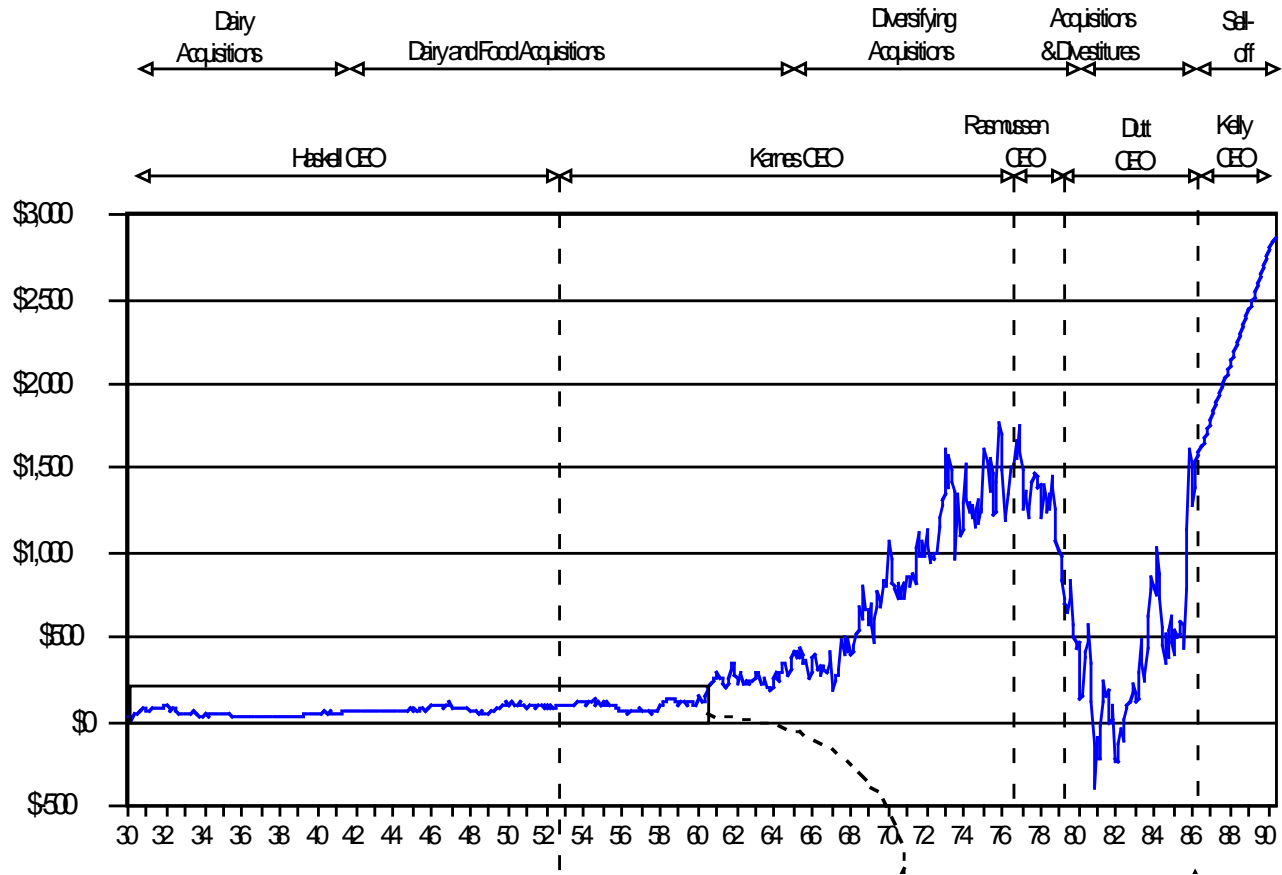
# History of Beatrice: 1986-1990

- After Dutt's resignation, LBO by KKR and management team headed by Donald Kelly (\$50 per share – 53% premium)
- A few organizational changes
  - New board of directors (10 seats = 6 KKR + 4 Esmark)
  - Strong incentives to execs both for SR and LR
- Divestitures started immediately through LBOs and MBOs (Avis car rental, Coca-Cola Bottling Division, Cold Storage, Printing Division)

## History of Beatrice: 1986-1990 (cont.)

- Spin-off conglomerate E-II Holdings with 15 divisions (Samsonite luggage and Stiffel lamps plus food companies) in 1987
- In 1987 as well sold bottled water division and International Foods Division
- By 1988, most job is done and Kelly resigned
- June 1990 Beatrice was sold to ConAgra ... Beatrice ceased to exist

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# Questions raised

- From the mid 50s through the mid 70s, Beatrice was the most acquisitive firm in America
  - Initially related diversification in food
  - 1965-1976 unrelated diversification
- Highly decentralized management structure
- The company systematically created shareholder value over this period
- What were the sources of value creation?

# Value Creation

- Pre-LBO equity holders made \$1 b as a result of LBO
- Total market adjusted value increase for all equity investors was \$2.2 b
- Donald Kelly made over \$135 m
- Sources of value creation:
  - Kelly and KKR restored confidence and strategy
  - Value creation by divesting companies comes from better capital markets and easier access to managerial capital

# Conclusion

- Neoclassical economics used to assume that firms were black boxes such as

$$Y=Af(K,L)$$

- Hopefully this lecture told a story of why this  $f()$  function is something else beyond an engineering relationship
  - Internal organization of a firm may be the source of economics value and competitive edge in an industry