ECONOMIES OF SCALE AND SCOPE IN ELECTRIC UTILITY MERGERS

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AGENDA

1. Academic and industry perceptions
2. Evidence for merger-related cost savings
3. Allocation of benefits
4. Conclusions
ACADEMIC STUDIES MIXED

Representative papers:

• Dube, Francis-Gladney, Romero, Langdon (2007)
  • Little evidence of abnormal returns to acquirer shareholders or increased acquirer operating cash flow for two years after close

• Becker, Mulherin, Walking (2009)
  • Evidence supports cost/price reductions in mergers due to economies of scale
  • No support for hypothesis that mergers facilitated by have fostered anti-competitive collusion among utilities

• Focused on firm level data
• Cost savings but few shareholder benefits
INDUSTRY PERCEPTIONS OF MERGER BENEFITS

• Depends on how you frame the question of benefits
• Acknowledgement that significant cost savings can be achieved
• Assumption that geographic proximity is major driver of cost savings
• Recognition that larger financial scale may be required for size of required future investments
• Widespread skepticism on whether pain is worth gain
• Belief that mergers hurt acquirer stock performance

High level of skepticism
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POTENTIAL SOURCES OF COST SAVINGS

Illustrative; for vertically integrated utilities.

Transaction-specific mix of savings
ANNOUNCED SYNERGIES NOT AGGRESSIVE

Announced Synergies as % of Utility Total O&M

Announced Synergies as % of Utility Non-Fuel O&M

(1) Source: SEC filings and press releases. Includes fuel/purchased energy savings
(2) O&M from FERC Form 1 and 2 reported costs in calendar year prior to closing; includes all utility operating companies reported by shown parent firms

Selling the regulators – just enough
HAVE UTILITY MERGERS REALLY DELIVERED THEIR PROMISED BENEFITS?

• Were promised levels of synergies achieved? YES
• Widespread success in meeting or beating announced synergy targets
  • Expectations framed by merger announcement
    • High enough to win investor support
    • Low enough to keep substantial benefits out of regulatory gain-sharing
  • Cost savings actually achieved (within three years) typically 120-200 percent of announced synergies.
• Failures to meet expectations less common
• Based on public and proprietary data
POST-TRANSACTION CHANGES IN ELECTRIC UTILITY COSTS

Sum of Separate Utility Costs in Year Prior to Closing vs. Combined Utility Costs 4 Years Later (1)

Greatest Increase, Greatest Decrease, and Median Change

(1) Source: FERC filings
(2) Adjusted for inflation at CPI
(3) Generation non-fuel O&M excluded for transactions with firms that divested generation
(4) Uncollectible accounts excluded from all costs

More consistent cost reductions in back office
### STATISTICALLY SIGNIFICANT COST REDUCTIONS VS. NON-MERGER UTILITIES

<table>
<thead>
<tr>
<th>Function</th>
<th>Mean 4-Year Cost Change(^{(1)})</th>
<th>(t) Statistic</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Merger Group</td>
<td>Non-Merger Group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Generation Non-Fuel O&amp;M</td>
<td>-0.64%</td>
<td>8.90%</td>
<td>-2.06 Significant at &gt;90%</td>
</tr>
<tr>
<td>Transmission O&amp;M</td>
<td>-27.70%</td>
<td>17.39%</td>
<td>-4.67 Very highly significant</td>
</tr>
<tr>
<td>Distribution O&amp;M</td>
<td>3.75%</td>
<td>4.83%</td>
<td>-0.33 Much weaker merger impact</td>
</tr>
<tr>
<td>Customer Service</td>
<td>0.04%</td>
<td>24.01%</td>
<td>-3.72 Highly significant</td>
</tr>
<tr>
<td>A&amp;G</td>
<td>-5.30%</td>
<td>7.08%</td>
<td>-2.12 Significant at &gt;90%</td>
</tr>
<tr>
<td>Total Non-Fuel O&amp;M</td>
<td>-2.42%</td>
<td>9.68%</td>
<td>-1.64 Significant at almost 90%</td>
</tr>
</tbody>
</table>

\(^{(1)}\) Constant dollars

- 32 merger transactions vs. 19 utilities without mergers
- Real reduction in cost over a 4-year periods (year before to 3 years after close)
- \(t\) test for significance of difference in sample means
- Also samples tested to confirm no significant secular time trends

Statistical analysis tells the same story
DECLINING IMPORTANCE OF GEOGRAPHIC PROXIMITY IN MERGER CHOICES

• Changing picture
  • Past utility mergers mainly between neighbors
  • Recent trend of business model creation and extension
  • MidAmerican Energy / PacifiCorp, Duke Energy / Cinergy, Next Era / Entergy, AGL / Nicor

• Less dependence on proximity-related cost savings
  • Distribution O&M savings larger for close pairs of firms but not a large driver of merger savings
  • No meaningful difference between A&G and transmission O&M savings for close vs. distant pairs of firms
  • Customer service savings much larger for distant pairs of firms

• Total achieved savings level not related to proximity
PROXIMITY VS. REALIZED SYNERGIES

Mean Cost Changes in Utility M&A Transactions
Distant vs. Close (1)

(1) Close = adjoining or overlapping; Distant = all others
(2) Includes non-normalized fuel/purchases
(3) Several close pairs had large RTO-related increases in transmission costs; rising transmission costs for almost all pairs
(4) T test of statistical significance of difference in sample means between Distant vs. Close groups

- Distant pairs of firms extracted higher Customer Service savings
- Close pairs of firms achieved savings across broader range of functions

Announced Synergies Non-Fuel O&M  Total Non-Fuel O&M  Electric O&M (2)  A&G  Cust Service  Dist O&M  Trans O&M (3)

Mean Cost Change (Constant $)
NEW SOURCES OF SCALE ECONOMIES

• Growing significance of information-related synergies
  • Portability of metering data, customer data, back office data
  • Large savings from combining non-T&D systems and processes
  • More aggressive execution by separated utilities

• Emerging technologies reinforcing economies of scale
  • Advanced metering and Smart Grid technologies
  • Customer relationship management technologies
  • Back office (ERP) systems and delivery models

• Total achieved savings level not related to proximity
FEW STUDIES OF ECONOMIES OF SCOPE

• Most utility mergers involve firms focused on production of same commodity service

• Electric and gas utility mergers do produce savings
  • G&A and Customer Service synergy levels similar to electric-electric or gas-gas mergers
  • Very limited synergies in operations functions. Fuel procurement, logistics support.

• Economies of scope for regulated and unregulated services complicated by required ring-fencing

• Poor utility industry performance in entering unregulated markets, especially outside of same industry

Little evidence for significant economics of scope
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CLEAR SHORT-TERM BENEFITS TO CUSTOMERS

- Lower rates
  - Regulators and utility negotiate allocation of cost savings
  - Typically 50% or more of core savings flow through to customers
  - Utilities attempt to keep facilitated and strategic benefits off the table
    - Not directly related to redundancies and scale economies
    - Compensation for shareholder risk and management initiative

- Improved service
  - Larger post-merger utility can adopt new technologies more quickly
  - Improved access to capital, ability to finance needed investments

- Longer term impacts on generation costs less clear
DID SHAREHOLDERS END UP BETTER OFF?

• Shareholders of acquired entity clearly benefit
  • Acquisition premium received
  • Assumes stock fairly priced pre-announcement

• Mixed picture for acquirers
  • Most acquirers’ stock performed about as well as the S&P
    Utility Index
  • Slightly more clear outperformers than clear
    underperformers
  • Larger acquirers accounted for disproportionate share of
    recent growth in industry stock value

• Points to two major challenges
  • Excessive acquisition premiums
  • Regulatory capture of cost savings
ACQUIRERS’ RELATIVE STOCK PRICE PERFORMANCE

Mergers typically depress stock prices before and after close
Stock performance improves 2-3 years after close, as savings are realized
OBSERVATIONS ON ACQUIRER STOCK PRICE PERFORMANCE

- **Major outperformers**
  - Generally used mergers to pursue clearly defined strategy
  - E.g., merchant generation or electric delivery

- **Major underperformers**
  - Resource short; Street concern about full recovery of market purchases

- **Market performers (bulk of acquirers)**
  - Lagged utility index during integration process
  - Many outperformed utility index in the period 3-5 years after transaction, but later regressed toward average group performance

- **One-off deals created little long-term value for acquirer**

Long-term shareholder value from utility mergers requires:
- Sound, extendable strategy
- Disciplined execution of both transaction and integration
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CONCLUSIONS

• Utility mergers do produce abnormal cost reductions
  • Variety of utility mergers have achieved significant non-fuel cost savings, in both real and industry-normalized terms
  • Typical savings of around 8-12% of the combined firms’ non-fuel expenses
  • Savings vary by functional area
  • Percentage savings not related to deal size

• Similar core business models
  • Accessible economies of scale
  • Manageable execution risk

• Economies of scope are not significant

• Challenging to achieve financial benefits for acquirer
  • Regulatory strategy to meet both public and private interests
  • Timely savings realization
  • Serial acquisitions in pursuit of well-defined strategy
QUESTIONS?

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REFERENCES
