

Do Mergers and Acquisitions Improve Efficiency? Evidence from Power Plants

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This paper: effects of M&A on efficiency + mechanisms

- Analysis of US fossil fuel power plants from 2000 and 2020
 - 689 transactions with 4,834 ownership changes
- Efficiency: consumption of fuel divided by output quantity
- DiD: Compare plants with ownership change to those without
 - Heterogeneous effects for acquired plant and target
- Main result: 4% efficiency increase at acquired plants
 - high-product. firms buy low-product. assets and make them productive
 - low-cost operational improvements rather than high-cost investments

Remark 1: More anecdotal evidence on efficiency gains

Power plant market is complicated and different than other markets. Two power plants do not become one. They keep co-existing.

- No efficiencies from layoffs (nice!), what instead drives the result?
- You say that there are “productive efficiencies” through managers
 - What does a manager actually do and how? How so quickly in 5-8 months?
- Can you test effect of managers on efficiencies directly by comparing acquired plants with manager change to those acquired without change?

Remark II: Alternative Mechanisms

You rule out buyer power as potential mechanism, but do power plants buy fuel with individual contracts (OTC) or from spot markets?

- If they negotiate individual contracts and purchase larger quantities,
 - this drives down fuel costs and may partly explain your efficiency gains in the target plant and the acquiring plant
 - You can estimate effect of acquiring plant relative to target (instead outsiders) to have buyer power effect cancelled out (similar to what I do later).

Powerplant providers need back-up plants for strategic reserves

- Before the merger two different power plant providers had one each and maybe after the merger they closed down one?

Remark III: Staggered design with multiple treatments (=689 mergers)

You use TWFE estimator as main specification (cf. Goodman-Bacon decomp)

- early-treated group used as control after its treatment for late-treated
 - This usually gives us a bias and drives down the real treatment effect

...and Callaway and SantAnna (2021) as robustness

- Why not using the more precise estimator as main specification?
- You say that your results are similar, but I wonder how that can be
 - If treated units are part of the control group, then you should find lower effects.
 - It matters less when you have few observations (=weights) for later treated

Remark IV: Do firms acquire multiple plants?

Unclean effect because the treatment variable can switch only once from zero to one.

- For the second merger the treatment variable is already one because of the first merger

This is no concern for your focus on the targets

Problem for the acquirer as the table shows

	T=1	T=2 Merger 1	T=3 Merger 2
Acquirer	0	1	1
Target 1	0	1	1
Target 2	0	0	1
Control	0	0	0

Remark V: Miscellaneous

Can you provide evidence that the efficient firms are indeed those ones who buy the inefficient ones?

- Simple descriptive statistics for treatment group vs control group

You show only 15 months after treatment. It seems short to realize strong efficiency gains

- Maybe the efficiency gains are even stronger in the future? Manager could need more time to change working environment
- Usually long-term contracts with employees and so on