



# Do acquisitions by electric utility companies create value? Evidence from deregulated markets

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## ARTICLE INFO

*JEL classification code:*  
G34, L21, L94

*Keywords:*  
Mergers and acquisitions  
Electric utility  
Deregulation  
Shareholder value  
Firm performance

## ABSTRACT

In the early 1990s, the United Kingdom (the UK) initiated widespread reforms in the electricity industry through a series of market liberalization policies. Several other countries have subsequently followed the lead and restructured their electricity industry. A major outcome of the deregulation effort is the spate of takeovers, both domestic and global, by electric utility companies. With the entry of new players and increasing competition, the business environment of the electricity industry has changed dramatically. This study analyzes the economic impact of mergers and acquisitions (M & As) in the electric utility industry after deregulation. We have examined acquisitions that took place between 1998 and 2013 in the United States, Canada, the UK, Germany, and France. Although previous studies showed no evidence of a positive effect on acquiring firms through M & As, we find that acquisitions by electric utility companies increased the acquiring firms' share value and improved their operating performance, primarily through efficiency gains after the deregulation. These results are consistent with the empirical evidence and implications presented by Andrade et al. (2001) that M & A created value for the shareholders of the acquiring and target combined firms.

## 1. Introduction

After the United Kingdom (UK) initiated its reforms program in the electricity industry in the early 1990s by unbundling and privatizing electric utilities, several other countries followed the lead and deregulated their respective electricity industries. For example, with the Energy Policy Act (EPACT) of 1992, the United States (US) provided a framework for reforming its electric power industry. In the absence of deregulation, an electric utility company creates a local monopoly in exchange for compliance with various government regulations, particularly with regard to electricity rates. The principal reason for government intervention is the situation of *natural monopoly*, more commonly known as *economies of scale* of the industry. In an industry characterized by *natural monopoly*, a company operates more cost-efficiently in a tightly regulated monopoly structure than it would in a free market composed of multiple competitors. However, since Christensen and Greene (1976) first demonstrated the possibility of loss of scale economies in the US electric power generation industry, academics and policy makers have gradually come to realize that

electric power generation is no longer a natural monopoly due to the development of cost-effective technologies (e.g., the development of small-scale efficient turbines). The overriding reform goal has made policy makers to shift their focus to efficiency and cost control in the electricity industry. As a result, deregulation has changed the business environment of the industry and is facilitating the entry of many small-scale electric power companies such as renewable players into the industry.

Liberalization has led to an unprecedented wave of merger and acquisition (M & A) activity in the global electric utility industry, resulting in restructuring of both the domestic and global markets. Fig. 1 shows the trend in the number of completed M & A transactions in North America (the US and Canada) and Europe (the UK, France, and Germany) during the period 1998–2013. Further, M & A activity peaked in North America during the late 1990s. However, the complexity of the California electricity crisis worked on the mindsets of regulators and electric utility companies and transactions slumped in 2002. Policy makers and companies recognized the risks associated with market liberalization. In addition, M & A activity experienced a

*Abbreviations:* BHAR, buy-and-hold abnormal return; CAR, cumulative abnormal return; CEGB, Central Electricity Generation Board; EPACT, Energy Policy Act; FERC, Federal Energy Regulatory Commission; M & A, mergers and acquisitions; SCAR, standardized cumulative abnormal return

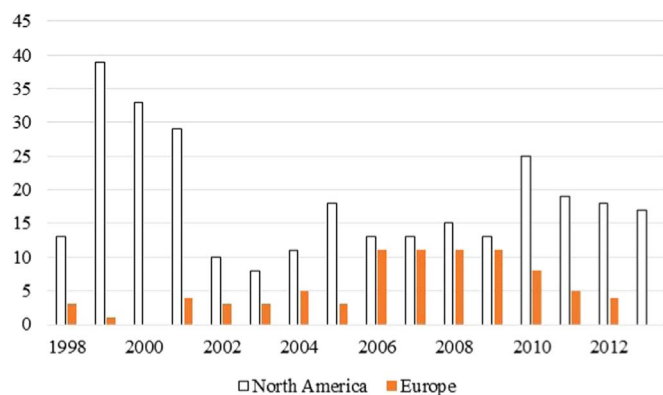
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<http://dx.doi.org/10.1016/j.enpol.2017.02.032>

Received 27 March 2016; Received in revised form 31 January 2017; Accepted 17 February 2017

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**Fig. 1. Number of Completed Electric Utility Mergers & Acquisitions, 1998–2013.** Notes: In this figure, North America is composed of the US and Canada, and Europe is composed of the UK, France, and Germany. The completed M & A transactions were announced during 1998–2013. The acquiring firms are electric power utilities, independent power producers, or renewable electricity producers. Authors prepared this figure based on Source: S & P Capital IQ.

trend similar to Europe with transactions increasing in the mid-2000s. For example, [Jamash and Pollitt \(2005\)](#) discussed the M & A trends and issues in Europe; [Verde \(2008\)](#) concluded that for European companies the scope of M & A had two dynamics: one, European companies act as “national champions” and invest in domestic M & A; second, they broaden their geographic scope and become “pan-European players” by investing in cross-border mergers. Considering the trends of M & A, the number of studies that examine historical M & A timing, post-acquisition performance and related market power issues in electric power utilities has gradually increased, although it is far less compared to other industries. These studies include [Mitchell and Mulherin \(1996\)](#), [Andrade et al. \(2001\)](#), [Becker-Blease et al. \(2008\)](#), [Kwoka and Pollitt \(2010\)](#), [Bush \(2008\)](#), [Celen \(2013\)](#), [Domanico \(2007\)](#), [Gilbert and Newbery \(2008\)](#), [Green \(2006\)](#), [Jacobsen et al. \(2006\)](#), [Kamiński \(2012\)](#), [Keller \(2010\)](#), [Müller et al. \(2008\)](#), and [Weyman-Jones \(2007\)](#).

The purpose of this study is to examine empirically if M & A activity by electric utility companies in deregulated markets had positive effects in terms of firm value and operating performance. This analysis is important not only from the perspective of shareholders but also for consumers, because electric utility companies could raise the price (rate) of electricity if they are allowed to exercise market power. In addition, we are motivated to conduct this study in view of certain factors that could trigger another potential spate of M & A activities in the industry. As observed in our analysis of the North American and European countries, another big wave of electric utility M & A could break soon, beginning in Japan. The country started a comprehensive liberalization program of its retail electricity industry in April 2016. In fact, the first major Japanese electric utility M & A was announced in 2015—Tokyo Electric Power Company, Japan’s largest electric power company, and Chubu Electric Power Company, the third-largest electric power company in Japan, announced integration of their business for fuel procurement and fossil-fuel power generation. Therefore, an important concern for countries that are planning to deregulate their electric utility industry further is to assess if M & A improves efficiency and creates value.

This study analyzes M & A samples in the period following that investigated by [Becker-Blease et al. \(2008\)](#), and [Leggio and Lien \(2000\)](#). These studies analyzed US electric utility firms’ M & A during periods before and/or after an early stage of deregulation. We analyze 377 M & A transactions of acquiring companies located in the US, Canada, the UK, France, and Germany and their M & A announcements made during the period 1998–2013 by measuring the companies’ stock price performance and financial performance. Previous studies did not analyze such broad-ranged samples covering the latest deregulation

period in the electricity industry. The results of our study show that the stock market reacted positively to electric utility M & A activities and profitability increased after the acquisition. We find supporting evidence that efficiency of asset utilization improved, while we do not find evidence that companies’ market power increased after M & A. These findings indicate that electric utility M & A increased the profitability of the acquiring companies without negatively affecting consumers via the exercise of market power. Instead, the positive effects of M & A for acquirers are likely to result from synergetic cost savings and other synergies related to new technologies such as information technology and customer management ([Deloitte, 2014](#)). In addition, the positive effects of M & A may also result from enhanced knowledge and the ability to manage electric utility companies after experiencing M & A transactions in the deregulated market. This study provides empirical evidence consistent with the view presented by [Mitchell and Mulherin \(1996\)](#) and [Andrade et al. \(2001\)](#) that M & A is a rational response of firms exposed to a changing business environment due to industry shocks such as deregulation and M & A creates shareholder value.

The remainder of this article proceeds as follows. [Section 2](#) provides a review of previous studies and presents our hypotheses. [Section 3](#) describes the takeover activities in the electricity industry. In [Section 4](#), we summarize the data used in this study, describe the methodologies, and present the empirical results of testing the hypotheses. [Section 5](#) presents our conclusions.

## 2. Literature review and hypotheses

### 2.1. Review of takeover activities in the electricity industry

The central insight of neoclassical economists is that industry-specific shocks, which change the business environment drastically, force firms in the industry to adjust their boundaries to regain a competitive position through lower transaction costs ([Coase, 1937](#)). Deregulation is one such shock that produces waves of M & A. [Kole and Lehn \(1997\)](#) find evidence that deregulation provides a natural experiment for analyzing the ability of firms to adapt to changes in corporate governance structure and M & A activity. [Mitchell and Mulherin \(1996\)](#) and [Andrade et al. \(2001\)](#) also examined the effects of industry shocks; specifically, they analyzed the impact of M & A activity that occurred in the US. They provided evidence that M & A tend to cluster by industry at specific times. They concluded that deregulation and its associated technological progress are dominant factors that drive M & A activities. Furthermore, they showed that M & A might occur as a reaction of firms to changes that were caused by industry shocks such as deregulation and market liberalization. This view is consistent with the line of thought of [Coase \(1937\)](#), who argued that firms adjust their scale to adapt to changes in their external environments. In addition, [Mitchell and Mulherin \(1996\)](#) argued that firms engaged in M & A because it was the least-cost option for adapting to structural changes in the industry. [Andrade et al. \(2001\)](#) provided broad-based evidence that M & A increased the combined shareholder value of both the acquiring firm and the target firm even though, on average, the acquiring firm experienced dilution in shareholder value.

We acknowledge that there are many theoretical and empirical studies focused on examining the effects of M & A. Previous studies indicate that M & A increases the combined equity value of the target and acquiring firms due to synergies in operations and cash flow ([Bradley et al., 1988](#); [Devos et al., 2009](#); [Lewellen, 1971](#); [Healy et al., 1992](#)). However, as mentioned earlier, a few studies focused on the financial aspect of M & A by electric utility companies, specifically for the period after market liberalization. For example, [McLaughlin and Mehran \(1995\)](#) analyzed all the hostile takeover bids for public utilities in the US during the period of regulation—from 1960 to 1990—and reported that the regulatory process restricted the functioning of the market for corporate control. Although they primarily focused on the

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