

ELECTRIC UTILITY MERGERS AND REGULATORY POLICY

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PREFACE

Interest in electric utility mergers and their relation to public utility regulation flows both ways. Merger initiatives by electric companies must be passed on by commissions as to costs and benefits and presumably general economic desirability. In the other direction, commission actions on proposed mergers probably influence the nature and likelihood of future proposals to merge. This study investigates various public interest questions surrounding the phenomenon of electric utility mergers--especially the large company merger actions that have become more common.

As part of our Occasional Paper series, we believe you will find the report by the four Wisconsin authors timely and informative.

Douglas N. Jones, Director
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Columbus, Ohio
June 1992

1 Introduction

Restructuring dominated electric utility news during the 1980s. In addition to holding company formations, diversification, and the growth of independent power producers, the industry became more concentrated with the formation of megautilities through mergers. The 1989 merger of Pacific Power and Light (PacifiCorp) and Utah Power & Light resulted in centralized management of electric power over a region covering portions of seven western states. The proposed merger of Southern California Edison (SCEcorp) and San Diego Gas & Electric would have formed the largest electric utility in the United States. Historically, however, electric mergers involved the consolidation of small utilities. Southern California Edison, for example, was formed through the mergers of over 200 smaller utilities.¹ Whether a wave of mergers is imminent and economically desirable is an open question.

Regulation brings electric utility mergers into the public arena. Regulators are supposed to evaluate the rationales for mergers and assess the associated distribution of benefits and costs. The effect of public utility regulation on merger activity - and whether regulators should encourage or discourage mergers - are important policy questions.

In this paper we review electric utility merger activity and provide an overview of the relevant regulatory framework. We also provide an overview of the motivations and concerns of groups affected by electric utility mergers. Various questions regarding merger activity in the electric utility industry are investigated empirically. In particular, we examine the following questions:

- Do electric utility mergers follow the trends of other public utilities or the economy as a whole?
- Is there a "wave" of mergers occurring in the electric utility industry?
- Is merger activity dominated by an apparent "rationalizing" motive where small firms are being consolidated into large firms to achieve scale economies?

¹ Zorpette (1989)

- How is stockholder wealth being affected by merger activity?
- Is there a pattern of wealth transfers in mergers that is consistent with a hypothesis that regulation protects stakeholders such as ratepayers, creditors, independent power producers, and wholesale and bulk power customers?

Our evidence does not show a pattern of electric utility mergers consistent with other industries. Nor do we find a current wave of electric utility mergers; merger rates are the lowest that they have been for forty years. However, merger activity among large firms is increasing, suggesting merger motives other than economic rationalization. Furthermore, recent electric utility mergers are resulting in substantial wealth transfers principally to shareholders of the acquired utilities.

2 Merger Trends

Electric utility mergers have produced a long-term trend towards industry concentration. In this section, we explore the history of the industry's structure and investigate recent merger activity.

2.1 Industry Structure and Regulation

More than 3,000 utility organizations participate in the generation, transmission, and distribution of electricity. The 3,000 organizations include investor-owned utilities (IOUs), municipal utilities, cooperative utilities, federal agencies, and state and county power authorities and utility districts. In addition, there are many nonutility-owned generation companies.

Currently, there are 199 investor owned utilities. The IOUs include 141 electric and 58 combination (electric and gas) utilities.² The thirty-five largest IOUs

² Edison Electric Institute (1988). The Energy Information Administration (EIA) in the Department of Energy reports that there were 282 private electric utilities in 1986 [Energy Information Agency (1986,4)]. We have not attempted to reconcile the difference in the EEI and EIA numbers.

control over 60 percent of the IOU generating capacity; the top 100 account for 95 percent.³ There are sixty holding companies and electric utility systems that own one or more operating companies. Consequently, there are approximately 153 independent IOU organizations.

Most IOUs are vertically integrated from generation through transmission and distribution. IOU retail sales (that is, sales to final customers) account for approximately 77 percent of all United States end use sales. IOUs are also active participants in the bulk power market that includes sales of energy, generating capacity, and transmission services among utilities. IOUs also provide wholesale services, typically to municipal utilities that lack sufficient generating capacity to meet the needs of their customers directly.

IOU rates are regulated by state and federal agencies. State public utility commissions have jurisdiction over retail sales; the Federal Energy Regulatory Commission (FERC) regulates wholesale and bulk power market transactions. In general, rates are set to allow utilities to cover the cost of service and earn a reasonable profit.

The nonprofit portion of the industry includes about 2,000 municipal utilities, 900 cooperatives, and six federal systems. Many municipal and cooperative systems only engage in power distribution; they rely on the generation and transmission facilities owned by other systems. The federal systems are generally limited to power generation and transmission. Most of the federal sales are for resale, although some power is sold directly to large industrial customers.

2.2 Evolution of the Electric Utility Industry's Structure Before 1936

There was little movement towards concentration in the electric utility industry before the 1920s. The industry focused on advancing technology development, stimulating load growth, and creating load diversity.⁴ Although there was some

³ Joskow (1985, 175)

⁴ McDonald (1957, 184-185)

interest in interconnection among utilities, technological constraints, capital resource barriers, and insufficient demand prevented it.

Substantial electric utility merger and acquisition activity occurred during the 1920s. The number of electric utility consolidations from 1917-1930 was greater than at any other time in the industry's history. While residential electric customers increased from six million to twenty million, the number of central station companies producing electricity fell by 63 percent from about 4,300 to roughly 1,600.⁵ Electric utility consolidations were occurring at a rate of over 200 a year. The peak in consolidation activity occurred in the mid-1920s when the annual number of utility combinations exceeded 300.⁶

Most of the mergers in the 1920s integrated several small operating companies into a few large holding companies. One reason for holding company formation was to pool engineering, operating, and financial talent to overcome the technological obstacles and capital constraints to large-scale interconnection. Improvements in transmission technology encouraged the construction of ever-larger generating units and the sharing of reserve capacity.⁷

Studies in the early 1920s showed that significant scale economies could be realized through an interconnected electric utility system. Coal was in short supply at that time and the United States was attempting to recover from World War I. By 1924, high voltage transmission made it possible to transmit electricity up to 300 miles without significant losses. Plant investments and generating unit sizes nearly doubled between 1920 and 1924, resulting in significant improvements in fuel-use efficiency; the average amount of coal required to produce a kilowatt-hour of electricity fell from 3.2 pounds in 1920 to 1.3 pounds by 1924. The average cost of electricity fell substantially. Potential major savings in fuel costs and generating capacity needs motivated widespread support for interconnection. The larger utility systems brought

⁵ McDonald (1957, 186)

⁶ Rudolph and Ridley (1986, 47)

⁷ Cowan (1925)

innovations in technology and financing practices. The lower costs for utility service stimulated demand growth.⁸

There were other reasons for electric utility consolidations in the 1920s that had little to do with improving productive efficiency.⁹ The multilevel holding company structure allowed a vast amount of operating company assets to be controlled by individuals who had made only a very small investment. Many utilities used the control of corporate affiliated transactions to raise regulated prices and profits by significantly inflating the asset values of operating companies. The total value of write-ups by holding companies and their affiliates is estimated at \$1.49 billion.¹⁰

2.3 Evolution of the Electric Utility Industry's Structure After 1936

The electric utility holding companies collapsed financially in the early 1930s. The Federal Trade Commission (FTC) investigated the holding companies and uncovered a host of financial abuses. The FTC investigation led to the passage of The Public Utility Holding Company Act of 1935 (PUHCA) which mandated dissolving noncontiguous firms unable to realize production and distributional efficiencies through common ownership. Between 1935 and 1950, 759 utilities were spun off from the holding companies.¹¹

Following the financial collapse of the holding companies during the 1930s, consolidations fell off sharply. As shown in Figure 2.1, the rate of electric utility

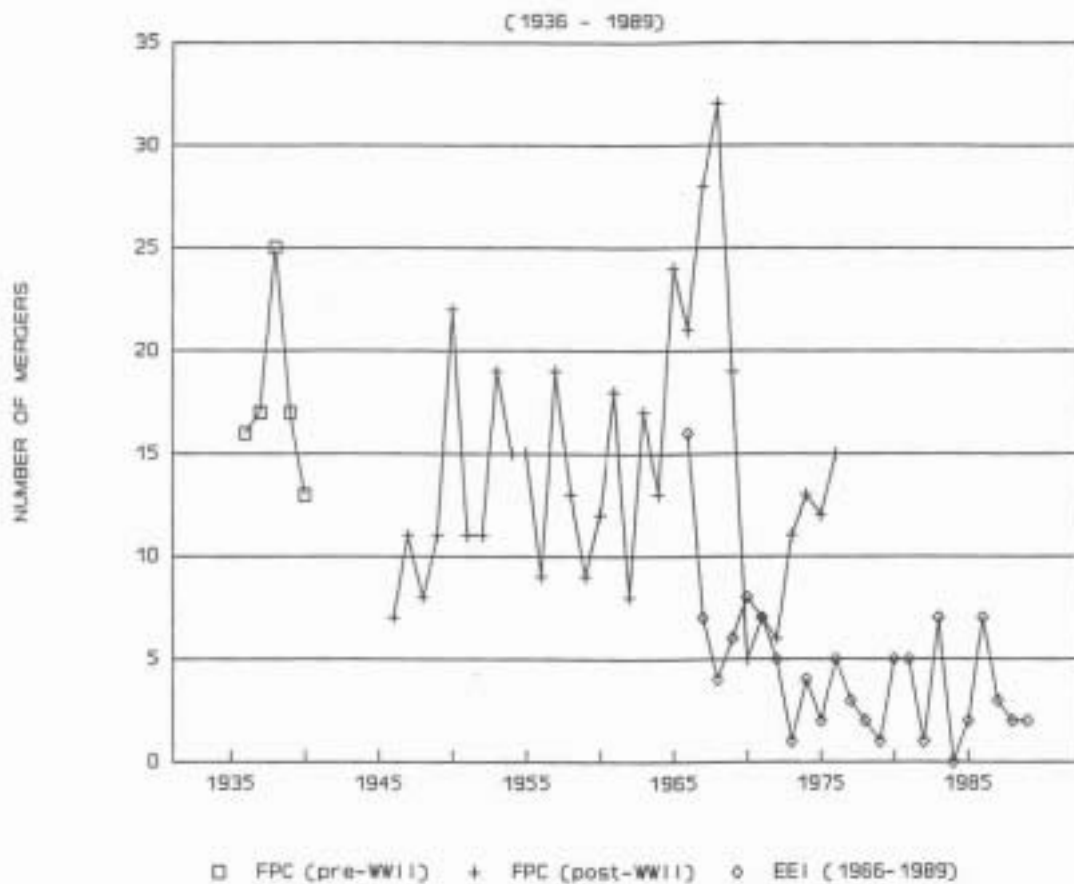
⁸ McDonald (1957, 183-184)

⁹ Young (1965, 31-33)

¹⁰ Barnes (1947, 63)

¹¹ Hyman (1988, 83)

FIGURE 2.1
MERGERS IN THE ELECTRIC UTILITY INDUSTRY



Source: Federal Power Commission (1935-1976), Edison Electric Institute (1990)

mergers has tended to decrease over time.¹² From 1936-1976, there were only 529 recorded combinations occurring at a rate of less than fifteen a year.¹³ From 1977-1989, there were only forty electric utility combinations.¹⁴

Most of the operating companies that went out of existence between 1966 and 1989 were relatively small companies.¹⁵ Table 2.1 shows the quartile ranking (based on number of ultimate customers) of the 106 operating companies that went out of existence between 1966 and 1989. Of the 106 utilities, 94 were below the median operating company size in 1965. All but one of the companies were in the bottom three quartiles. Comparing the consolidation distributions of 1966-1979 and the 1980-1989 periods shows that there was a decline in mergers involving relatively small companies in the latter period. Also, the first merger involving a first quartile utility occurred in the most recent period.

¹² Data for the time series come from the Federal Power Commission (FPC) and the Edison Electric Institute (EEI). A comprehensive data set for the period before 1936 is not available. The FPC series covers mergers of electric utilities under its jurisdiction during the period 1936-1976. The EEI series covers the period 1965-1989. The EEI data records electric utility operating companies that have gone out of existence. A company went out of existence when it lost its corporate identity through consolidation. The EEI data do not include cases where operating companies joined a holding company. In addition, we eliminated cases where companies went out of existence due to corporate reorganization rather than due to merger between unaffiliated companies.

¹³ Excluding 1941-1945 period for which data is unavailable.

¹⁴ Because the FPC data appears more comprehensive than the EEI data, summary statistics for the latter series are given only for non-overlapping years. For the entire 1966-1989 period, the EEI series recorded 4.4 average annual consolidations and 106 in total. Also, for those years when the data overlap, the EEI data generally record fewer combinations than the FPC data. However, the downward trend in number of combinations is apparent in both series.

¹⁵ A single corporate organization may be composed of one or more operating companies. Each operating company has its own status for regulatory purposes. Mergers between operating companies in the same corporate organization were excluded in the following analyses.

TABLE 2.1

Operating Companies in the 1965 Going Out of Existence
Over Period 1966-1989

1965 Quartile	Number	Year dropped	
		1966-1979	1980-1989
I	1	0	1
II	11	6	5
III	44	31	13
IV	50	34*	15*

* The numbers for the given range of years will not sum to total because data were not available for one company.

Source: Edison Electric Institute (1965-1990)

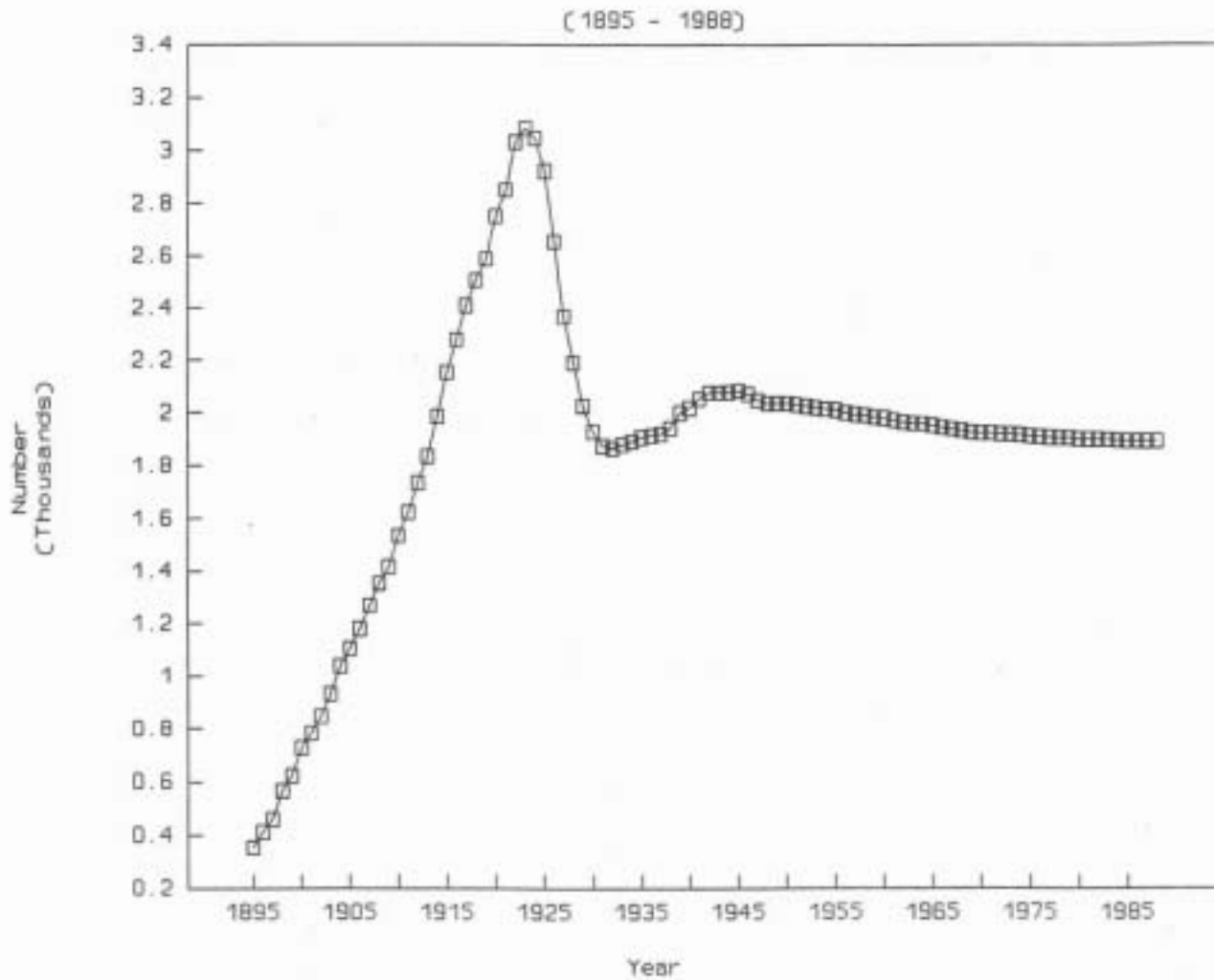
Most of the utilities that went out of existence after 1965 were acquired by or merged into other investor-owned utilities. Seventy-six percent of these utilities joined with an investor-owned utility. Of the remaining companies, 19 percent joined with a cooperative and 5 percent with a municipal utility.

2.4 Municipal and Cooperative Electric Utilities

Consolidations have also occurred in the municipal and cooperative segments of the electric utility industry. As shown in Figure 2.2, the number of municipal utilities grew rapidly from 1895 to the early 1920s and then declined. From 1895-1923, there was an average annual increase of 96.8 municipal utilities. From 1924-1932, the average number declined by 135.7 a year, primarily because of consolidation into the expanding IOU systems.¹⁶ After the 1930s, there was little change in the number of municipal systems due, in part, to New Deal legislation that gave municipal utilities preference rights to surplus power from federal projects and financial support for municipal ownership in generating units.

¹⁶ Schap (1986, 102)

FIGURE 2.2
NUMBER OF MUNICIPAL ELECTRIC SYSTEMS



Source: Edison Electric Institute (1990 and various years)

The emergence of joint action agencies over the last fifteen years has further slowed the decline in number of municipal utilities. From 1981-1989, there have been only 4.9 acquisitions a year of municipal utilities and 1.1 mergers per year between electric cooperatives.¹⁷ Of the forty-four municipals acquired in the period, thirty-one joined investor-owned electric utilities, and thirteen combined with electric cooperatives.

2.5 Recent Merger Activity

In the late 1980s, utility investment analysts suggested that the electric industry is on the verge of a large horizontal merger wave where the number of firms providing service will decline substantially.¹⁸ However, evidence from recent activity does not support these predictions.¹⁹

As shown in Table 2.2, forty-two mergers involving IOUs were completed in the 1980-1990 period. Another six publicly announced consolidation attempts involving large utilities failed. Five consolidations were pending regulatory or shareholder approval.²⁰

¹⁷ Merger data provided by the American Public Power Association and the National Rural Utilities Cooperative Finance Corporation.

¹⁸ Vartan (1986) and Tirello (1988)

¹⁹ The data sources for this analysis of recent merger activity is described in the Appendix.

²⁰ Merger activity continued in 1991. Two Iowa holding companies merged [Iowa Utilities Board (1991a) and Securities and Exchange Commission (1991)]. Also, the Iowa Utilities Board approved the merger of Iowa Public Service Company and Iowa Power, Inc. This merger represents a second step in the holding company merger of Iowa Resources and Midwest Energy that occurred in 1990 [Iowa Utilities Board (1991b)]. The utility merger still requires approval by the Federal Energy Regulatory Commission (FERC). The status of the pending mergers listed in Table 2.2 changed in 1991. The proposed SCEcorp and San Diego Gas and Electric merger was denied by the California Public Utilities Commission [California Public Utilities Commission (1991)]. Eastern Utilities ended its offer to acquire Fitchburg Gas & Electric and UNITIL. The New Hampshire Public Utilities Commission denied Eastern's

(continued...)

To analyze the relative size of the acquiring firms, we ranked the acquired and acquiring IOUs by number of ultimate customers served in the year the merger was completed.²¹ The rankings show that the largest firms were most frequently the acquiring firms. Over the period, firms in quartile I were the acquiring firms in 58.8 percent of the mergers between IOUs. Firms in quartiles II and III followed with 29.5 percent and 11.7 percent, respectively. The firms in quartile I were the only firms to acquire firms in quartiles I and II. Eight percent of all IOU mergers fell in those two quartiles. Finally, the quartile I firms were the acquirers of 54.8 percent of the acquired firms falling in quartiles III and IV. Quartile II firms acquired 32.3 percent of the acquired firms falling in quartiles III and IV. There appear to be no cases in which a smaller firm acquired a firm in a higher quartile.

²⁰(...continued)

acquisition proposal due to Eastern's weak financial condition resulting, in part, from Eastern's partnership in the Seabrook nuclear power plant. The New Hampshire Commission also found that a significant portion of the proposed savings available from improved resource planning were achievable without the acquisition [New Hampshire Public Utilities Commission (1991)]. UNITIL and Fitchburg Gas & Electric have reintroduced their merger proposal which had been stalled while the Eastern acquisition was being considered. The merger between Northeast Utilities and Public Service Company of New Hampshire (that had been approved by the New Hampshire Public Utilities Commission in 1990) was approved by the FERC in 1991 [New Hampshire Public Utilities Commission (1990) and Federal Energy Regulatory Commission (1991a)]. The FERC's conditions on transmission access were unacceptable to a number of state jurisdictions, and completion of the merger is awaiting reconsideration by the FERC. Finally, the Kansas Power and Light Company merger with Kansas Gas and Electric was approved [Federal Energy Regulatory Commission (1991b) and Kansas Corporation Commission (1991)].

²¹ Customer data were unavailable for seven of the acquiring firms and for one of the acquired firms. Holding companies were ranked based upon the combined standing of all companies within the holding company's control in 1989.

TABLE 2.2
SUMMARY OF INVESTOR-OWNED ELECTRIC UTILITY CONSOLIDATION ACTIVITY
(1980-1990)

PANEL A: COMPLETED CONSOLIDATIONS

<u>Year</u> <u>Completed</u>	<u>Acquiring Firm</u>	<u>Acquired Firm</u>
1980	American Electric Power Co., Inc.	Columbus & Southern Ohio Electric Co.
	Carolina Power & Light Co.	Domestic Electric Service, Inc.
	Franklin Electric Light Co.	Lake Electric Corp.
	Unknown	Northern Commercial (Bethel)
	Unknown	Northern Commercial (McGrath)
	New York State Electric & Gas Corp.	Peach Lake Utilities, Inc.
1981	Central Maine Power Co.	Carrabassett Light & Power Co.
	Madison Gas & Electric Co.	Cross Plains Electric Light Co.
	Utah Power & Light	Lincoln Service Corp.
	Carolina Power & Light Co.	Pinehurst, Inc.
	Minnesota Power	Rainey River Improvement Co.
	Southwestern Public Service Co.	Cochran Power & Light Co.
1982	Pacific Gas & Electric Co.	Bay Point Light & Power Co.
	Edgcombe-Martin County EMC	Crisp Power Co.
	Massachusetts Electric Co. (NEES)	Manchester Electric Co.
	Union Electric Co.	Missouri Edison Co.
	Union Electric Co.	Missouri Power & Light Co.
	Union Electric Co.	Missouri Utilities Co.
1983	Southwestern Public Service Co.	New Mexico Electric Service Co.
	Illinois Power Co.	Cedar Point Light & Water Co.
	Pee Dee Electric Membership Corp.	Laurel Hill Electric Co., Inc.
	Lynch River Electric Coop.	Hess Springs Light & Power Co.
	Northern States Power Co. (MN)	Home Light & Power Co., MN
	Public Service Co. of Colorado	Home Light & Power Co., CO
1985	Northern States Power Co. (WI)	Lake Superior District Power Co.
	Consolidated Edison Co. of NY, Inc.	Lawrence Park Heat, Light & Power Co.
	Iowa-Illinois Gas and Electric Co.	Sherrard Power System
	Pacific Power & Light Co. (PacifiCorp)	Svilas Light & Power Co., Inc.
	Cleveland Electric Illuminating	Toledo Edison

PANEL A: COMPLETED CONSOLIDATIONS (continued)

<u>Year Completed</u>	<u>Acquiring Firm</u>	<u>Acquired Firm</u>
1987	Pennsylvania Electric Co.	Elkland Electric Co.
	The City of Troy, MT	Montana Light and Power Co.
	Bangor Hydro-Electric Co.	Stonington & Deer Isle Power Co.
	Utilicorp United	West Virginia Power
	Utilicorp United	West Kootenay Power & Light
1988	Appalachian Power Co.	Chesapeake Light & Power Co.
	Monongahela Power Co.	Preston Electric Co.
	Southern Co.	Savannah Electric & Power
1989	Sherston Valley Electric Coop.	Albia Light and Railway Co.
	Pacific Power & Light Co. (PacifiCorp)	Utah Power & Light
1990	Iowa Resources	Midwest Energy
	Central Vermont Public Service	Allied Power and Light
	Eastern Utilities	Newport Electric Corp.

PANEL B: PENDING CONSOLIDATIONS AS OF DECEMBER 31, 1990*

<u>Year Initiated</u>	<u>Acquiring Firm</u>	<u>Target Firm</u>
1988	SCEcorp	San Diego Gas and Electric
1989	Eastern Utilities	UNITIL Corp.
1989	Eastern Utilities	Fitchburg Gas and Electric
1989	Northeast Utilities	Public Service Co. of New Hampshire
1990	Kansas Power and Light	Kansas Gas and Electric

PANEL C: FAILED CONSOLIDATION ATTEMPTS

<u>Year Initiated/Failed</u>	<u>Acquiring Firm</u>	<u>Target Firm</u>
1988/1988	San Diego Gas and Electric	Tucson Electric Power
1989/1989	WPL Holdings	Madison Gas and Electric
1989/1990	PacifiCorp	Pinnacle West Capital Corp.
1990/1990	Kansas City Power and Light	Kansas Gas and Electric

* Completed in 1991: Kansas Power and Light, and Kansas Gas and Electric. Failed in 1991: SCEcorp and San Diego Gas and Electric, and both proposed Eastern Utilities mergers.

Source: Edison Electric Institute (1990) *Mergers and Acquisitions* (1968-1990), *Electric Utility Week* (various issues), and Scott Fenn, *Mergers and Financial Restructuring in the Electric Power Industry* (1988).

Rankings of the completed IOU mergers in 1989 and 1990, and of pending IOU mergers at the end of 1990, illustrate the recent trend toward mergers involving large companies. Four of the nine mergers in this category involved acquiring and acquired utilities in the top two quartiles.²² Only two mergers in the 1980-1988 period involved a merger with both firms in those quartiles.

2.6 Consolidation Activity among Utilities: Wisconsin's Experience

The trend toward consolidation among utilities in Wisconsin has paralleled the national trend. As shown in Table 2.3, the number of Wisconsin utilities has fallen dramatically since 1931. The number of private electric utilities dropped eight-fold from ninety-six to twelve. There was also an eight-fold reduction in the number of telephone operating companies. There are about half as many gas companies now as there were in 1931. Many of the consolidations of gas distribution companies occurred before the 1930s. Natural gas was not available in Wisconsin until the late

TABLE 2.3

Public Utility Operating Companies in Wisconsin

<u>Year</u>	<u>Private Electric</u>	<u>Municipal Electric</u>	<u>Telephone</u>	<u>Gas</u>
1990	12	82	96	15
1988	12	82	99	15
1980	14	85	126	16
1970	19	86	138	18
1960	26	88	266	16
1950	42	90	521	22
1940	61	87	741	23
1931	96	85	783	28

Source: Public Service Commission of Wisconsin (1988 and various years) and conversation with PSCW staff.

²² We have adjusted the customer-number rankings as of December 31, 1989 to account for holding companies and utility systems.

1940s. The number of municipal utilities has remained relatively constant over the period; however, recently the number has been falling due to buy-outs by investor-owned utilities in the state.

2.7 Comparison of Electric Utility Merger Activity to Consolidation Activity in Other Industries

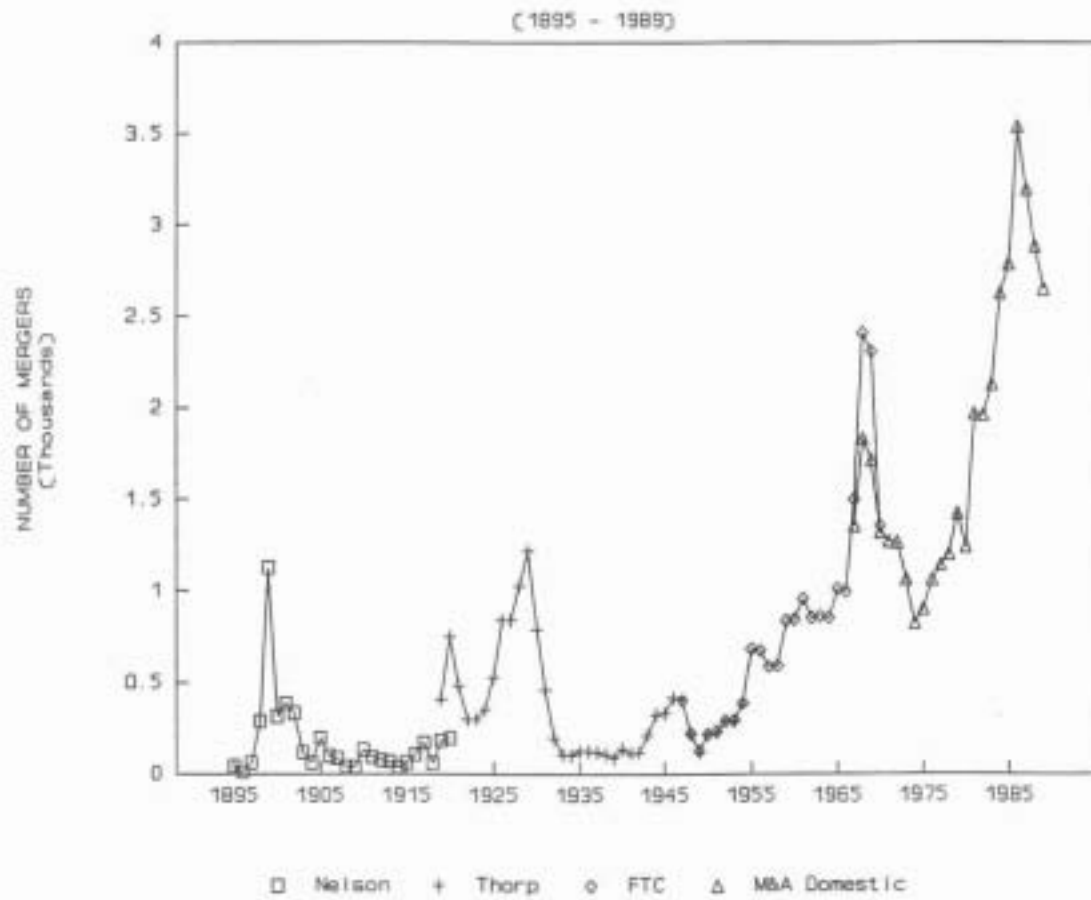
There have been four major merger waves in the United States economy. As shown in Figure 2.3, merger activity peaks occurred in 1898-1902, 1926-1930, and 1966-1969.²³ The most recent merger wave began in 1981 and reached a peak in 1986.

The initial 1898-1902 merger wave altered the composition of many industries.²⁴ Before the movement, most were composed of small to medium-sized firms; afterwards, most were dominated by only a few large firms. The peak of activity was in 1899 when 1,125 mergers were completed.

²³ Appendix 1 describes data sources for this analysis of consolidation trends in other industries.

²⁴ Nelson (1959)

FIGURE 2.3
MERGERS IN THE UNITED STATES ECONOMY



Source: Nelson (1959), Thorp (1929, 1941), FTC (1948-1979), M&A (1968-1990)

The second large-scale merger movement began in 1926 and peaked in 1929 with 1,216 consolidations. The consolidation activity during this period reestablished industrial concentration that had eroded over the first quarter-century. This merger wave corresponded roughly with the period of the largest amount of consolidation activity in the electric utility industry.

The next major wave of merger activity occurred in the late 1960s and has been characterized as the "conglomerate merger wave." In 1968, activity reached 2,407 mergers and acquisitions. Many analysts thought that diversification across industry areas and product lines would serve to stabilize intertemporal earnings and stock prices. This time period also corresponded with the largest amount of electric utility consolidation activity in recent times.

The final merger movement began in the early 1980s. In 1986, there were 3,541 consolidations completed, a historic high. The 1980s merger wave has yet to be given any broad characterization. One of the patterns most prevalent, however, involved the "bust-up takeover" in which assets of the target firm were spun off after acquisition. The proceeds from the sale of these assets were then used to reduce outstanding high-yield debt that was initially sold to finance the takeover. The most recent merger wave constituted a reversal of the conglomerate diversification activity that had occurred during the 1960s; it became apparent that diversification could be achieved more efficiently by securities investors. The electric utility industry does not appear to have participated in the most recent merger wave. As indicated above, there has been only a small number of electric utility consolidations throughout the entire decade.

Table 2.4 summarizes the differences in merger activity between the first part and the last part of the 1980s. Regulated industries with the largest increase in merger activity were in the communications sector; mobile radio/cellular and telephone firms showed 167 and 97 percent increases respectively. The IOU electric

TABLE 2.4
AVERAGE ANNUAL ACQUISITIONS/MERGERS

Industry	Annual Average (1981-1985)	Annual Average (1986-1989)	Percent Change
Mobile Radio/Cellular	4.40	11.75	167%
Telephone	8.00	15.75	97%
Electric Cooperatives	.80	1.50	86%
Radio	17.40	29.25	68%
Cable Television	23.80	36.75	54%
Gas Pipeline	2.20	3.25	48%
Air Transportation	6.00	8.00	33%
Electric Utilities	3.75	4.50	20%
Gas Distribution	5.40	6.00	11%
Television	16.40	17.50	7%
Water, Waste Utilities	1.20	1.25	4%
Railroad Transportation	3.20	2.50	-22%
Motor Freight Transportation	13.40	9.00	-33%
Electric Municipals	6.00	3.50	-42%
 M&A Domestic Series	 2291.80	 3067.25	 34%

Sources: Edison Electric Institute (1990), *Mergers & Acquisitions* (1980-1990); American Public Power Association; and National Rural Utilities Cooperative Finance Corporation

sector experienced a slight increase in average consolidation activity over this period.²⁵ Electric utility merger activity in the IOU sector equates with the mid-range of activity in other regulated sectors. Between the two subperiods, average annual consolidation activity in the broad economy increased 34 percent.

2.8 Summary

From a long-run perspective, consolidation activity in the electric utility industry is decreasing while that in the broad economy it is increasing. The electric industry has participated in only two of the four economy-wide merger waves. The electric utility industry has not participated substantially in the most recent wave.²⁶ The differences in merger patterns suggest that there are unique factors affecting electric utility mergers. These factors may include the nature of comprehensive regulatory oversight of the electric utility industry.

3 Regulatory Controls over Electric Utility Mergers

Federal and state regulatory agencies are almost always involved in approving a proposed merger by electric utilities. The principal federal agencies are the Federal Energy Regulatory Commission (FERC) and the Securities and Exchange Commission (SEC). State public utility regulatory commissions typically take the lead in state government authorization of proposed mergers.

²⁵ The number of electric utility mergers is small and the data are sensitive to the period chosen. If the period is extended from 1980-1990, the average for both sub-periods is 4.2 consolidations per year. Further research is needed to determine the relative proportion of firms within each industry that were involved in merger activity.

²⁶ More analysis is needed to establish the relationship of electric utility merger activities to those in the economy. A lower number of electric utility mergers can be expected over time and in comparison to the general economy since the absolute number of electric utilities is declining. While new firms are created continually in the general economy, there are no new electric 'public utilities' that are being created - although various new independent power producers are coming into existence.

The FERC's authority over mergers comes from Section 203 of the Federal Power Act. This section states:

No public utility shall sell, lease, or otherwise dispose of the whole of its facilities subject to the jurisdiction of the Commission, or any part thereof of a value in excess of \$50,000 or by any means whatsoever, directly or indirectly, merge or consolidate such facilities or any part thereof with those of any other person, or purchase, acquire or take any security of any other public utility, without first having secured an order of the Commission authorizing it to do so.²⁷

If the FERC has regulatory responsibility for either of the utilities involved in a proposed merger, then it has the authority to decide whether the merger can occur. The FERC has authority over most mergers because most electric utilities either sell electric power for resale in interstate commerce, have facilities that are used for transmission, or have hydroelectric facilities.

The FERC may not become involved in a merger between public utility holding companies if ownership of jurisdictional facilities does not change. For instance, in the recent merger between Iowa Resources and Midwest Energy, two utility holding companies in Iowa, the FERC did not assert jurisdiction because the public utilities were not to be consolidated at the time of the merger.²⁸ The FERC refusal to assert jurisdiction opens a pathway for public utilities to avoid FERC oversight by merging holding companies while maintaining the operating companies as unmerged corporate affiliates.²⁹ However, the Iowa holding companies may yet have to obtain FERC approval when they finally merge the public utilities.

The SEC's authority arises from the Public Utility Holding Company Act of 1935. Under PUHCA, any company that gains control of 10 percent of the voting securities of another electric utility is subject to SEC regulation.³⁰ Electric utilities

²⁷ Paragraph 824b(a) of Section 203 of the Federal Power Act.

²⁸ *Electric Utility Week*, "FERC: Holding Company Mergers Outside Commission Jurisdiction," December 17, 1990. See also FERC (1990a).

²⁹ *Electric Utility Week*, "MUNIS: Iowa Ruling Provides Path on How Mergers Can Sidestep FERC," January 21, 1991.

³⁰ Mone (1989, 144)

may avoid SEC jurisdiction if they request and receive an exemption from the SEC. The five exemptions in PUHCA (such as the one for intrastate holding companies) are sufficiently broad to keep most electric utility holding companies from falling under SEC jurisdiction.

In general, if the SEC and FERC both have jurisdiction over a proposed merger, the FERC can disclaim jurisdiction and the SEC will hear the case unless a PUHCA exemption has already been granted.³¹ Merging utilities can avoid SEC jurisdiction by choosing an organizational form that is not a PUHCA-defined holding company. For example, PacifiCorp, owner of Pacific Power & Light (PP&L), avoided SEC jurisdiction over its proposed merger with Utah Power & Light (UP&L) by placing UP&L and PP&L into separate corporate divisions.

State public utility commissions become involved in the merger approval process to the extent their respective state statutes authorize it. In some states, regulatory approval is required before ten percent or more of a utility's stock can be acquired.³² State and FERC jurisdictions are concurrent if FERC jurisdictional facilities are involved in the merger.³³ State regulatory commissions can approve or disapprove a merger directly. In addition, they can indirectly affect the likelihood that a merger will occur. For example, states control capital structure and ratemaking practices such as treatment of acquisition premiums, income taxes, and cost of capital determination. Since these financial factors can affect how a merger is financed, regulation can limit leveraged buy-outs. In addition, regulators can control the distribution of any cost savings from a merger.³⁴

State and federal agencies tend to have different criteria for evaluating mergers. Section 10 of the PUHCA lists the criteria the SEC should use in deciding whether to approve a merger. The principal criteria is that the merger "serve the public interest by tending toward the economical and efficient development of an

³¹ Mone (1988, 150)

³² Fenn (1988, 22)

³³ Mone (1988, 152)

³⁴ Fenn (1988, 22)

integrated public utility system."³⁵ Under Section 203(a) of the Federal Power Act, the FERC can approve a merger if it finds that the merger "will be consistent with the public interest."³⁶ The list of factors that the FERC has considered include:

1. the effect of the proposed merger on operating costs and rate levels,
2. the contemplated accounting treatment,
3. the reasonableness of the purchase price,
4. whether the acquiring utility has coerced the to-be-acquired utility into accepting the merger,
5. the effect of the proposed merger on the existing competitive situation,
6. whether the consolidation will impair effective regulation either by the FERC or the appropriate state regulatory authority, and
7. whether the merged companies can be operated economically and efficiently as a single entity.

The first six factors were used by the FERC in Commonwealth Edison Co., among others.³⁷ The FERC adopted the seventh factor from PUHCA's single integrated public utility system standard. This factor was an issue in the PacifiCorp merger because UP&L and PacifiCorp did not fully interconnect.³⁸

FERC's application of the seven factors has varied over time.³⁹ In most recent cases (specifically, PacifiCorp - UP&L, and SCEcorp - SDG&E), the FERC has focused on two factors: costs and rates, and the effect on the existing and future competitive situation. In the SCEcorp - SDG&E case, the FERC included an environmental assessment as an issue, but excluded it from the hearings on the other two factors by opening a separate docket.

³⁵ 15 U.S.C. section 79j(c)(2)

³⁶ Federal Power Act of 1935, Section 203, 16 U.S.C. section 824b(a) (1988).

³⁷ 36 FPC 927 (1966)

³⁸ Williams, (1989, 21)

³⁹ Williams (1989)

Merger applicants need not show the FERC a positive cost and rate benefit.⁴⁰ The FERC only requires a general showing of savings and efficiencies that might come from a merger. The FERC does not require applicants to provide an extensive cost of service analysis similar to what would be expected in a rate case. In addition, the FERC includes as savings those benefits that could have been achieved through contract or coordination.⁴¹ Finally, the FERC does not examine the reasonableness of the acquisition price, but does consider the implications of the acquisition price on capital structure and capital costs.⁴²

The FERC has undertaken anticompetitive analysis of mergers. The FERC's approach to analyzing a merger's impact on competition uses the Department of Justice's "Merger Guidelines."⁴³ The FERC examines relevant product and geographic markets for the existence of market power, and the likely effects of exercising that power. The FERC has tended to define the product markets as the wholesale and bulk power markets, and the transmission service market. Conditions were placed on the PacifiCorp - UP&L merger in an effort to preclude the combined utility from exploiting transmission monopoly in the wholesale and bulk power markets.

State regulatory commissions are also concerned about the public interest implications of a proposed merger, but it is likely that their focus will be on different factors from those considered by the FERC. For example, the utility's motives for consolidation and the retail rate effects are principal concerns of state regulators.⁴⁴

⁴⁰ Williams (1989, 21)

⁴¹ Perhaps the rationale for this position is that the companies' failure to obtain the benefits through contract or coordination is evidence that a merger is needed and, therefore, the benefits should be attributed to the merger. This rationale fails to explain why the alternative ways of achieving the benefits were rejected and what the implications of their rejection are for regulatory treatment of the proposed merger.

⁴² FERC (1990b, 65,099)

⁴³ FERC (1990b). The guidelines are found in Merger Guidelines - 1984, 4 Trade Reg. Rep. Para. 13,103 (1984); and Vertical Restraint Guidelines, 4 Trade Reg. Rep. Para. 13,105 (1985)

⁴⁴ Fenn (1988, 22)

Consolidations that only benefit certain stockholders are generally viewed quite skeptically by the state commissions. In examining the terms and conditions of a proposed merger, state commissions must balance the companies' desire to maximize economic value for shareholders and the consumer's right to quality service at a reasonable cost.⁴⁵ State commissions are more interested in positive showings of benefits for their ratepayers than the FERC. Utility managers appear cognizant of this state regulatory concern; rate freezes or decreases have been promised in all recent merger proposals.

The Department of Justice (DOJ), the Federal Trade Commission (FTC), and the Nuclear Regulatory Commission (NRC) can also play a role in the regulatory approval process for a proposed merger. Under the relevant antitrust statutes, the DOJ and the FTC should become concerned about a proposed merger if the merger has substantive effects on competition. The NRC takes an interest in a proposed merger if it results in the transfer of control of a nuclear license, thus requiring the commission's consent under the Atomic Energy Act. Recently the DOJ, FTC, and the NRC have not exercised significant involvement in regulatory consideration of electric mergers.

Overlapping jurisdictional responsibilities create jurisdictional conflicts and provide the opportunity for regulatory gaming by utilities. For example, the DOJ intervened in the proposed SCEcorp - SDG&E merger on issues related to evasion of rate regulation and lessening of competition in the sale of short-term bulk power in Northern California.⁴⁶ The DOE and SCEcorp agreed to a post-hearing stipulation in exchange for the DOJ's acceptance of the merger.⁴⁷ The terms of the stipulation were not entered into the record of the FERC inquiry, and, as a consequence, they could not be made part of any FERC conditions on the merger. The administrative law judge (ALJ) in the case noted there was no evidence in the record to confirm

⁴⁵ Mone (1989, 153)

⁴⁶ FERC (1990b)

⁴⁷ FERC (1990b, 65,145)

whether the terms were acceptable to the California Public Utilities Commission.⁴⁸ Subsequent to the ALJ's decision to deny the merger due in part to market power concerns, Lee Haney, senior vice president of finance and chief financial officer for SCEcorp, stated:

We believe that the record supports the nearly \$1.7 billion in merger benefits and that the antitrust conditions agreed to with the Department of Justice resolve any competitive concerns.⁴⁹

SCEcorp - SDG&E argued that the DOJ's acquiescence to the merger should have been sufficient to appease any FERC concerns about anticompetitive behavior.

Generally speaking, in seeking to determine whether a proposed merger is in the public interest, regulators appear to assess (1) the potential for an increase in economic welfare resulting from a merger and (2) the distributional effects of that merger across stakeholders. Regulatory decisions concerning proposed mergers can significantly affect the distribution of the merger benefits among stockholders and stakeholders, and, ultimately, the likelihood that the merger will be consummated. Regulatory decisions may have one or more of the following effects.

1. **The regulatory agency may deny the merger request.** This will result in stockholders not being compensated for premerger costs. However, in recent years, regulatory commissions have not been inclined to deny merger requests.
2. **The regulatory agency may place conditions on the merger.** The conditions may reduce market exploitation potential and the associated

⁴⁸ FERC (1990b, 65,145). Subsequent to the ALJ's decision, the California Public Utilities Commission (CPUC) did not accept the stipulated terms. Procedurally, the DOJ was not a party in the California proceeding and the companies did not make a DOJ witness available for cross-examination before the CPUC. Testimony in the record before the CPUC suggested that the merger would have anticompetitive effects in the wholesale transmission, inter-utility bulk power, and independent power production markets. The CPUC rejected the merger because it did not believe that any conditions could be placed on the merger to address these effects adequately [California Public Utilities (1991,265)].

⁴⁹ Dow Jones News Retrieval. 1990. "FERC Judge Rejects Proposed SCE Corp.-San Diego Gas Merger." November 27.

excess profit potential available to stockholders. For example, in the PacifiCorp - UP&L merger, the FERC placed conditions on the merger that gave transmission access to the combined system, and reduced the market power the combined company would have had in the bulk power market.

3. **Regulatory approval can affect the allocation of merger benefits among customers and stockholders.** For example, to win state regulatory approval, the merged companies may have to provide a rate benefit for retail customers. This benefit could take the form of a rate moratorium or a rate decrease. Assuming a fixed pool of possible benefits, the greater the rate benefit, the less the stockholders benefit from the merger. Post-merger regulatory monitoring will be needed to insure that the promised customer benefits are in fact delivered.
4. **Post-merger ratemaking practices may limit the benefits of the merger to stockholders.** For example, if an acquisition premium is not allowed into rate base, there will be a decrease in the merger benefit for the stockholders.
5. **Merger conditions or post-merger ratemaking practices may determine the allocation of merger benefits among the utilities' service markets.** In the PacifiCorp - UP&L merger, the FERC required that some benefits be given to wholesale customers so that not all of the available customer benefits flowed to retail markets.
6. **The approval process can delay the consummation of the merger.** For example, it took the California Public Utilities Commission more than two years to deny the proposed SCEcorp - SDG&E merger.

The scope of these regulatory actions suggests that the best "shark-repellant" may be public utility status. However, it appears that utility managers must place less than unitary probability on the effectiveness of the "regulatory shark-repellant" because of the widespread adoption of antitakeover measures in corporate charters.⁵⁰ In any

⁵⁰ Fenn (1988, 26)

case, these regulatory actions make public utility mergers distinctively different from mergers in other sectors of the economy where comprehensive regulation is not present.

4 Rationales Used to Justify and Rationales Used to Explain Mergers

Corporate managements in all industries must be prepared to justify proposed mergers. In the electric utility industry, justifications must be given to stockholders, stakeholders, and regulators. In this section, we examine the types of justifications that have been offered. We also discuss the rationales used by researchers who have studied merger activity in an attempt to explain why merger activity occurs.

4.1 The Synergy or Economic Efficiency Rationale

Electric utility mergers may increase societal value by improving efficiency in the delivery of that electricity service.⁵¹ Efficiency improvement can be both allocative and technical in nature. An allocative efficiency improvement could come from an increase in socially beneficial bulk power transactions between electric utilities. A technical efficiency improvement could arise from improved cost controls. The aggregate social welfare gain will depend not only on the reduction in supply costs, but also on how that reduction is passed on to consumers through lower prices. The aggregate gain in welfare will exceed the reduction of costs if ratepayers receive lower prices because there will be benefits arising from increased consumption of electricity.

Recent applications for mergers have argued that mergers will result in savings in generation and transmission costs, and in organizational costs. The purported generation and transmission cost savings are consistent with the kinds of improvements that might be expected if the merging utilities more closely coordinated their planning

⁵¹ For an analysis of the credibility of economic efficiency as a predominant motive for mergers see DeBondt and Thompson (1991).

and operations, such as through a tight power pool. In this regard, FERC (1981) identified fifteen different benefit sources from power pooling.

1. **Economies of scale:** savings from the construction of larger generating units and higher capacity transmission facilities.
2. **System reliability:** benefits from maintaining a suitable reliability level with less generation reserves and from improved reliability through coordinated transmission planning.
3. **Operating reserve:** savings in operating reserve, both spinning and nonspinning, resulting from sharing the reserve required to cover contingencies.
4. **Installed reserve:** savings due to installed capacity reductions resulting from coordinated capacity planning and the sharing of capacity between systems.
5. **Staggered construction:** savings from scheduling of new facilities to minimize periods and amounts of over or under capacity.
6. **Economy energy exchange:** savings from buying energy that is less expensive than the alternative currently available to the purchasing utility. The most highly developed form of this is central dispatch of two or more systems.
7. **Load diversity:** savings from reduced capacity requirements that result when interconnected systems reach peak load at differing times--seasonally, weekly, daily and hourly.
8. **Maintenance coordination:** savings from optimum scheduling of outages for maintenance by two or more systems to minimize use of high-cost replacement power and energy.
9. **Maximizing hydroelectric utilization:** savings from coordinated scheduling and dispatching of hydroelectric facilities of two or more systems to optimize the peaking power and energy available from these facilities.

10. **Diversity of errors:** benefit from the compensating effect of independent decisions by separate managements in limiting the consequences of errors in forecasting, generating mix and construction scheduling.
11. **Siting flexibility:** opportunities for a greater choice of power plant sites in the combined areas of coordinating systems.
12. **Resource diversity:** better ability to substitute alternative energy sources during shortages through the greater fuel-by-wire capabilities of coordinating systems.
13. **Maximum transmission utilization:** economies from fuller use of the transmission investment through coordinated system planning, coordinated daily scheduling of generating units, coordinated scheduling of generation and transmission outages, and real-time monitoring of transmission status from a single control center.
14. **Emergency response:** improved ability to avoid loss of load or minimize its duration during emergencies.
15. **Utility planning and operating quality:** improved level of proficiency resulting from information exchanges and joint analyses with other utilities.

A second source of cost savings is organizational costs. The principal savings in organizational costs comes through labor force reductions. Examples given in the PacifiCorp - UP&L merger application to the FERC of areas where cost savings from administrative combination such as in auditing, administration, data processing, environmental management, financial services, inventory control, insurance, fringe benefits, legal, shareholder relations, and regulatory relations.⁵²

That utility combinations may be more economical due to power supply and organizational cost economies is consistent with Williamson's argument that consolidation can economize on transaction costs.⁵³ However, he suggests there may be limits to the economies of consolidation and that mergers through holding

⁵² FERC Docket No. EC88-2-000, "Initial Brief of Applicants," April 19, 1988, 26.

⁵³ Williamson (1975)

companies "in which the component parts enjoy full autonomy . . . does not constitute internal organization of an administratively interesting kind."⁵⁴

Four central questions arise in an analysis of purported merger benefits.

1. Are benefit estimates accurate?
2. Are the benefits obtainable only through merger?
3. Will the benefits be sustained through time?
4. How will the benefits be allocated among stockholders and the various stakeholders?

The accuracy of purported merger benefits has been a subject of tremendous controversy. In part, the controversy arises because of arguments over the extent of economies of scale in the industry. For example, econometric studies of generation costs at the firm level have found substantial economies of scale at low production levels but none at higher levels.⁵⁵ Referencing an engineering study commissioned by Shearson Lehman Hutton Electric Utility Group, Tirello and Worms concluded that consolidation in the industry could reduce costs on the order of 2.9 percent.⁵⁶ This estimate is slightly higher than the mean of recent predictions of cost savings in recent merger cases. The range in these predictions is from less than 1 percent to 5.4 percent.⁵⁷

Estimates of cost savings provided by utilities have been the subject of serious dispute in recent merger cases before the FERC. Intervenors typically argue that the estimates are too high because the direct benefits are overstated or because certain costs associated with reorganization are understated or ignored.⁵⁸

⁵⁴ Williamson (1975, 117)

⁵⁵ Christensen and Green (1976) and Stevenson (1980)

⁵⁶ Tirello and Worms (1988)

⁵⁷ Hartman (1990)

⁵⁸ Hartman (1990) doubts the reliability of utility predictions of cost savings given the experience in other industries where merger-induced efficiency predictions were found to be unreliable 60-80 percent of the time, and given the likelihood that the actual costs and difficulties of integrating the firms may be under-estimated.

Once committed to obtaining a merger, there is an incentive for the merger applicants to provide optimistic estimates of cost savings. For example, in his order disapproving the SCEcorp - SDG&E merger, the ALJ stated:

A review of the record in this case leads to the inescapable conclusion that the Edison board of directors first concluded that the merger should be undertaken and only then did they seek the justifying labor savings premises.⁵⁹

The ALJ criticized the merger applicants for a lack of rigor in their methodology for estimating labor benefits,⁶⁰ and for not presenting a formal cost of service analysis that would have fully summarized the areas of cost savings within the traditional ratemaking context.

The benefits from merging should be distinguished from benefits obtainable in other ways. The alternatives to consolidation to achieve these benefits include (1) contractual agreements for those benefits only obtainable through mutual cooperation and (2) ongoing efficiency improvements within each individual utility.⁶¹ System-level economies of scale are likely to have been captured already by utilities through their use of joint ventures, power pooling arrangements, agreements to exchange power, and other bilateral and multilateral activities.⁶²

The aborted attempt by PacifiCorp to takeover Arizona Public Service Corp. (APS) provides an example of how managers can achieve benefits through contract rather than merger.⁶³

A day before the PacifiCorp board was to consider a hostile takeover offer, [the PacifiCorp CEO, Al] Gleason, sensing APS wasn't going to go for PacifiCorp's \$21 per share offer, went to Pinnacle CEO Richard Snell and said, "Is there another approach we should consider?" Snell

⁵⁹ FERC (1990b, 65,124)

⁶⁰ According to the ALJ, SCEcorp and SDG&E managements simply asked their managers to provide their own individual labor savings estimates.

⁶¹ Ray and Thompson (1990)

⁶² Joskow and Schmalensee (1983, 56)

⁶³ Arizona Public Service Corp. is owned by Pinnacle West.

committed to work out a contractual deal that would be attractive to both parties, and the rest is history.⁶⁴

The fundamentals of the agreements were decided in a day, and the contracts were completed in two weeks. George Galloway, PacifiCorp's lead counsel, described the negotiations as ". . . a gratifying experience. You had two CEOs directly involved who knew how to make a deal."⁶⁵ The result of the negotiations between the two CEOs produced an asset agreement, an operating agreement, a transmission agreement, and a power agreement covering the two utilities' power supply operations and planning.

Of particular interest in this case is that PacifiCorp decided to improve coordination with APS through contract, whereas in the UP&L case it chose to only pursue a merger. It raises the question as to what the determining factors are that motivate management to choose between coordination agreements and merging.

Power pooling provides a means for achieving coordination savings without merging. The decision to enter into a power pool involves several factors such as the economic benefits and costs, and the degree to which other utilities are committed to the pool.⁶⁶ Coordination also depends on the utility's behavior regarding other utilities as well as the nature of regulatory policies and incentives for coordination. The choice to joint a power pool will also depend on the sharing the net benefits of coordination. Indeed, sharing rules and the costs involved in achieving either a merger or higher degrees of coordination may be principal determinants of the choice.

The question of benefit sustainability is a difficult one to assess. In recent merger cases, the applicants gave estimates of merger benefits over five-year to ten-year periods. Even if the estimates are accurate, beyond that period the merger benefits may erode or even turn negative. This could occur if the outcome of a merger is the loss of competition which provides a strong incentive for efficient

⁶⁴ "Utility Traders Could Learn from PacifiCorp's Creative Accord with APS," *Electricity Journal*, November 1990, 6-8.

⁶⁵ Ibid.

⁶⁶ Gegax and Tschirhart (1984)

behavior. Studies have found that increased competitive pressure results in reduced electric utility operating costs.⁶⁷

Negative results could also occur because of the reduced ability of regulators to monitor the merged utilities. This will occur if regulatory oversight becomes more difficult because of the complexity of regulating larger utilities that may, such as in the case of PacifiCorp, be subject to regulation in multiple states. It will also occur when merger benefits accrue over time.

Regulatory monitoring might aid in sustaining the benefits. In their application to the Kansas Corporation Commission for approval of the merger between Kansas Power & Light and Kansas Gas & Electric, the applicants proposed an annual review of merger-related savings through the use of a tracking system. In recommending against the merger, staff testified that such a system would be difficult to implement and that the collected data would be highly questionable.⁶⁸ However, in its final decision, the Commission directed staff and the companies to develop a modified tracking system that will be used to assess merger-related benefits over a twenty-seven-year period.⁶⁹

The history of mergers in the industry both supports and questions the synergy or economic efficiency rationale. The declining number of mergers each year seems to be consistent with the efficiency rationale. It can be expected that as an industry matures, the opportunities for economic consolidations would decline. Also, the generally steady pace of mergers (as opposed to strong merger waves) suggests that the economic efficiency rationale may hold. On the other hand, the increase in the size of the mergers, particularly between the largest utilities, seems inconsistent with the rationale.

The economic efficiency argument relies, in part, on the assumption that the source of inefficiency is management. A classical example of this argument is the

⁶⁷ Stevenson (1982), Riefschneider and Stevenson (1991)

⁶⁸ Dow Jones New Retrieval. 1991. "Regulatory Staff Recommends Against Kansas Power & Light, Kansas Gas & Electric Merger." February 7, 1991.

⁶⁹ Kansas Corporation Commission (1991, 73-77)

case of Kansas Gas & Electric. In this case, management apparently placed its hope on maintaining value through regulatory maneuvering rather than productivity improvement.⁷⁰ Eventually the maneuvering failed, resulting in serious degradation of the company's financial condition. As could be expected, Kansas City Power & Light's attempted takeover of KGE did not occur until after the fall.

In summary, the efficiency rationale offers a strong economic argument in support of electric utility mergers that increase efficiency. Historical merger trends, economic studies, and recent merger cases provide support of the efficiency rationale. However, the increasing size of the utilities involved in mergers indicates that other motives may be at work as well.

4.2 Other Rationales Used to Justify Mergers

The synergies resulting in cost reductions and social value increases are not the only rationales offered by management for a merger. Other rationales include diversification, growth, taxes, and failing firm concerns.

Diversification may be set forth as a rationale if the merger between two utilities reduces the variability in the combined utility's earnings perhaps due to different customer mixes. Given the degree of diversification into different lines of business in the industry, one utility may be able to diversify into new lines of business by acquiring another utility that already has done so. The diversification motive has little support from modern portfolio theory that shows that investors can obtain diversification benefits within their own personal portfolios and do not need corporate diversification. However, managers may desire diversification to reduce risk on their personal wealth that tends to be mainly job related.⁷¹ Thus, diversification can be classified as a managerial motive.

Merging two electric utilities may make it possible for the combined utility to grow faster, such as through enhanced and coordinated industrial marketing programs.

⁷⁰ Studness (1990, 45)

⁷¹ Gilson (1986, Ch. 9)

Certainly some additional growth would be expected if synergies produce cost reductions. Growth in sales, revenues, or assets does not necessarily lead to value maximization for stockholders. However, growth is often viewed as a sign of good management, and, as a consequence, results in financial rewards for management. Therefore, growth can be mainly viewed as a managerial motive for mergers.

Merging may bring tax gains arising from a stepped-up basis, net operating losses, or capital structure changes. Again, however, finance theory suggests that these benefits may be obtained by techniques other than merging.⁷²

The failing firm rationale suggests a merger is required to provide the financial support to an otherwise viable and value-generating firm.⁷³ The nuclear power plant debacle of the 1980s produced financially weak utilities, and led to the first bankruptcy in the electric utility industry since the 1930s.⁷⁴ The fact that there has only been one bankruptcy of a major utility over the last sixty years suggests that the failing firm rationale is not a strong one in the electric utility industry.

The weaknesses noted in these rationales suggest that other motives are needed to explain the decision by utility management to seek or participate in a merger. The next section addresses those motives.

4.3 Rationales that Explain Merger Activity

Justifications given for mergers and explanations for the occurrence of mergers may often differ. Various explanations have been offered for mergers in the literature on the market for corporate control, and on neoclassical and industrial organization theory. Since the economic efficiency or synergy rationale overlaps with the justifications of mergers, the economic efficiency rationale was discussed in section 4.1.

⁷² Auerbach and Reischus (1988) studied 318 mergers from 1968-1983 and found little opportunity for such tax benefits. See also Gilson (1986, Chs. 9 and 12) and Gilson, Scholes, and Wolfson (1988).

⁷³ Manne (1965)

⁷⁴ The bankruptcy was of Public Service Co. of New Hampshire which is being acquired by Northeast Utilities.

In this section, we discuss four other possible motives of merger activity: undervaluation, breach of trust, monopoly power, and self-serving managerial motives.

If the market is undervaluing the target of a takeover bid, an acquisition will produce increased value for bidder stockholders while target stockholders lose. The market undervaluation explanation rests on a presumption of market disequilibrium. However, if financial markets are efficient, then systematic market undervaluation for sustained periods of time is not likely.

The breach of trust motive arises when mergers are sought as a means to break explicit or implicit contracts with stakeholders. Under this merger motive stakeholders (such as labor unions) who entered into these contracts with a trustworthy management find themselves victims of an opportunistic new management that fails to honor old contracts. For example, in many mergers, acquiring firms abrogate labor contracts shortly after acquisition.

Seeking monopoly power is a potent explanation for mergers. The occurrence of horizontal mergers or mergers in which essential facilities (such as the transmission network) are obtained, may provide the opportunity for the acquisition and exercise of monopoly power. As discussed in section 3, regulators may try to condition mergers in an attempt to ameliorate such power. But the regulatory-imposed conditions are often ineffective, burden certain stakeholders, and potentially benefit bidder and target stockholders.

Enhancing managerial well-being is also often a merger motive. Managerial motives arise when management acts in its own self interest as opposed to that either of its stockholders or stakeholders. Managerial motives frequently involve the pursuit of increased managerial welfare. For management, merger benefits may be pecuniary (such as through salary enhancement, favorable stock options, and golden parachutes), or nonpecuniary (such as increasing assets to control, increasing job status, and so on).

The existence of different rationales and rationalizations for mergers suggests that regulators need to be attentive to the particular circumstances behind each proposed merger as they decide whether it should be approved.

5 Merger Costs, Value Allocations, and the Motivation to Merge

Mergers affect value allocations among stockholders and stakeholders. Such allocations can be of two forms. If there is an increase in gross economic value as a result of a merger, the value allocation may be one of dividing up the "spoils" of the merger. If there is no increase in gross value, then the value allocations become significant wealth transfers among stockholders and stakeholders, particularly arising from the amount paid by the acquiring firm for the acquired firm. Most mergers have characteristics of both forms of value allocation.

Value allocations are important for two reasons. First, they are a primary determinant of the willingness of stockholders and the various stakeholders to agree to the merger. Second, the allocations affect the economic welfare of those groups over time. Value allocations for a merger are typically proposed by utility management, and are modified or conditioned through regulatory decision-making.

Management benefits often receive the most attention in merger attempts. However, other groups are affected as well. Stakeholders include groups within the utility (such as labor), within the merged utilities' franchised service territories (such as ratepayers, communities, wholesale customers and independent power producers), and within the bulk power market (such as other utilities and their customers, and independent power producers). Creditors, such as bondholders, have a significant interest. Government employees also are stakeholders in the sense that how they handle a proposed merger may have implications for their reelection, reappointment, career progression or future employment.

The potential value of a merger to any stakeholder depends upon several factors such as the size of the cost savings from the merger, the acquisition price, the extent of market power introduced by the merger, and management's assessment of the importance of gaining the support of the stakeholder. The greater the savings, the greater flexibility management and regulators have in allocating the benefits so the merger becomes a win-win situation for stockholders and stakeholders.

The acquisition cost poses complex allocation problems in these mergers due to the monopoly status and comprehensive regulation of electric utilities. In competitive

markets where consumer prices are set in the marketplace, any premium paid over fair market value would be covered by the capital providers. Paying such a premium would only be rational if there were some opportunity for increasing the total value of the two companies by merging.

If a premium over book value is paid in an electric utility merger, regulators may include all, some, or none of the premium in the utility customers' prices. Significant premiums are being paid; from 77 to 109 percent over book value in recent cases.⁷⁵ These premiums imply that either not all of the merger benefits (particularly cost savings) will be passed on to customers, that the merger will create opportunities for excess earnings (such as through the exercise of market power) that will not be detected by regulators and subsequently passed to customers, or that wealth transfers from stakeholders will occur. Although utilities have argued that ratepayers should contribute to paying for acquisition premiums, regulators typically do not include the premium in rates.

Assessing value allocations in mergers is difficult for several reasons. One reason is the existence of common costs in electricity supply make allocating of cost benefits arbitrary.⁷⁶ Game-theoretic allocations of supply costs in power pools have been proposed but the allocation methodologies have not been applied to allocating the combination of power supply and nonpower supply costs savings.⁷⁷ Another reason is that there is uncertainty about how effectively and the manner the combined utilities may use market power created through the merger. A final reason is that the reallocation of financial and economic risk is perhaps more difficult to quantify than

⁷⁵ Fenn (1988, 46)

⁷⁶ Mosier and Ellenbecker (1990) discuss the difficulties in allocating benefits and costs in the PacifiCorp - UP&L merger. The method chosen was called the "consensus allocation method" not because it was the best allocation method based on principles, but because it was the one that was acceptable to every party. The authors say that the true concepts in developing the allocation are fairness, equality, and sharing.

⁷⁷ Herriott (1985 and 1989) and Ray (1987)

the cost savings. Risk reallocation produces significant wealth transfers among stockholders and stakeholders.

The various affected groups will have specific concerns about a merger and its associated value allocations. Some of their concerns are described below.

1. Stockholders of the acquiring firm

The opportunity for increased value from a merger depends upon the acquisition price and whether the regulatory agency will allow any premium over book value into rate base. Stockholders also will be concerned about the extent to which cost savings are passed through to ratepayers, and the degree of regulatory control over potential excess profit available through the exercise of market power.

2. Stockholders of the acquired firm

Research shows that mergers typically benefit stockholders of the acquired firm more so than those of the acquiring firm, principally because of lucrative acquisition prices.

3. Bondholders and preferred stockholders

Changes in the capital structure, the manner in which acquisitions are financed, and changes in the overall riskiness of the merged firm's cash flows can result in value reallocations between the firm's various capital suppliers.

4. Ratepayers

Under the public utility concept, ratepayers pay just prices; that is, prices based on cost. Statutes typically require cost-based rates. Consequently, ratepayers can be expected to want complete flow-through of cost benefits from a merger. Ratepayers may also be concerned about the effectiveness of regulation in maintaining the flow of merger benefits over time. They also may be concerned about a decrease in incentive to innovate and to buy least-cost supplies if the merged utilities significantly reduce competition for bulk power services. Industrial ratepayers may have concerns about the competitive effects of a merger, particularly if they believe that the future may hold greater access to the transmission grid for them.

5. Independent power producers

Cogenerators, qualifying facilities, and other independent power producers may find decreased value in a merger because of a lack of access to the transmission grid

and because of the potential for self-dealing by the utility (given that many utilities also are partial owners of independent power facilities).

6. Wholesale customers

Like retail customers, wholesale customers could experience increased value depending upon the amount of value allocation through rate decreases. However, wholesale customers may suffer from the loss of access to the transmission grid needed to find low cost generation supplies, and from the loss of competition for wholesale customers between the two merging utilities.

7. Other utilities

Bulk power sales and the availability of transmission services may be significantly affected by a merger. In most recent merger cases, regulatory agencies have tended to impose conditions on transmission access to control the exercise of market power. This likelihood of regulatory conditions on transmission is so strong that most recent applications include terms and conditions of access to the transmission system. Thus, one apparent consequence of recent merger cases is that regulators have recognized and acted on the need for greater transmission access to achieve greater diversity in supply options for utilities and wholesale customers.

8. Communities

Communities at large can experience important changes in economic vitality and environmental quality as a result of a merger. Relocation of corporate offices and personnel can have a significant multiplier effect on the gross income of the community. Environmental effects also can occur. In the proposed SCEcorp - SDG&E merger, concerns were expressed about SCEcorp's achieving operating cost savings (needed to justify the merger) by increasing use of older and more environmentally damaging power plants in SDG&E's service territory.⁷⁸

9. Labor

Employees of the utilities can be thought of as working for their respective utility under an implicit contract whose terms and conditions are periodically changed, perhaps through labor negotiations. Electric utility mergers can change those

⁷⁸ FERC (1990b, 65,138)

contracts by decreasing benefits, altering work rules, and even by dissolution (that is, by lay-offs). It seems probable that labor will be one of the groups most likely to experience a decline in value after a merger. Individual employees may benefit depending upon the nature of the reorganization.

10. Management

Managerial motives arise from management seeking mergers for personal reasons other than stockholder benefit. Management can benefit in several ways. Pecuniary benefits may come from increased pay, bonuses, and job security. Nonpecuniary benefits may include expanded control over a larger pool of assets.⁷⁹

The financial community also has a substantial vested interest in electric utility mergers whether or not proposed mergers are consummated. Typical fees for financial advisors in a control contest are in excess of 1 percent of the value of the transaction.⁸⁰

6 Hostile Takeovers and Tender Offers in the Electric Utility Industry

Hostile takeovers and tender offers played a prominent role in restructuring the United States industry during the 1980s. They occupied the headlines of newspaper business pages, were the source of consternation in corporate boardrooms, spawned analysis and debate in academic literature and public forums, and inspired numerous state legislative actions. The legislative actions were premised on the idea that hostile takeovers and tender offers are settled between management, and bidder and target

⁷⁹ The role of target management in control contests has been analyzed by Easterbrook and Fischel (1981a; 1981b; 1982), Gilson (1981;1986), and Coffee (1988). The role of executive compensation plans (including golden parachutes) in easing or exacerbating the conflict between management and stockholders has been the subject of a number of studies. Koeber (1986) and Lambert and Larcker (1985) analyzed the benefits and costs of golden parachutes. Coffee (1988) analyzed the relationship between management and stockholders in a more comprehensive fashion.

⁸⁰ McLaughlin (1988) discusses financial fees. Ray and Thompson (1990) argue that the fees to the financial community would be \$1.44 billion if there were a major consolidation wave in the industry that reduces the number of utilities to 50.

shareholders who do not protect the interests of other stakeholders such as creditors, suppliers, employees, customers, and communities.

Schleifer and Summers argued that any gains achieved by the primary actors in a takeover contest may be at the expense of other stakeholders.⁸¹ They argue that the corporation is a nexus of long-term implicit contracts between stakeholders and stockholders, and that these contracts are based on a foundation of trust. Altering the contracts transfers wealth between the two groups. Thus, when implicit contracts are ignored or unilaterally altered in a takeover contest, there may be a transfer of wealth from stakeholders to stockholders.

Mergers also produce differential benefits for target and bidder stockholders. Studies have shown that target shareholders tend to receive greater benefits from mergers than bidding shareholders.⁸² These studies found that target shareholders tended to gain and bidding shareholders neither gained nor lost. These results support the hypothesis that the market for corporate control can be used to find the management team that acts in the best interests of stockholders.⁸³

Hostile takeovers and tender offers have not played a large part in merger activities in the electric utility industry.⁸⁴ The regulatory process may provide a degree of protection from "breach of trust" that is not present in unregulated industries. Without a source of wealth in transfers from implicit contracts, the bidder must find other sources or refrain from vigorous control contests.

Stakeholder protection can occur in several ways. Regulation tends to provide direct protection of stakeholders through rate regulation, financial structure controls, intercompany transactions regulation, and review of proposed mergers. In the regulatory environment, if a takeover is completed in which the bidder's offer price is

⁸¹ Schleifer and Summers (1988)

⁸² Jensen and Ruback (1983) supported this conclusion after evaluating the evidence from early statistical studies. A study by Jarrell, Brickley and Netter (1988) also supports this conclusion.

⁸³ Manne (1965)

⁸⁴ There has been an increase in "unfriendly" merger attempts in the last two years, suggesting increasing interest in hostile takeover attempts [Studness (1990b, 38)].

excessive, there may be little opportunity to exploit the stakeholders to provide benefits to the bidder. Consequently, excessive bid prices may only result in transfers of wealth from bidder to target shareholders.

The regulatory process also facilitates stakeholders seeking protection in the postmerger environment. Due process opens regulatory review to consider concerns of stakeholders and other affected parties.

Regulation protects stakeholders indirectly by slowing down corporate control transactions. Delays usually accrue to the benefit of existing stockholders or management and to the detriment of bidders. In hostile takeovers and tender offers, delays provide time to build a defense or to seek a white knight. Delays should not adversely affect stakeholders and may give them time to appeal to the regulatory process.

Regulation makes hostile takeovers less likely in the electric utility industry by reducing stockholders' value generated through power supply and organizational cost savings. In principle, rate of return regulation passes savings to the customers. Thus, this source of stockholder benefit from a successful takeover may not be present.

If regulation is effective in attending to stakeholder concerns and assuring ratepayers that they are receiving the cost savings of mergers, then hostile takeovers and tender offers are not likely to occur in the electric utility industry. The gains to bidders, be they from removing inefficiency or exploiting stakeholders, are most likely smaller than those that may be available in an unregulated industry.

To test this proposition we posit the no-stakeholder-effect hypothesis: effective regulation will preclude wealth transfers from stakeholders to stockholders in electric utility mergers. If this hypothesis holds, then we expect to observe the following.

1. Hostile bids for companies in the electric industry either should reduce the bidder's wealth or fail.
2. The combined wealth increase upon announcement of a hostile bid should be non-positive.
3. Stakeholders with explicit or implicit contracts with the target should be unaffected by a hostile bid.

We assume that the stakeholders who receive utility services under regulation pay cost-based rates and, consequently, receive the cost savings of a merger. If they do not receive the full merger benefits, then we assume a wealth transfer from stakeholders to stockholders has occurred. Evidence contradicting the no-stakeholder-effect hypothesis may indicate that regulation does not protect all stakeholders, or that either federal or state regulation is ineffective.

To test the no-stakeholder-effect hypothesis for hostile takeover attempts, we analyze three cases in the electric utility industry: (1) SCEcorp - San Diego Gas & Electric, (2) WPL Holdings and Madison Gas & Electric, and (3) Kansas City Power & Light and Kansas Gas & Electric. These cases will not allow us to obtain statistical evidence of wealth transfers among stakeholders and stockholders, but they may offer insight into the question of their existence. In July 1988, SCEcorp made a "hostile merger offer" to San Diego Gas & Electric. It was initially rebuffed, but when the price was later increased, the offer was accepted by San Diego Gas & Electric management. In March 1989, WPL Holdings made a "hostile merger offer" to Madison Gas & Electric. It was rejected and the offer was eventually dropped. Both of these cases represented hostile offers made to target management. No offer was made directly to stockholders.

In July 1990, the first unsolicited hostile tender offer was made in the electric utility industry when Kansas City Power & Light made a tender offer directly to the shareholders of Kansas Gas & Electric. Unlike other "unfriendly" merger attempts, this offer had been preceded by no merger discussions.⁸⁵ It eventually failed when Kansas Gas & Electric announced a merger with Kansas Power & Light.

6.1 Hostile Offers to Target Management: SCEcorp - San Diego Gas & Electric and WPL Holdings - Madison Gas & Electric

The SCEcorp - San Diego Gas & Electric merger can be characterized as the first hostile offer in the electric industry. The takeover attempt began on July 25,

⁸⁵ Studness (1990, 38)

1988, when SCEcorp offered to merge with San Diego Gas & Electric for an exchange of 1.15 SCEcorp shares for each San Diego Gas & Electric share. As detailed in Table 6.1, this amounted to a 9.75 percent premium over the market price of San Diego Gas & Electric. It raised the market price of San Diego Gas & Electric stock by 2.78 percent. The increase in SCEcorp price was 2.41 percent but was statistically insignificant. The excess return on the combined stock values was not statistically significant.

TABLE 6.1
Market Response to Merger Announcements

Company	Event Date	% Cumulative Abnormal Return (-10, +10) ^a	Dollar Abnormal Return (-10, +10) ^b
SCEcorp	07/25/88	2.41%	\$ 168,351,418
San Diego G & E		2.78*	52,240,342
Combined		2.49	220,591,760
SCEcorp	11/25/88	-4.08%*	\$-296,143,066
San Diego G & E		.50	10,408,669
Combined		-3.06	-285,745,397
WPL Holdings ^c	03/03/89	2.23%	\$ 13,155,191
Madison G & E		11.11	23,559,643
Combined		4.50	36,714,835

- * Significant at the 5% level.
- * Abnormal return is the difference between the return on the stock and the return on the CRSP weighted average return.
- ^b The cumulative dollar abnormal return is the abnormal return times the dollar value of equity at ten days before the announcement.
- ^c The CRSP weighted average was not available. These calculations are raw returns.

The 9.75 percent premium had insufficient economic appeal to San Diego Gas & Electric stockholders, and the initial bid was unsuccessful. A subsequent bid on November 25, 1988 was at an exchange rate of 1.3 shares or a 15.5 percent premium.

After this offer announcement the market price of SCEcorp fell by \$296 million and San Diego Gas & Electric Stock price remained essentially stable.

The decline in the combined values of SCEcorp and San Diego Gas & Electric suggests that the proposed merger offered no real benefit to stockholders. The decline may have resulted from SCEcorp's plan to use all savings from the merger to reduce rates in the first six years of the combination. Benefits from the merger may have been transferred from stockholders of SCEcorp to the ratepayers, and the costs of the merger placed on SCEcorp stockholders.

WPL Holdings began a "hostile merger" with Madison Gas & Electric that was subsequently aborted. WPL Holdings appears to have pursued the merger with increased bids until it was apparent that further increases would transfer wealth from WPL Holdings' stockholders to Madison Gas & Electric stockholders. Based on its present rate base policies, the Wisconsin Public Service Commission probably would not have allowed WPL Holdings to earn a return on the "excess" price paid for Madison Gas & Electric. This fact along with the elimination of competition between the two firms suggests that the Wisconsin Public Service Commission was controlling the implicit contracts with customers.

Both the SCEcorp and WPL Holdings cases are consistent with the hypothesis that the regulatory environment prevents transfer of wealth from stakeholders to target or bidding stockholders. In particular, the customer is protected by the regulatory process. The "success" of the SCEcorp case along with the decline in value indicates that the combination was seen as unattractive by stockholders, but the promise of rate reduction benefits a stakeholder group with a transfer of wealth from stockholders to ratepayers. The evidence presented here is consistent with the hypothesis that regulation prevents breach of trust in implicit contracts; however, the evidence is far from conclusive.

6.2 First Hostile Tender Offer: Kansas City Power & Light for Kansas Gas & Electric

On July 23, 1990, the financial wire services announced a cash tender by Kansas City Power & Light (KCPL) for all shares of Kansas Gas & Electric (KGE). The tender was \$27 for each common share and expired at midnight on August 20, 1990. The announcement also included offers for the preferred stock. The offers were conditional on obtaining at least 90 percent of the shares, obtaining all of the necessary regulatory approvals, acquiring sufficient financing, and winning exemption from the restrictive provisions of the Kansas Control Shares Act.

The immediate effect of the announcement was a 25 percent increase in the price of a share of KGE stock and a 2 percent decrease in the price of a share of KCPL. Figure 6.1 shows the dramatic effect of the initial announcement. On October 28, 1990 KGE and its white knight, Kansas Power & Light, announced a merger agreement thus precluding the success of Kansas City Power & Light's hostile takeover attempt.

During the time between the initial announcement of the tender by KCPL until the merger announcement between KGE and KPL, KGE stock traded between 15 percent and 30 percent over the preannouncement share price. KCPL, on the other hand, remained between zero and 10 percent below the preannouncement market price. Thus, consistent with our hypothesis, the market predicted a potential transfer of wealth between KCPL stockholders and KGE stockholders should the tender offer be successful. Table 6.2 shows that the combined average increase in the stock price between the tender announcement and the merger announcement was 6.18 percent - an increase in KGE stock of 23.16 percent and a reduction of KCPL stock of 4.43 percent.

FIGURE 6.1
KGE, KCPL AND KPL EXCESS RETURNS

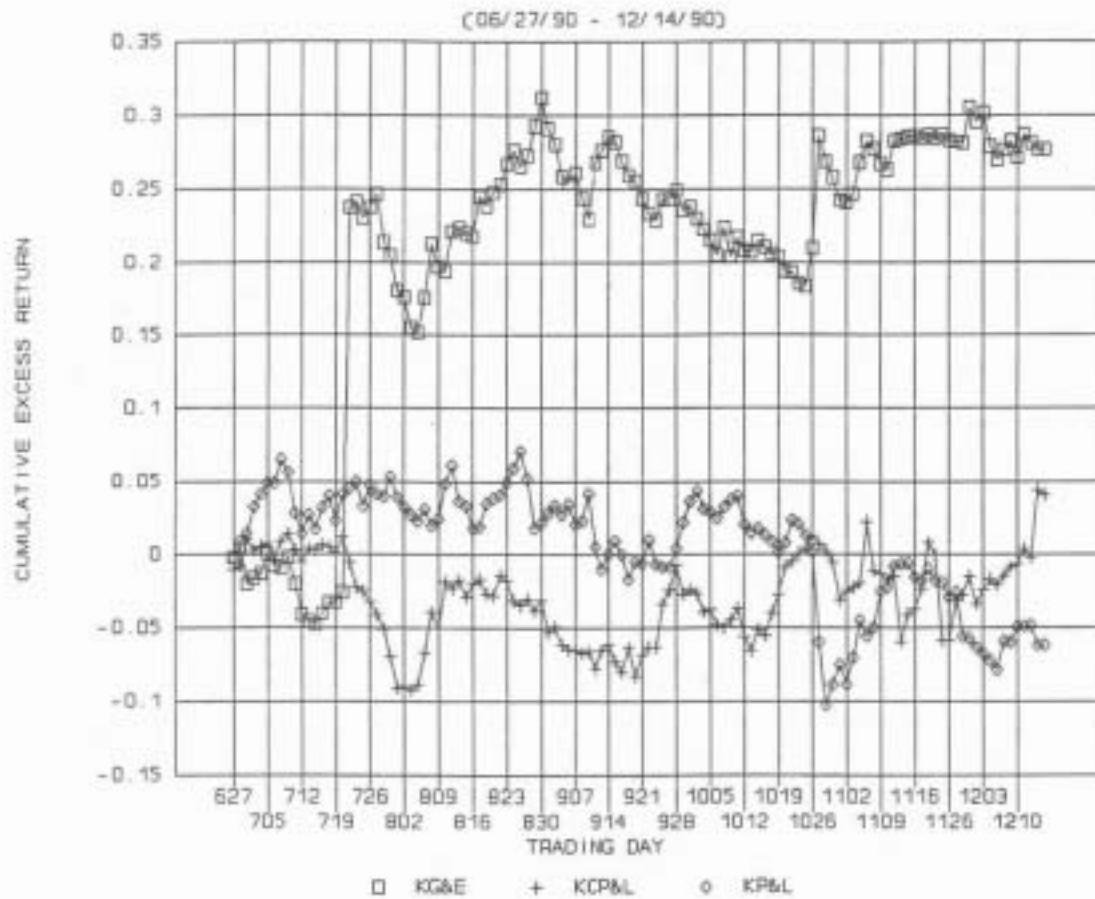


TABLE 6.2

Average Value Change 7/23/90 - 10/28/90
Kansas Gas & Electric and Kansas City Power & Light

Company	Share Price	Pre-Announcement		Average Increase	
		Shares Outstanding	Market Value	Percent	\$Value
KGE	\$19.750	31,715,000	\$ 626,371,250	23.16%	\$145,067,582
KCPL	32.375	30,945,000	1,001,844,375	-4.43	-44,381,706
Combined			\$1,628,215,625	6.18%	\$100,685,876

However, the net increase in the combined common stock price of \$100,685,876 may have come at a cost to some stakeholders. On the same day as announcement of the tender, Standard & Poors' Corp placed Kansas City's secured and unsecured debt and its preferred stock and commercial paper on Credit Watch with "negative implications." This suggests a wealth transfer from preferred shareholders and creditors of KCPL to stockholders of KCPL who in turn passed it on to KGE stockholders. However, KGE debt was put on "watch" for a potential upgrade so this may have been a "wash."

If the no-stakeholder-effect hypothesis holds, then the market value of KCPL stock should fall by the same amount as KGE stock increases. The existence of a \$100 million combined value increase requires some analysis. One possibility for explaining the value increase could be related to the uncertainty of successful completion of the takeover. When KCPL made its initial offer for KGE at \$27 a share, the market price of KGE rose only to \$24.75. This suggests that the probability assigned by the market for successful completion was less than 100 percent. The market price of KCPL fell by 7/8 of a point. If there were no effects on stakeholders, the fall in KCPL stock should have been \$4.69 to offset the rise in KGE stock. An explanation for the discrepancy is that the probability of KCPL being successful in the takeover was much smaller than the probability that KGE would be taken over or eventually merge with some other company. Once "in play," merger

targets become known and subject to auction from other bidders. Thus, the expected benefits to stockholders of KGE could exceed the expected loss to stockholders of KCPL even though completion of the combination would have no impact on stakeholders.

On October 29, 1990, the day after the definitive merger agreement between KPL and KGE, KCPL stock showed a positive abnormal return and actually exceeded its market price before the July bid for KGE. KGE increased in price and KPL decreased. Table 6.3 shows the average value change for KGE and KPL for the

TABLE 6.3

Average Value Change 10/28/90 - 12/14/90
Kansas Gas & Electric and Kansas City Power & Light

Company	Share Price	Pre-Announcement		Average Increase	
		Shares Outstanding	Market Value	Percent	\$Value
KGE	\$25.000	31,715,000	\$ 792,875,000	6.79%	\$ 53,836,213
KCPL	21.875	34,566,000	756,131,250	-4.93	-37,277,271
Combined			\$1,549,006,250	1.07%	\$ 16,558,942

period subsequent to the merger announcement. The increase to KGE stockholders and the decline to KPL stockholders came much closer to offsetting one another (although there was a \$16 million increase in combined value). However, the increase in value of KGE stock subsequent to the KCPL offer on July 23 was not lost. Thus, if this increase is compared to the loss in value to KPL stockholders, the difference remains over \$100 million. It appears that the merger of KGE and KPL produces an effect on stakeholders through a transfer of wealth. The next task is to inquire into the source of this wealth transfer.

One source could be the wealth increase investors expected to receive should the Kansas State Corporation Commission decide to authorize the sharing of cost savings between ratepayers and stockholders. The amount of the wealth increase

from shared cost savings would be dependent upon (1) anticipated level of cost savings, (2) amount and timing of the shared savings, and (3) the probability that a sharing plan would be authorized.⁸⁶

Another source of wealth could be from services offered in the bulk power market. In the merger announcement on October 26, 1990, KGE and KPL indicated that they foresaw the ability to move bulk power from Nebraska to Oklahoma and from Missouri to western Kansas. In their subsequent application to FERC for approval of the merger, KPL and KGE indicate that, in addition to the cost savings brought about by the merger, areas existed offering "additional benefits not currently quantifiable." Expanded bulk power transaction was one such area.⁸⁷ The merged company would interconnect with eleven other companies.

Perhaps the merger would enable the utilities to transfer wealth from bulk power providers and bulk power users to the companies providing transmission services. It is possible that this may have been the source of the added wealth to KGE stockholders and thus represented a real potential, as seen by the market, for transferring wealth from bulk power providers and users to KGE stockholders.

The bulk power issue became a significant one in the completed PacifiCorp - Utah Power & Light case.⁸⁸ It also arose in the SCECorp - San Diego Gas &

⁸⁶ In approving the merger, the Kansas State Corporation Commission (KCC) did establish a cost savings sharing plan. The plan was keyed to the amortization of approximately eighty percent of the \$388 million premium paid for KG&E. For the first four years after the merger, all cost savings accrue to ratepayers. Beginning in the fifth year, the annual cost savings accrues to the stockholders when the savings is less than the annual amortization amount of the premium. The annual amortization amount is based on a forty year amortization schedule beginning in the fifth year. There is a fifty-fifty sharing between ratepayers and stockholders for any savings that exceeds the annual amortized amount. Over the first 27 years after the merger, KCC staff and company witnesses estimated the value of the cost savings to be \$409 million and \$489 million respectively using a 9.25 percent discount rate. [Kansas Corporation Commission (1991)].

⁸⁷ *Electric Utility Week*, "KP&L Willing to Formalize Open Access Policy as Part of Merger," December 17, 1990, 8.

⁸⁸ *The Electricity Journal*, "What FERC said: The Utah - PacifiCorp Merger Decision," December 1988, 23. Also, FERC (1990b).

Electric case. In this case, the FERC Administrative Law Judge and the California Public Utilities Commission rejected the merger because it would create market power in bulk power transactions.⁸⁹

6.3 Conclusion

There have not been enough hostile mergers to provide sufficient data to reject the no-stakeholder-effect hypothesis. The general lack of hostile takeovers and the failure of the proposed SCEcorp and San Diego Gas & Electric, and the WPL Holdings and Madison Gas & Electric mergers are consistent with the hypothesis.

In the KCPL tender for the shares of KGE and the subsequent agreement between KPL and KGE, the net effect of the changes in stock prices of KCPL, KGE and KPL stock was an increase in stock value exceeding \$100 million. Thus, it appears that there was a wealth transfer from stakeholders to the stockholders of KGE. Principal sources of these gains could be the anticipation of an approved cost savings sharing plan and of an increase in market power through expanded control of transmission facilities. Although bulk power producers and users are not ordinarily thought of as stakeholders in a utility, they certainly have the characteristics of the traditional customer-stakeholder.

Capturable benefits from merger activity in the electric utility industry may center on opportunities to exert market power in the bulk power market. Administrative deregulation of the bulk power market may increase these opportunities, and bode for even more merger activity in the electric utility industry.

7 Discussion and Identification of Research Needs

Our review of electric utility merger activity has led to several conclusions. Except for the period following the passage of the Public Utility Holding Company

⁸⁹*Electric Utility Week*, "FERC ALJ: No Conditions Could Stem Ill Effects of SOCAL/SAN DIEGO GAS & ELECTRIC Merger," December 3, 1990, 7. The rejection decision is found in California Public Utilities Commission (1991, 269).

Act, consolidation in the electric utility industry has been continual since the pioneering stage of the industry's development. Mergers in the electric utility industry do not follow the merger patterns of other industries. Evidence suggests that consolidations in the industry do not have the large peaks and valleys found in other industries. Finally, in spite of predictions from the financial community and the recent wave of mergers in the rest of the economy, there does not appear to be a rising wave of electric utility mergers.

Data covering the last twenty-five years suggests that most electric utility mergers have resulted in smaller utilities going out of existence, and that most of the acquiring utilities are large. For an industry with a minimum efficient scale at a reasonably high level of production, these results are consistent with an economic rationale for mergers.

Recently, there has been an increase in merger activity among the largest firms in the industry. Since it is likely that economies of scale have been exhausted in the larger utilities, the merger of large utilities suggests that motivations other than economic rationalization are at work. Many of the alternative motives are not consistent with the public interest standard of regulation.

In assessing a merger request, regulators must determine whether a proposed merger is in the public interest or whether there are conditions that could be applied to render a proposed merger acceptable. Regulators should be open to the possibility that a merger is in the public interest. Good mergers should pass through the regulatory filter. Holding out the possibility that mergers will be allowed could be a socially beneficial public policy in that it facilitates a market discipline on inefficient management. Indeed, the fear of takeover may be a strong motive for the apparent emphasis on cost-cutting activity occurring in the industry today.

Even with mergers that are in the public interest, regulatory review of the distribution of benefits from a merger is important. Benefit distribution raises the difficult question of the appropriate criteria for fairness. One criterion of fairness might be "no harm;" if stakeholders are no worse off after the merger, then the distribution is fair. However, this criteria leaves open the question of who should receive the merger benefits. Another criterion might be "maximal ratepayer benefit."

A ratepayer benefit criterion is consistent with traditional regulatory standards, but may dissuade utility management from pursuing beneficial mergers because of an insufficient incentive to do so.

An alternative fairness criterion relates to process rather than outcome. This criterion could be called the 'consensus' criterion. The consensus criterion is satisfied when stakeholders agree with management and stockholders that the merger should occur. Due process provides the opportunity for the views of the stakeholders to be heard, although the adversarial decision-making process does not assure that consensus is reached.

If merger opportunities exist that are in the public interest, then it is appropriate to ask whether regulators should actively seek to identify and promote them. Regulators seldom, if ever, ask utility managers to study the benefits of mergers. Perhaps these requests have not been seen because regulators view them as examples of "micromanagement" wherein regulatory decision-making is perceived to pass too far into traditional utility management spheres of control. Perhaps the reason goes further back to the origins of the public utility concept where franchised corporate entities would be protected as long as they provided services at fair prices with good quality.

Regulators have been reluctant to deny mergers.⁹⁰ In recent years, regulators have focused more on the identity of a minimum set of conditions that might render a proposed merger 'safe' rather than the desirability of electric utility mergers per se. As regulators should be open to the possibility of socially beneficial mergers, so should they be aware of the substantial potential for socially detrimental mergers. Mergers may force wealth transfers and enhance the monopoly power of the merging utilities. While the enhancement of monopoly power may increase the value of the firm, it does not enhance social welfare since, among other problems, the diminution of competitive forces reduces the incentive to produce efficiently. Ironically, the

⁹⁰ State regulatory decisions in 1991 denying the proposed SCEcorp-SDG&E merger and the proposed acquisitions by Eastern Utilities indicate that there can be notable exceptions to this observation.

potential for a merger or takeover may increase managerial efficiency, but the realization of a merger may have the opposite effect.

Regulators should also keep in mind that there are alternative pathways for achieving the beneficial economic results that might arise from a merger. Regulators can encourage coordination, such as through power pooling, least-cost planning, and energy brokerage systems. In fact, promoting coordination will likely reduce merger activity by achieving many benefits frequently attributed to mergers.

This initial study of mergers in the electric utility industry has revealed the need for further research in three major areas.

1. A theory of choice between merging and increased coordination needs to be developed. A positive theory is needed to predict conditions when mergers would be preferred by utility management. Such a theory would provide insights as to the influence of regulatory policies on the urge to merge.
2. Case histories need to be written on completed electric utility mergers. Using the case histories and merger-specific data, electric utility mergers should be classified by such characteristics as size, geographic relationship, prior affiliation, technology, customer and load characteristics, regulatory environment, organizational structure, financial condition, and transmission system size and centrality in the bulk power market.
3. The consequences of past mergers should be ascertained. Expanded empirical work is needed on the extent of wealth transfers in electric utility mergers. In particular, it would be useful to collect detailed stakeholder-specific data indicating the extent of wealth transfers among stakeholders and stockholders. Such analysis would allow further examination of the no-stakeholder-effect hypothesis regarding the effectiveness of regulation using the methodological basis from the field of the market for corporate control.

The analysis of electric utility mergers would be enhanced by studies that update our understanding of the extent of economies of scale in the electric utility industry, and examine the effects of mergers and other forms of consolidation on the productivity and efficiency of electric utilities.

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Appendix

Description of Data Set Used Analyzing Merger Activity

A.1 Data Describing Recent IOU Merger Activity

The base data set describing completed activity in the period 1980-1989 is the Edison Electric Institute (EEI) data described in the text. Adjustments have been made utilizing information about known utility consolidations that have occurred over the period that were not included in the EEI data set. For the most part, the adjustment involved adding merger and acquisition activity in which a holding company system was used to facilitate the combination. The periodical *Mergers and Acquisitions* (M&A) was utilized to locate electric utility consolidations involving holding companies. Additionally, Moody's *Public Utility Manual* was checked for new holding company formations over the 1980-1989 period. The electric utility M&A data series has been extracted from a broad series covering consolidation activity in the electric, gas, water and sanitary services industries. The series has been adjusted to reflect only electric utility consolidations involving either a merger, or an acquisition in which at least 50 percent of the target firm's equity securities have been acquired. Further inclusion restrictions enforced by the publishers of M&A required that before 1980, the consolidation involve the exchange of securities having a value greater than \$700,000. In years subsequent to 1980, the minimum exchange value has been \$1,000,000.

A.2 Data for Consolidation Activity in Other Industries

The time-series commonly used to analyze merger activity, and that underlying Figure 2.2, originate from several distinct sources. For the period 1895-1920 the source is Nelson (1959). The period from 1920-1955 originates in Thorp (1929) and (1941) as well as in Federal Trade Commission (1955). The latter period has been recreated in Nelson (1959). The period 1948-1979 is covered by annual issues of the

Federal Trade Commission's *Statistical Report on Mergers and Acquisitions*. Additionally, the period beginning in 1968 and extending through the present is covered in various issues of the periodical *Mergers & Acquisitions*.

Data recorded by Nelson, Thorp and the Federal Trade Commission (FTC) cover only manufacturing and mining industries. A number of subclassifications by industry are available in the FTC publications, but none of the subclasses cover the utility industries specifically. The actual FTC series selected does not include public utility mergers. The M&A data includes business combinations from all domestic industries, including electric utilities and other regulated firms. For the most part, different selection criteria in terms of firm size and verification procedures were used in each of the data sources. As a result, none of the series is directly comparable. Golbe and White (1987) discuss some of the statistical problems involved in attempting to analyze the distinct merger time-series data. They also provide a more detailed analysis of the selection criteria underlying each source.