

**Analysis of Opinions of Municipal Administrators and
Municipal Politicians
Towards Electric Deregulation in Texas**

by

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Chapter 1: Introduction

Prologue

Picture the hypothetical situation at the city council meeting in Anytown, Texas. You are the manager of Anytown's electric utility department, and the fate of your utility is the subject of tonight's council meeting. Mayor Doe asks your opinion towards opening your city's utility to outside competition. You want to express some very legitimate fears of the possibility of losing your large customers to huge, investor-owned utilities. You have reservations, though, about expressing this opinion, knowing that critics will ridicule your fear of competition. "If you are running your utility as it should be," these critics will say, "you have nothing to fear from competition." The City Manager of Anytown also has reservations about open competition.

The mayor and council, while understanding the legitimate reservations presented to them by you and city manager, must balance these concerns with those of the public. The public attendance, while not large, is very vocal in wanting the freedom to choose their electricity provider. John Q. Public stands up and says that, while he may very well not choose to switch providers, certainly he should be offered the choice himself of whether or not to do so. This argument is not easy to refute. Who is right? How does city council decide what to do?

This scenario will play out in many cities in Texas over the next two years. The electric utility industry in Texas is facing some major changes over

the next few years. Deregulation looms on the horizon, and changes that will affect all participants in the industry are inevitable. All utilities, from the largest investor-owned utility to the smallest municipal utility will be forced to make decisions that could have serious implications for a large group of people. For at least the next few years, municipalities have a unique window of opportunity. Most will be able to decide whether to participate in a competitive electric utility market.

While this position could be viewed as positive by many, choice has a downside as well. Public administrators at many levels will have a stake in the decision. Municipal utility managers, as public administration practitioners, are responsible for positioning their utilities to survive a deregulated market. Since the administration of the utility is their primary function, municipal utility managers are usually well informed on deregulation issues. Deregulation is a key topic of the Texas Public Power Association's bi-annual meetings, which are attended mostly by municipal utility managers and directors. Some city managers attend these meetings, but they represent the minority of attendees. Because the managers are more informed, they are likely to be more aware of the potential benefits and pitfalls of participation in a competitive market. City managers have a hand in the utility operations. Their primary responsibility, however, necessitates involvement in all aspects of city government. City managers cannot focus all of their energy on matters affecting the utility. Mayors, as public administration political decision-makers, are responsible along

with city council for making the final decision on whether or not to open the city's doors to competition. The political decision-makers must balance what is best for the city with carrying out the wishes of its citizens.

The Texas Public Power Association (TPPA), which is the primary voice for municipalities at the Texas Legislature in the deregulation debate, spends some time trying to inform decision-makers about the dangers of participating in a competitive market, but the majority of the TPPA's efforts are focused on managers and directors.

Since 1978, the telecommunications, natural gas, airline, and trucking industries have been deregulated (Thompson, Fall 1996: 9), and many pressures now exist for the electric industry to follow suit (Thompson, Fall 1996: 14). The electric utility industry is the last major industry to face deregulation in the United States (Thompson, Fall 1996: 9). Although federal legislation has opened the door for the electric deregulation process, individual states must decide whether to initiate deregulation. In the 1997 Texas legislative session, no deregulation bill was introduced. However, at the initiation of Lieutenant Governor Bullock and with the blessing of Governor George Bush, the issue was discussed in detail (Bill Taylor, Chairman of the TPPA Restructuring Committee). Utility managers were aware that the issue was given a lot of attention, and that the Governor was a proponent of deregulation. It is likely that most municipal utility administrators expected that a deregulation bill in some form was inevitable for the 1999 session.

Research Purpose

A bill mandating deregulation of the Texas electric utility industry passed during the 1999 Texas Legislative Session. Municipal electric systems are not **required** to open their doors to competition. The purpose of this study is to 1) gather descriptive information about municipal utilities in Texas, 2) to determine the attitudes and opinions of municipal electric system managers and political decision makers about retail electric competition, and 3) determine if managers of municipal electric systems and municipal political decision-makers will have differing opinions towards participating in a competitive electric market. This paper is part of a research tradition at Southwest Texas State University, extending work done on previous applied research papers on electric deregulation by MPA graduates Thomas Glenn and Jeffrey Thompson.

Organization of Research

Chapter two contains a literature review defining deregulation of the electric utility industry, the three levels at which deregulation can occur, and a detailed description of unbundling. It further examines barriers to deregulation, forces driving deregulation, some arguments for and against deregulation, and the status of deregulation in the United States. The third chapter discusses the history of electric deregulation and examines the setting in which electric utilities currently operate. This includes a discussion of federal rulings, which effect electric utilities nationwide, and the legislation passed in Texas that pertains

specifically to retail electric competition in Texas. Also included in chapter 3 is some background information about the TPPA. Chapter four explains the research methodology and chapter five the results. Finally, chapter six gives the summary of the results and the conclusions of the research.

Chapter 2: Literature Review

Introduction

The purpose of the literature review chapter is to provide general background information on the electric utility industry in general, and more specifically into issues that arise in a deregulated market. The pros and cons of deregulating electric utilities are explored, as are other issues pertaining more specifically to municipalities. This chapter also develops and presents the conceptual framework, which serves as the theoretical organization for the empirical portion of the study.

The electric utility industry has been a regulated industry for many years. While other large industries, such as telecommunications, natural gas, trucking, and airlines have been deregulated in the last twenty years, electric utilities have, until recently, remained basically unchanged. The Energy Policy Act (EPAAct) of 1992 was the foundation for a deregulated market, allowing the Federal Energy Regulatory Commission (FERC) to force transmission-owning facilities to deliver power from generators to other utilities and electric wholesalers at reasonable, non-discriminatory, cost-based rates (Brennan et al., 1996: 31).

In 1994, retail electricity sales in the United States topped \$200 billion, more money than was spent on automobiles, telecommunications, or colleges and universities (Brennan et al., 1996: 1). It therefore becomes obvious that many people will be affected by electric deregulation.

Three Functions of the Electric Utility Industry

The electric utility industry performs three primary functions; generation, transmission, and distribution.

Generation

Generation is the process of creating electricity. Coal steam generation accounted for more than half of the electricity production in the United States in 1994, while nuclear power plants accounted for almost one-fourth of U.S. production (Brennan et al., 1996: 16). To some extent, deregulation already exists at this level. The EPAct of 1992 forces transmission-owning facilities to deliver ("wheel") power from generators to wholesalers at a "reasonable, non-discriminatory, court-based rate." (Brennan et al., 1996: 31)

Transmission

According to Brennan, Palmer, Koop, Krupnick, Stagliano, and Burtraw (1996), in *Shock to the System: Restructuring America's Electric Industry*, transmission is "the process of conducting the flow of electricity at high voltages from points of generation to the locations of groups of electricity users, such as residential neighborhoods, industrial parks, or commercial centers" (18). Transmission lines, substations with voltage transformers, circuit breakers, and other equipment is used for this process. This also is at least somewhat deregulated. Utilities that own transmission lines cannot prevent other utilities

from transmitting electricity through these lines, as mandated by the EPAct of 1992. The EPAct only pertains to transmission lines. Lines into the substations, where voltage is transformed to lower voltage, are not available for use by other utilities. These are protected because they are considered a natural monopoly.

Distribution and Retail Sales

Distribution is the process in which the high-voltage electricity is transformed to a lower voltage and delivered to individual customers. At this level, power transmission lines feed into substations. Substations step the power down to a lower voltage, and carry the power on lines to transformers throughout a distribution system. The transformers on poles lower the voltage even more, and from transformers, service lines run to each individual customer within the system. In the current industry structure, the distributor is also the retail seller of the electricity. The distributor measures consumption with an electric meter, and is responsible for calculating bills using the meter information. With very few exceptions, this function of the electric industry remains completely protected from competition, again, because it is considered a natural monopoly. This is the level where deregulation would offer individual choice to consumers, and so is under the heaviest scrutiny by lawmakers at all levels of government (Easter, Feb. 1997: 12).

The Natural Monopoly

The topic of a natural monopoly deserves more discussion. The natural monopoly status is an essential part of electric regulation, especially in the area of distribution. In the early years of the electric utility industry, some cities granted franchises to all companies desiring to supply electric service to its citizens. Cities felt that maximum competition would keep prices low. This may or may not have kept prices low, but an interesting problem associated with competition arose. Competition was inefficient because there were multiple poles duplicating service. Many electric companies installed poles, and ran wires, especially in commercial areas (Rudolph and Ridley, 1986: 31). This undoubtedly was quite an eyesore, and probably very unsafe. An additional reason for the natural monopoly status given to electric utilities is that the infrastructure cost for installing poles and transformers is high. An electric utility commonly figures costs for infrastructure into their rates, and might hesitate to build, or to maintain an existing line, if there is possibility that the investment is not recoverable.

Barriers to Deregulation

As stated earlier, the electric utility industry is the last large industry that remains regulated. In *Shock to the System: Restructuring America's Electric Industry*, Brennan, et al., offer three factors unique to the electric industry that have made competition difficult to implement:

1. Unlike other deregulated industries, flows of electricity across the network of interconnected power lines cannot be directed (this means a change in the amount of electricity generated by a utility will increase electricity flows through lines of neighboring utilities, and additions to the transmission system of one utility will decrease power flows at neighboring utilities).
2. Electricity is a unique commodity in that it must be produced largely upon demand so that blackouts do not occur.
3. Development of efficient markets for competitive power will require regulatory reforms and coordination by both state and regulatory agencies.

"Unbundling" Rates¹

The structure of the electric utility industry adds to the difficulty of deregulating. Many utilities are involved in all three functions of the industry: generation, transmission, and distribution. Many more operate simply at the distribution level, purchasing power from generators. In either case, utilities in regulated markets charge one rate based on an accumulation of many different expenses. In order to move to a competitive market, utilities will need to *unbundle* their rates. In the current residential billing structure, an electric utility company typically considers all of its expenses in setting one kilowatt hour rate. In a deregulated market, they will be required to breakdown each expense and show it separately on the utility bill. While unbundling is not particularly difficult for utilities to do, since they know what their expenses are, it can prove to be pretty complex for consumers, who instead of digesting one rate (at most

¹ For more information, see Navarro, 1996; Samuelson, 1997; Scott, 1996; Thompson, 1996

two or three if commercial) face the possibility of looking at up to eleven different categories of electric charges in their deregulated future,

This is the case in California, where deregulation is in its early stages. A sample bill is posted on the California Energy Commission's web page (www.energy.ca.gov/homeprofiler/your_electricity_bill.htm). It explains eleven categories that a California residential utility customer now sees on his or her electric bill:

1. Legislated 10 percent reduction.
2. Energy programs surcharge: placed in state treasury to support the state's energy efficiency, research and development, environmental, information and policy analysis programs not covered by the Public Purpose Programs (see item eight) charge.
3. Power Exchange Energy Credit: If consumers select an energy service provider other than their utility distribution company, they will receive this credit rather than a charge on their bill.
4. Competition Transition Charge: Allows for recovery of "stranded costs," meaning any costs for investments made to provide electricity service that is no longer needed or is not competitive in the new market.
5. Power Exchange Energy Charge: The cost for running the wholesale electricity market.
6. Transmission charges.
7. Distribution charges.
8. Public purpose programs: Low income assistance, energy efficiency technology, renewable energy development, and public interest energy research programs.
9. Nuclear decommissioning charges: To pay to dismantle California's remaining nuclear power plants after they are retired from operation.

10. Trust Transfer Amount: To finance tax-exempt bonds that were used for refinancing electric utility debt, to allow consumers to receive a 10 percent reduction in rates.
11. Other Charges: Public Utility Commission Reimbursement Fee, any city taxes, and any associated billing charges.

Forces Driving Regulation

In spite of the potential barriers to deregulation of the electric utility industry, many factions are pushing for competition in the market, for many reasons. No studies were found which specifically dealt with residential consumer opinions towards electric deregulation, perhaps because the group most interested in deregulation seems to be industrial users.

Martha Derthick and Paul Quirk, in their 1985 book *The Politics of Deregulation* offer some economic theories on deregulation in general, derived from their study of deregulation in the airline and telecommunication industries. They state that regulation crumbled because "the original public interest rationale for it ceased to comport with the economic reality (19)." Under changed economic circumstances, regulated or other comparably well-organized and economically interested groups came to want it (20). Interestingly, the authors note that little evidence exists that would indicate that consumers played more than a peripheral role in deregulation (25). No studies were found indicating the opinions of citizens towards deregulation which could either back this claim or refute it, but it is notable that as of September 1, 1998, only 100,000 customers in

California switched retail providers (Oto, 1998: 2410). This is a very low percentage of total consumers in California.

Industrial users have the most to gain in a deregulated market. In the *Harvard Business Review* January-February 1996 article "Electric Utilities: The Argument for Radical Deregulation," Peter Navarro offers some interesting figures that hint at the impact that a deregulated market could have on the United States. He says that if Japan operated under current United States regulatory rules, their rates would rise 30 percent. Translated into production numbers, the cost of paper, pulp, metals, and glass would increase 2.5 percent. Plastics, telecommunications, and textiles would rise 1 to 2 percent. The total impact on the Japanese economy would be to reduce the Japanese trade surplus by at least 6 percent, or \$6.7 billion. He implies that the United States would see corresponding *decreases* in a deregulated market.

Of course, residential customers can gain from competition. One of the forces driving deregulation is rate inequity. In a November 1, 1994 article written by Dr. Charles M. Studness for *Public Utilities Fortnightly*, a table on page 41 displays some amazing examples of rate inequities found in 1993. Some examples of rate inequities:

- Long Island, NY pays \$0.161/Kwh, 150 miles away, Scranton, PA pays \$0.082/Kwh
- Pittsburgh, PA pays \$0.124/Kwh, 50 miles away; Uniontown, PA pays \$0.065/Kwh.

- Dayton, OH pays \$0.082/Kwh, 140 miles away, Lexington, KY pays \$0.045/Kwh

It is conceivable that rate differences from region to region could be justified. The economy in general in the Northeast could be more inflated than the economy in the Southeast. It is more difficult to explain differences this great in towns just 50 miles apart. Obviously, one could deduce that a customer in Long Island would choose to buy power from the company that serves Scranton.

In general, Texas is a low-cost region, but inequities exist here as well. In general, the municipally owned utilities (MOU's) are less expensive than the investor owned utilities (IOU's). The March 1999 Texas Public Power Association (TPPA) newsletter lists the February 1999 average utility bill, calculated at 1,000 kWh, on a residential rate. The Investor-owned average is listed at \$73.44. The community-owned average (which includes cooperatives) is \$63.98. The average bill for MOU's listed on this chart is even lower, at \$59.98. This low price is probably one reason that some protections are offered to MOU's by the Texas bill. In most states, MOU's are on average 30 percent lower than IOU's. One reason for this is that MOU's are considered non-profit, and therefore tax-exempt (Conniff, June 1997: 26).

Pros and Cons of Electric Deregulation

The literature² reviewed provides many compelling arguments both for and against deregulation of the electric utility industry. Some of the arguments for and against deregulation are accepted universally by people on both sides of the issue. Many other arguments are held only by one side or the other. Many of these arguments are related more to IOU's than MOU's. What should be of extreme concern to municipal public administrators is that even if MOU's are exempt from competition, there are potential consequences that municipal governments could face. In a further reminder of the complexity of the issue, municipal governments can potentially **benefit** from deregulation as well. Regardless of which side of the argument one is on, a study of these arguments reinforces the undeniable fact that this is a very complex issue.

"Big Dogs Eat First"

Perhaps the most common argument against a deregulated market is that large industrial customers will gain the greatest benefits from retail deregulation, very possibly at the expense of residential customers. This is a position taken by the TPPA. This is a concern for all types of utilities, but municipal utilities may be even more susceptible to damage from losing large industrial customers. The

² for examples, see Aschenbach and Couret, 1998; Couret, 1998; Crews, 1997; Forbes, 1998; Navarro, 1996; Poole, 1984; Samuelson, 1997; Weimer, 1998

City of San Marcos, for example, generates approximately 18 percent of its electric revenue from 11 large commercial customers (from consumption and revenue reports). With an electric customer base of around 14,500 customers, these large commercial customers represent a microscopic percentage of the total number of customers, but a large portion of its revenue. As non-profit entities, municipal utilities would **have** to increase rates to residential customers if they lost 18 percent of their revenue base. This could be even more exaggerated in smaller cities, which could have fewer industrial customers that provide a higher percentage of revenue.

This argument is countered by those who feel that the threat of deregulation is already benefiting the industrial customers, who are using their leverage to negotiate better deals now. According to the Energy Information Administration, between 1994 and 1995, residential bills increased \$208 million, while industrial bills fell by \$1.1 billion (Crews and May 1997:11). This argument implies that the **threat** of deregulation is helping industrial customers to lower bills, but that the residential customers can not leverage the threat of deregulation; they will not benefit until they actually have the power to choose.

One problem with this argument in general is that it is easy to see that the downside is very real, but there are many examples where public administrators have realized benefits from electric deregulation, or will in the future. In Philadelphia, the threat of deregulation helped the city to negotiate a new power contract in 1996 which will save the city \$5.3 million per year for four years, and

the school district \$1.6 million a year (Robertson, 1996: 68). In California, savings to schools are estimated to be as high as \$200 million per year in a deregulated market (Scott, 1996: 13).

Stranded **Cost** Recovery

Stranded cost recovery may be the most heavily debated issue in the electric deregulation battle. In a regulated market, utilities invest money in generation, transmission, and distribution facilities to meet projected demand for their respective territories. These investments are made with the approval of their state's public utility commission, and costs are built into the utility rates (Brennan et al., 1996: 102). Some utilities are trying to fight deregulation in court, contending that permission received from state regulators to build was an implied guarantee of recovery (Weisman, 1997: 414).

Stranded cost recovery is an issue that is very complex. Some see stranded cost recovery as nothing more than a governmental bailout, or corporate welfare. Most estimates of total stranded costs run around \$200 billion. Some view full recovery of stranded costs as a shield that high-cost producers can use against lower-cost competitors, independent producers, and consumers (Navarro, 1996: 114). Twenty of the nation's 180 IOU's account for over \$100 billion of total stranded costs nationwide (Crews, 1997: 13). Almost half of the expected stranded costs (\$86 billion) are unpaid debt on nuclear power plant construction (Weiss, 1998: 64). Utilities that have a big stake in recovering stranded costs

spend big money to defeat opponents of stranded cost recovery. California's San Diego Gas and Electric spent \$22 million in 1998 in attempt to defeat Proposition 9, a proposition whose purpose is to remove the stranded cost recovery provisions from the California deregulation bill (Wasserman, 1998: 23). California's Pacific Gas and Electric is using its stranded cost windfall to buy many New England generating plants (Wasserman, Nov. 2, 1998: 24). In California, the cost of paying for stranded costs will severely limit savings for consumers until the end of 2001 (Asmus, Nov. 1997: 19) if Proposition 9 is not approved by voters.

In spite of the potential for abuse, most of the deregulation bills passing through state legislatures have included provisions for at least partial recovery of stranded costs. From the standpoint of municipal utilities, this may be beneficial. In Texas, very few municipal utilities generate their own power, but those that do could be devastated by a deregulation bill that did not allow for stranded cost recovery. Even those cities that do not own generation plants face financial damage if deregulation bills pass without stranded cost recovery provisions. At least ten nuclear plants are expected to close nationwide if utilities are unable to recover stranded costs (Aschenbach and Couret, 1998: 59). Plant closures have two serious implications for cities. Loss of jobs is one obvious concern, but the impact of lost taxes may be even greater. Investor-owned utilities pay \$15 billion in taxes annually (Aschenbach and Couret, 1998: 65). Even plants that do not close are likely to drop in value. This may not be as serious as closures, but

still has serious implications for city and county governments. For example, San Luis Obispo County is at risk of losing 17 percent of its tax revenue due to the devaluation of Pacific Gas and Electric's Diablo Canyon Nuclear plant and the Morro Bay fossil fuel plant (Asmus, 1997: 16). Seventy percent of San Luis Obispo's tax revenue comes from property taxes on the Diablo plant (Lacoursiere, 1997: 31). Deregulation will affect another source of municipal revenue, sales tax. Cities tax electricity sales, and if rates fall, sales tax receipts will fall (Asmus, 1997: 16).

One fear that is voiced from time to time is the effect on the investor-owned utilities stocks if they are not allowed to recover stranded costs. It makes sense to assume that unrecoverable stranded costs would have a devastating effect on stock prices. According to Steven Forbes (Forbes, 1998: 27), electric companies should simply write-off stranded costs as unrecoverable sunk costs. He offers an example of Pennsylvania Electric Company (PECO), who wrote off \$3 billion of its \$7.5 billion stranded costs. Following the write-off, PECO slashed their quarterly dividend by 45 percent. Rather than spelling financial ruin for PECO, their stock price has actually risen, from \$22.50 at the time of the cut to \$30 at the time the article was written (note: as of May 1, 1999, PECO stock was trading at \$47.50). A study of the seven years of electric deregulation in the United Kingdom shows that utility shareholders have actually been the primary beneficiaries (Kaplan, 1998: 40).

Environmental Arguments

Environmental issues come into play in discussions of deregulation. Some see deregulation as an environmentally sound policy. In California, environmental groups such as the Natural Resource Defense Council (NRDC) and the Environmental Defense Fund (EDF) favored deregulation because of the provisions for development of "green" power³ (Scott, 1998:56). Like many of the other deregulation issues, this issue is complex as well. While the environment benefits from the development of green power, deregulation will probably have some adverse effects on the environment. Simple economics tells us that as the price of a good drops, people consume more. It is generally believed that nationwide deregulation will lead to increased production from coal-fired plants in the Midwest. These plants can produce electricity at a very low price. Unfortunately, this increased production will result in increased carbon dioxide emissions. The only way for the federal government to regulate this is to put tighter regulatory controls on emissions. The result of tighter regulation would be to increase costs, which defeats the purpose of electric deregulation (Freedman, 1998: 74).

Nuclear safety comes into play in this discussion as well. Paul Gunter, of the Nuclear Information and Research Service, says that "To compete with natural gas and the like, reactor operators are slashing staffs, cutting safety

Green power is power generated from renewable sources, such as solar power and wind power

comers, speeding up refueling, and doing all sorts of wild stuff' (Wasserman, 1998: 14). Nuclear Regulatory Commissioner Shirley Jackson said that safety assessments at several reactor facilities "have identified deficiencies that may stem from the economic pressures on a licensee to be a low-cost energy producer" (Weiss, 1998: 65).

Reliability Concerns

In a deregulated market, some fear that reliability will suffer, because utilities may be hesitant to expend capital on system improvements, given the absence of guarantees that the investments will be returned. Clyde Wayne Crews, Jr., offers a compelling argument against this fear. In his article "Electricity Competition is Good for Consumers," in the May 1997 issue of *Consumers' Research Magazine*, reminding his readers that deregulation spawned numerous innovations in the telecommunications industry. Obviously, reliability is important to customers, and he feels that reliability innovations can help to draw customers in a competitive market. Innovation has been stimulated by electric deregulation in the United Kingdom (Kaplan, 1998: 40).

Legitimate concerns do exist. The nature of electricity places some limitations on power transmission. Typically, power lines suffer losses of ten percent (Brennan et al., 1996: 74). The power grid reaches a point where sending more power causes thermal breakdowns, and therefore power outages (Brennan et al., 1996: 75). Although improved technology has helped to more

effectively monitor the power grid, the addition of more generators as deregulation is implemented will make running grids a more complex proposition, and a need for regulation in this area could persist (Brennan et al., 1996: 78).

One interesting aspect of the reliability issue is found on the local distribution level. In a fully competitive market, each individual customer has a choice of suppliers. A customer in San Marcos, for example, may choose to purchase power from the City of Austin. Obviously, Austin will not run their own line to the customer's house: rather, they will use San Marcos' service lines, and will pay San Marcos a fee for the use of these lines. What happens to this customer during a large power outage? By law, San Marcos cannot treat this customer any differently than its other customers. The City of San Marcos is just as obligated by law to repair that customer's power in a timely manner. The reality is, however, that during a large outage, which could occur during a severe storm, a utility cannot restore everyone's power at the same time. Utility personnel must devise some method for prioritizing who gets power restored first. This is not to imply that a utility would act unethically, but at the same time, some temptation could exist to serve existing customers first. Under this scenario, non-customers would be the last to have their power restored. It makes good business sense for a utility that does not want to lose revenue to take care of their own customers first. Making customers wait for power while serving another utility's customer has the potential to alienate paying customers.

Other Municipal Dilemmas

Before deregulation, whoever delivered power to a city was also responsible for providing backup service. Depending on how contracts are written, suppliers in a deregulated market may not have that obligation (Benowitz and Robbins, Jan/Feb 1999: 4). This is not necessarily an argument for or against deregulation. Rather, it is another reminder of the complexity of issues for public administrators. It is something that administrators previously did not have to worry about.

Franchise fees are a good source of revenues for cities. As a deregulated industry inches closer to reality, cities should be careful not to foreclose competition by granting exclusive franchise fees. Public administrators can choose from two franchise fee policies. Franchise fees could, if allowed by new deregulation law, be charged to everyone who entered a city's service territory. Cities could also waive or lower franchise fees, to increase the number of competitors into their market and allow their citizens more choice (Benowitz and Robbins, 1999: 6).

Electric Deregulation Research Tradition

Electric deregulation as a topic of study continues a research tradition established by previous Masters of Public Administration students at Southwest Texas State University. Jeffrey Thompson, in the Fall of 1996, and Thomas

Glenn, in the Summer of 1999, wrote Applied Research Projects on deregulation of the electric utility industry.

Jeffrey Thompson, in the Fall 1996 semester, reviewed attitudes and expectations of public utility managers in regards to the effects of deregulation in the electric power industry. Thompson's paper measured the opinions of utility managers on the future effects of electric deregulation on pricing outcomes, staffing levels, quality of service, socially motivated programs, and level of payments to local city government. The expectations were split into short term (five year) and long term (ten year) effects. Thompson found that managers expected rates to increase, both short term and long term, for residential and small commercial customers, and expected prices to decrease in the short term and in the long term for large commercial and industrial customers. Managers expected levels of all types of staff to drop in both the short and long term. Managers expected quality of service to fall, and expected the level of socially motivated programs to be reduced. Managers also expected a reduction in payments to city government in the short and long term.

Thomas Glenn's Applied Research Project expanded on the work done by Thompson. Glenn's research paper, written in the Summer of 1999, followed up on Thompson's questions about pricing outcomes, staff level changes, and effect on general fund transfers. Unlike Thompson, Glenn also asked managers of their utilities' readiness and adaptability, and of their utilities' ability to compete. Glenn found that utility managers have some reservations about their ability to

adapt, but found that the majority of utility managers believe they can compete in a deregulated market. In regards to pricing outcomes, managers' opinions changed somewhat from when Thompson's survey was performed. Glen's survey found that managers expect residential prices to stabilize in the long term, whereas at the time of Thompson's study, managers felt that residential prices would continue to rise in the long term. Managers also were not as sure during Glenn's study as they were during Thompson's study that industrial customers would continue to see prices fall in the long term. Also, Glenn's survey determined that managers opinions changed in regards to staff levels. At the time of Thompson's survey, managers expected staffing levels to fall in both the short term and in the long term. Glenn's survey determined that managers now do not expect staff levels to fall either in the short term or in the long term.

This study, while not a follow-up to either Thompson or Glenn's Applied Research Projects, is an extension of the research tradition established by Thompson and Glenn. One similarity among all of the papers is the determination of attitudes towards which type of customer will benefit from retail electric competition. Surveys were used for all three papers, and many of the same sources were used for all three papers. The main difference between this paper and those of Glenn and Thompson is that this paper includes opinions of city managers and mayors, and not just of utility managers, and attempts to determine if any differences in opinion occur among directors, city managers, and mayors.

Conceptual Framework

Introduction

The research purpose is both descriptive and explanatory. The descriptive portion of the study has three purposes. First, it describes the demographic profile of the research sample, which is the municipal members of the TPPA. In addition, it describes the members' opinions about which types of customers will benefit from deregulation. It also describes the members' opinions about opening their doors to electric retail competition. The descriptive portion of this study uses descriptive categories, drawn from the literature.

The study is also explanatory, and uses hypotheses as the conceptual framework. The hypotheses test whether there are differences in opinion among administrators (electric utility directors, city managers), and politicians (mayors). It also investigates whether differences in background account for any differences. The question of whether public managers and politicians have different opinions about a policy management topic stems from the politics-administrator dichotomy in public administration. Public opinion and politics may be the key to whether or not conflict exists.

The Politics-Administrator Dichotomy

Woodrow Wilson, in an article in the July 1887 issue of *Political Science Quarterly*, first addresses what became the classic politics-administration dichotomy:

"Administration lies outside the sphere of politics." (Wilson, 1966: 370).
"Although politics sets the tasks for administration, it should not be suffered to manipulate its offices" (Wilson, 1966: 371).

In regards to the popular council-manager form of municipal government, the classic model holds that (Svara, Jan/Feb 1998: 51):

1. The city council does not get involved in administration.
2. The city manager has no involvement in shaping politics.
3. The manager occupies the role of a neutral expert who efficiently and effectively carries out the policies of the council.

According to F. J. Goodnow, politics and administration are the two primary and ultimate functions of all government systems (Waldo, 1948: 106). In a municipality, mayors represent the political side of government, while directors and city managers represent the administrative side of government. J. M. Pfiffner states that politics is responsible for the determination, crystallization, and declaration of the will of the community, while administrators carry into effect policies determined by the politicians once the will of the community is determined. He further states that politics should stick to its policy determining sphere and leave administrators to apply their own technical expertise (as cited in Waldo, 1948: 115). H. A. Stone, D. K. Price, and K. H. Stone, in discussing municipalities, foreshadow the potential for conflict surrounding policy decisions. They state that mayors and council alone are concerned with politics, while managers alone are concerned with

administration, both sides acting at times without regard to actual facts or desired goals (as cited in Waldo, 1948: 121).

Ideally, politicians need to see the big picture. As such, they must balance public opinion with arguments from technical experts. Their decisions should take both perspectives into account. Problems may occur when there is a conflict between what is politically expedient and what is best for the community in the long run (technical information may reveal problematic long run consequence of a decision). Other sources of conflict exist because differences in backgrounds (between administrator and politician) make communication difficult (Shields and Stalnaker, March 1994: 29).

In Texas, municipal governments are going to have to make a critical decision about opening their doors to electric competition in the next few years. As has been presented in throughout the literature review, this will be a very difficult and complex decision for public administrators. Public Administrators at several different levels of municipal government will be affected by this decision.

Municipal Utility Directors

Utility directors have the responsibility of managing their utilities with an eye to the future, and must position their utilities to survive in a competitive environment. As the most active practitioners, they are also the most informed about deregulation issues, dangers, and possible benefits. As managers of the

utilities, their focus is likely to be on what is best for the utility itself, with less concern for overall effects on the city. It may be very difficult for them to remain neutral on this issue.

City Managers

City managers are active practitioners as well, but since their scope of management is city-wide, most city managers will be well informed on deregulation issues, but not as much as the utility managers. They will also be more aware of the effects on the city as a whole, and not solely on the effects to the utility, and as with managers, many city managers may not be neutral.

Mayors and City Council

Although input should be accepted from city managers (Svara, 1998: 56), mayors and city councils will ultimately make the final decision on whether or not to open their cities' doors to competition. Mayors and councils are also more likely than managers and city managers to be cognizant of political pressures and public opinion. They are, after all, elected to represent the people of their cities. In Texas, the Texas Public Power Association does make efforts to inform politicians on their concerns towards deregulation, but they focus their efforts on mayors, probably for logistical reasons (73 municipal members, one mayor, up to six councilmen per city). It is conceivable, therefore, that mayors could be more informed on the subject of deregulation than councilmen are. Given the potential

effects of this decision, both positive and negative, mayors and city councils may be compelled to become more involved in administration.

Relevance of the Research

In a decision that is so critical, it would be beneficial for all parties involved to have the same opinions towards which actions should be taken. It is possible that all of these groups share the same opinion, either for or against allowing competition into their territories and/or pursuing customers outside of their territories. Then again, this may not be the case. If there are differing opinions towards competition, it would be beneficial for all parties involved to be aware of the potential conflict.

The following table summarizes the categories of the conceptual categories for this research, and description of the hypotheses drawn from the literature review:

Table 2.1: Summary Of Conceptual Framework

Purpose 1: Descriptive Information

Demographics	Literature
1. Number of customers	
2. Number of large/industrial customers	Crews, 1997
3. Percentage of total revenue from large/industrial customers	Weismann, 1997 Scott, 1996
4. Source of power	O'leary, 1996
5. Utility fund transfers	

Purpose 2: Attitudes and Opinions of Administrators and Politicians

Who benefits	Literature
Residential customers Small commercial customers Large commercial/industrial customers	Texas Public Power Association Navarro, 1996 Scott, 1996 Crews, 1997
Possibility of competition	
Customers surveyed Customers want competition Administrators/politicians want competition	Waldo, 1948 Wilson, 1966

Purpose 3: Testing for differences in opinion among municipal administrators and municipal political decision makers regarding deregulation issues.

Hypothesis 1: There will be differences in opinion among city administrators and politicians regarding who will benefit from electric competition

Dependent variable	Source
Competition is beneficial to: 1. residential customers 2. commercial customers 3. large commercial/industrial customers	Texas Public Power Association Crews, 1997 Scott, 1996
Independent variable	
Professional groups	Shields, 1994 Svara, 1998 Waldo, 1948 Wilson, 1966

Hypothesis 2: There will be differences in opinion among municipal administrators and municipal politicians regarding whether or not municipal utilities should open their doors to competition

Dependent variable	Source
The utility should or should not open its doors to competition: 1. administrators have surveyed customers' opinions 2. cities' customers would or would not like access to a competitive industry 3. administrators want to open their doors to competitors	Wilson, 1966 Waldo, 1948
Independent variable	
Professional groups	Shields, 1994

The next chapter discusses the setting of the research, another key topic in the discussion of electric deregulation.

Chapter 3: Setting

Introduction

The purpose of this chapter is 1) to analyze the complex and interesting legal history of electric deregulation, and 2) to describe the nature of the Texas Public Power Association. The TPPA municipal membership is used as the sample population for the empirical study.

Legal Setting: Introduction

The decision to deregulate is a decision currently left to each individual state to decide. For the purpose of this research, the focus will be on Senate Bill 7, the current Texas legislation. A summary of the history of federal legislation is included to give a feel for how and why the industry was regulated originally. Also included will be some discussion on current federal legislative efforts, because some federal lawmakers are attempting to exert federal influence on the deregulation issue.

Early Regulation

The first model for a state public utility commission was established in 1907 in Wisconsin and New York (Brennan et al., 1996: 21). The driving force behind a nationwide regulated market was Sam Insull, president of Chicago Edison, who in the mid 1910's told an astonished group of his peers at the National Electric Light Association that competition was "economically wrong"

for the electric business (Rudolph and Ridley, 1986: 38). Insull feared the growth of municipal utilities, and believed that state regulation would kill the growth of publicly owned systems (Rudolph and Ridley, 1986: 39). He was correct; by the mid-1920's, sixteen electric utilities produced 85 percent of the nation's electricity (Rudolph and Ridley, 1986: 46).⁴

In 1933, the Federal government made a foray into the electric industry, creating the Tennessee Valley Authority (TVA). The TVA was justified on the grounds of flood control, job creation, and rural development, but its central mission from the beginning was to provide electricity to towns and rural cooperatives. The federal government also created the Bonneville Power Administration in the Pacific Northwest in 1937 (Brennan et al, 1996: 24). In 1935, the federal government established the Rural Electrification Administration, which gave birth to rural electric cooperatives (Brennan et al., 1996: 80).

1950's: Nuclear Energy

Things were relatively quiet until the mid 1950's, when the Atomic Energy Act (1954) and the Electric Energy Development Act (1955) were passed in an effort to encourage the growth of nuclear power (Rudolph and Ridley,

⁴ It is ironic that the effect of consolidating the majority of electric production to just a few producers was an effect of regulation, and now some, such as Enron CEO Kenneth Lay expect the same result from deregulation 75 years later (Ota, Nov. 22, 1997: 2903).

1986: 195). The first nuclear power plant was opened in 1957, in Shippingport, Pennsylvania (Brennan et al., 1996: 25).

1970's: An Effort to Restructure

In 1978, Jimmy Carter made an effort to exert federal control over the electric utility sector with the Public Utilities Regulatory Policies Act (PURPA). As originally written, PURPA would have forced states to adopt marginal cost pricing, set standards for wheeling power, and forced utilities to purchase excess power produced by co-generators and plants using renewable fuels. As enacted, it made reform voluntary and reaffirmed deregulation as a state issue. The act forced utilities to connect the qualifying utilities to their grids, and to purchase their excess power, but every other decision was still left to individual states. The act also provided a ten- percent tax credit to generators using renewable fuel sources (Brennan et al., 1996: 29).

More Recent Federal Legislation

The federal government has again become active on the deregulation issue in the 1990's. In 1992, The Energy Policy Act of 1992 forced transmission-owning facilities to deliver power from generators to other utility wholesalers at a "reasonable, nondiscriminatory, court-based rate (31)." This act was by far the most successful attempt by the federal government to make deregulation a federal issue. In 1996, the Federal Energy Regulatory Commission (FERC)

issued Order 888, which specifies conditions under which all utilities must provide access to the transmission grid (Brennan et al, 1996: 31). Order 888 was designed to provide non-discriminatory access to transmission lines and to increase competition among wholesale electricity providers (Benowitz and Robbins, 1999: 2).

Recent efforts by the federal government to force deregulation on states have not met with great success. In 1997, Senator Dale Bumpers (D-Arkansas) introduced S 237, which would have mandated retail competition by December 15, 2003. In the House, Dan Schaefer (D-Colorado) introduced HR 655, which would have mandated nationwide retail competition by December 15, 2000 (Weisman, 1997: 416). Neither bill passed, and both Schaefer and Bumpers, two of the strongest proponents of federal involvement in the deregulation issue, will retire at the end of this session (Oto, 1998: 2410). This does not at all mean that the issue is dead on a federal level. President Clinton introduced a deregulation plan in March of 1998, allowing retail customers a choice by 2003. His plan includes \$3 billion to be paid into a federal fund, which would be available for low-income assistance, energy efficiency, and conservation. The plan is not expected to pass, but the fact that the issue is important to the President is significant. Vice President Gore is also a proponent of deregulation. He is quoted as saying of deregulation that:

"Competition is already beginning to reshape the way we generate and deliver electricity in America. It will spur innovation, create new incentives for

energy efficiency, and nearly triple our use of renewable energy." (as cited in Pope, 1998: 814)

It would be naïve to think that no further federal regulatory efforts are forthcoming, but the federal government has some problems to deal with before any attempts to fully deregulate can be taken seriously. Most pressing would be to determine what to do with the TVA and the Bonneville Power Authority. The TVA has \$27 billion in debt from building nuclear plants, and the funding bonds have full government backing (Kriz, 1998: 20). This does not exactly put the TVA on equal footing with an IOU such as Enron. Deregulation and federally run power companies are conflicting policies. If the federal government wants to take the decision of deregulation away from states, then federally owned power companies should be sold.

The federal government may have another problem that stems from deregulation. The Kyoto Agreement, signed in 1998, mandates that the United States reduce greenhouse gas emissions 7 percent below 1990 levels by 2012. If, as expected, deregulation leads to increased coal generation, the United States could have a difficult time meeting this goal (Freedman, 1998: 74).

Texas Legislation Prior to 1999

The 74th Session of the Texas Legislature (1995) offered some legislation pertaining to deregulation, but none pertaining specifically to electric utility restructuring. During the 75th Session (1997), however, some movement was

made towards deregulation. House Bill 12, introduced by Representative Chisum, seems to have been drafted more to prepare properly for deregulation than to mandate deregulation. It provided for the establishment of a "Council on Electric Industry Restructuring" (the Restructuring Committee) to investigate important deregulation issues. It directed the council to investigate issues such as stranded costs, reliability, consumer fairness, and social issues. Although there was quite a bit of debate and discussion regarding retail restructuring, no bill was specifically introduced. Lieutenant Governor Bob Bullock, at the urging of Governor Bush, initiated these discussions (Bill Taylor, Chairman of TPPA Restructuring Committee).

Texas Legislature: 76th Legislature, 1999

A restructuring bill, Senate Bill 7, passed during the 1999 legislative session. Below are some of the key provisions of the bill:

- Customers of IOU's within the Electric Reliability Council of Texas (ERCOT) may choose their electric supplier on January 1, 2002.
- Customers of an Electric Cooperative or a MOU may choose their supplier on or after January 1, 2002 if their MOU has opted into competition by a vote of the majority of its governing board or by competing outside of its certified service territory.
- Existing IOU's will be separated into the following types of companies: Transmission and distribution, generation, and retail provider.
- No single provider may own and control more than 20 percent of the generating capacity in the power region.

- Power regions must provide all market participants with open and nondiscriminatory access to the transmission and distribution systems.
- Consumers will be protected against unauthorized switching of services, cramming of bills and other anti-competitive or fraudulent marketing techniques.
- Customers will receive adequate consumer information about electric services and rates.
- All IOU rates are immediately frozen from now until the date competition begins.
- All (IOU) utilities subject to competition will be required to sell 15 percent of their generation capacity production through auctions to competitors.
- A utility (IOU) is allowed to recover up to 100 percent of stranded costs.
- The stranded costs will be estimated before the start of competition and reconsidered two years after competition.
- Requires retail providers to have a minimum of 1 percent of capacity from renewable energy technologies.
- Establishes a goal of 5 percent of renewable capacity in Texas by January 1,2007.
- Low-income programs are financed by a small systems benefit charge on all users.
- Consumers have the ability to aggregate to increase buying power.⁵

One advantage of the Texas legislation is that it does not abolish the Public Utility Commission. Some experts are of the opinion that abolition of a

⁵ Example: A resident in Circle C Ranch in Austin, acting on his own, will have little bargaining power. If he and his neighbors negotiate together with utilities, the aggregate and give themselves more power to negotiate.

state public utility commission could leave utilities open to anti-trust attacks (Poole, 1984: 62). Utilities are currently exempt from anti-trust attack because of state commission regulation. This protection was established by U.S. Supreme Court v Brown, 1943 (Poole, 1984: 54).

More of the bill pertains to IOU's than to MOU's, but the municipalities have some difficult decisions to make. Most important for cities is the provision that allows them to make the decision of whether or not to compete. It is also important to note that the protection goes two ways: the bill does not allow a utility to pursue customers outside of its territory while insulated from outside competition. If they want to pursue new customers, they automatically open their doors to competitors that can then court their customers.

Organizational Setting: Introduction

This section of the chapter will discuss the nature of the Texas Public Power Association. The history and purpose of the TPPA will be discussed, along with some background on its membership. The discussion of the TPPA explains the validity of choosing TPPA members as the survey sample.

History of the TPPA

The Texas Public Power Association was formed in 1978, to represent community-owned electric utilities. Members include municipal utilities, joint action agencies, river authorities, and electric cooperatives.

Purpose of TPPA

According to the TPPA directory, the TPPA exists to provide service to its membership by:

- ◆ Facilitating cooperation among member systems
- ◆ Assisting in the solution of mutual problems
- ◆ Promoting the exchange of ideas and experiences
- ◆ Operating a resource center for research and technical assistance
- ◆ Providing a spokesperson for the members concerning state and local issues
- ◆ Offering electric utility managerial and technical training

Membership

As mentioned above, the membership of the TPPA includes municipal utilities, joint action agencies, river authorities, and electric cooperatives. This research focuses on the municipal members of the TPPA. Seventy-three municipal electric utilities are members of the TPPA. There are 75 municipal electric utilities in Texas (Glenn, 1999: 43), which means that all but two of the municipal electric utilities in Texas are members of the TPPA (the other Texas cities are served by cooperatives or MOU's). This was a significant consideration in choosing TPPA members as the survey sample. The TPPA

provides a membership directory which lists directors, city managers, and mayors of member cities, along with their respective mailing addresses, so the information necessary for sending the surveys is very accessible.

Chapter 4: Methodology

Introduction

The purpose of this chapter is to review the research methodology used in this study. Methods of collection, measurement, and operationalization of the data are discussed. The statistical analysis of the data is discussed, and the strengths and weaknesses of survey research and of the data collected are reviewed.

The research purpose is both descriptive and explanatory. The descriptive portion of the study describes the demographic profile of the research sample, which is the municipal members of the TPPA. In addition, it describes these members' opinions of which types of customers will benefit from deregulation. It also describes the members' opinions on opening their doors to electric retail competition. The study is also explanatory. It seeks to determine whether differences in opinion occur among administrators (electric utility directors, city managers), and politicians (mayors), and if differences in background account for any differences.

Survey

Survey research was used to address the study's research purpose. The survey was drawn from the literature.

Justification of Survey Use

Survey research was used to gather demographic information and to determine the attitudes of utility directors, city managers, and mayors in regards to opening doors to competition. According to Earl Babbie, in the seventh edition of *The Practice of Social Research* (1995: 257), surveys are used for descriptive research. Babbie goes on to state that surveys are "chiefly used in studies that have individual people as the units of analysis." The attitudes of the three individual groups were measured by percentage distributions.

Strengths and Weaknesses of Survey Research

Babbie discusses a weakness of survey research that is relevant to this research, which is the potential for artificiality; surveys do not measure social action. Instead, they measure prospective action (Babbie, 1995: 274).

Operationalization of Conceptual Framework

As previously mentioned, survey research was used to address the study's research purpose. The survey was drawn from the literature. A copy of the surveys mailed to directors, city managers, and mayors is shown in Appendix A. Attitudes were measured on several questions regarding electric deregulation. These questions were in a Likert format, coded on a scale of -2 (strongly disagree) to 2 (strongly agree). According to Babbie, the Likert scale is appropriate for measuring the intensity of different items (Babbie, 1995: 177).

The questionnaire was distributed to several directors, assistant directors, and managers within the city of San Marcos for pre-testing. Also assisting in the pre-testing were Mark Zion, Executive Director of the TPPA, and Bill Taylor, General manager of Kerrville Public Utility, and chairman of the TPPA Restructuring Committee. Not all of those involved in the pre-test were knowledgeable on the topic of deregulation. However, those not knowledgeable on deregulation were graduates of the MPA program at Southwest Texas State University or the University of Texas, and knowledgeable about research in general.

Surveys were mailed to utility directors, city managers, and mayors of the 73 member cities of the TPPA. The response rate was very solid for city managers, as 51 percent (N=37) of the surveys were completed and returned. The response rate for directors, at 37 percent (N=27), was not as high as the city managers' response, but was still a solid response rate. The return rate of the mayors was only 30 percent (N= 22). Although this response rate was somewhat disappointing, it was expected for two reasons. First, many of the mayors who were sent surveys are not full-time mayors, and spend little time at city hall. This survey was probably not a priority to these mayors. Second, there was some fear that mayors might forward their questionnaires to their city managers. If this happened, the survey was unlikely to be completed, since the city manager would have already seen an identical survey come across their desk.

Table 3.1 summarizes the operationalization of the conceptual framework:

Table 3.1
Linking the Conceptual Framework to the Research Purpose and Survey Instrument

Purpose 1: Gather descriptive information

	Questionnaire Item
Number of customers	Questionnaire item 1
Number of large commercial and/or industrial customers	Questionnaire item 2
Percentage of total revenue that comes from large commercial and/or residential customers	Questionnaire item 3
Generates own power purchases from wholesale supplier, or mix of both	Questionnaire item 4
Do they transfer money from the utility fund to other funds within the city	Questionnaire item 5

Purpose 2: Attitudes and opinions about who will benefit from electric utility deregulation, and the possibility of entering a competitive market

Who benefits from deregulation	Questionnaire item
Residential customers	Questionnaire item 6
Small commercial customers	Questionnaire item 7
Large commercial and/or industrial customers	Questionnaire item 8
Competitive market	Questionnaire item
Surveys done to determine customers' opinions on deregulation	Questionnaire Item 9
Perception of customers' opinion on opening doors to competitors	Questionnaire Item 10
Will administrators choose to participate in a deregulated market	Questionnaire Item 11

Purpose 3:

Hypothesis 1: There will be differences in opinion among city administrators and political decision makers regarding who will benefit from electric competition

Dependent variable	Variable definition
Competition is beneficial to: Q#1 residential customers Q#2 commercial customers Q#3 large commercial/industrial customers	2 strongly agree 1 agree 0 neutral -1 disagree -2 strongly disagree
Independent variables	
Utility directors City Managers Mayors	

(note: question number differs on directors' survey: corresponding questions on directors survey for above are: Q#6, residential; Q#7, commercial; Q#8, largelindustrial customers...question numbers differ because only directors were asked demographic questions)

Hypothesis 2: There will be differences in opinion between municipal administrators and **municipal** political decision makers about whether or not municipal utilities should open their doors to competition

Dependent variable	Variable definition
The utility should or should not open its doors to competition: Q#4 administrators have surveyed customers' opinions Q#5 cities' customers would or would not like access to a competitive industry Q#6 administrators want to open their doors to competitors	2 strongly agree 1 agree 0 neutral -1 disagree -2 strongly disagree
Independent variable	
Utility directors City Managers Mayors	

(note: auestion number differs on directors' survey: corresponding questions on directors survey for above are: Q#9, surveyed customers; Q#10, customers wat competition; Q#11, utilities want to compete...question numbers differ because only directors were asked demographic questions)

Population

Surveys were mailed to the directors, city managers, and mayors of all cities listed as members of the Texas Public Power Association (TPPA) in the TPPA Newsletter. There are currently 73 members of TPPA listed in the newsletter. Appendix B provides a list of these cities.

Statistics

Percentage distribution was used to analyze and display data gathered from the survey allowed the hypotheses to be tested. The opinions of directors, city managers, and mayors were analyzed by comparison of means. A one-way analysis of variance (ANOVA) was used to test the hypotheses, to determine if differences of opinion among the three groups occurred in regards to electric retail competition benefiting different types of customers, and to opening their respective cities to competition.

At the suggestion of several of the participants in the pre-testing of the survey, the demographic information was only requested of the directors. It was suggested that, were mayors or city managers asked the demographic questions, these would be forwarded to the utility directors anyway. This suggestion may have contributed to the good response rate of the questionnaires. A response rate of 37 percent was attained from the directors, and 30 percent from the mayors, while the response rate of the city managers was a very solid 51 percent.

Chapter 5: Results

Introduction

The purpose of this chapter is to display and interpret the data compiled from the survey questions. The organization of the chapter is linked to the conceptual framework. The survey data will be presented in table form.

Purpose 1: Demographic Information

The first part of the conceptual framework is descriptive, gathering a demographic profile of the responding utilities. As previously mentioned, the demographic information was gathered only from the directors. Several categories were gathered for demographic purposes

Number of Customers

The number of customers was broken down into six categories. The categories and the frequencies for each category, by percentage distribution, are listed below in Table 5.1. The vast majority (66.6 percent) of the respondents 15,000 customers or less.

Number of Large **Commercial/Industrial** Customers

Large commercial customers provide an important source of revenue for municipal utilities. Table 5.1 below show the breakdown of industrial/commercial customers compiled from the survey. Considering the

number of cities responding that had 15,000 customers or less, it is significant that more than 70 percent of the respondents had six or more large commercial customers.

Percentage of Overall Revenue from Large Commercial Customers

Perhaps more critical than the number of large commercial customers is the percentage of utility revenue that comes from these customers. Table 5.1 summarizes this information, and reaffirms the importance of industrial customers to municipal utilities. Note that one-third of the directors indicate that 20 percent or more of their revenue comes from large commercial accounts. Nearly two-thirds of the directors indicate that more than ten percent of their revenue comes from large commercial accounts.

Transfer Utility Funds to Other City Accounts

Of the Twenty-seven responses received, only two cities reported that they did not transfer money from utility funds to other city funds. All of the other cities reported some sort of fund transfers. Since the types of transfers vary, a comment section was added to allow directors the chance to go into more detail about the transfers. Many directors did breakdown the types of transfers, and the variations in types of transfers were amazing. Some utilities transferred a flat, set percentage. Others transferred whatever was needed, and others paid franchise fees. Regardless of the form that the transfers take, it becomes obvious

that utility fund transfers are an important source of revenue to many city departments, not just the electric departments themselves.

Table 5.1: Demographic Profile of TPPA member cities

Number of Customers	Frequency	Percentage Distribution
Less than 5,000	12	44.4 %
5,000 to 15,000	6	22.2 %
15,001 to 25,000	2	7.4 %
25,001 to 50,000	5	18.6 %
50,001 to 100,000	1	3.7 %
More than 100,000	1	3.7 %
Total	27	100 %
Number of Customers	Frequency	Percentage Distribution
Less than 5	7	25.9 %
6 to 10	11	40.8 %
11 to 15	2	7.4 %
More than 15	7	25.9 %
Total	27	100 %
Percentage of Revenue from Large Commercial Accounts	Frequencies	Percentage Distribution
Less than 5%	7	25.9%
6% to 10%	4	14.9%
11% to 15%	3	11.1%
16% to 20%	4	14.8%
More than 20%	9	33.3%
Totals	27	100 %

Purpose 2: Attitudes and Opinions

The second part of the conceptual framework, also descriptive in nature, measures the opinions of municipal administrators about which type of customer

will benefit the most from retail electric competition, and also about whether or not customers and utilities want to participate in a competitive retail electric utility market. Responses are measured on a Likert Scale, ranging from a score of -2 (strongly disagree) to 2 (strongly agree). Table 5.2 displays these opinions.

It is interesting to note that very few of those surveyed believe that deregulation will benefit residential customers. Nearly 71 percent of the respondents either disagree or strongly disagree that residential customers will benefit from retail electric competition. A closer look at the means for the categories shows that the "residential customers" category is the only one in which respondents have a very strong opinion. The mean of -0.974 indicates that overall, respondents disagreed with the statement that residential customers would benefit from retail electric competition.

Also of note is the high percentage of respondents who are undecided about their customers' opinions towards participating in a competitive retail electric market. Perhaps most surprising is the high percentage (close to 50 percent) of respondents who are undecided about whether or not to open their cities' doors to retail electric competition. A mean score of -0.266 on the category of opening cities to competition indicates that opinions are not strong at all.

Table 5.2: Opinions of Directors, City Managers, and Mayors Towards Competition

Which customers benefit	Strongly agree/agree	Undecided	Strongly disagree/dis-agree	Total	Mean
Residential	8.2%	20.9%	70.9%	100% (N=86)	-0.974
Small commercial	24.4%	30.3%	45.3%	100% (N=86)	-0.341
Large commercial	43.0%	26.7%	30.3%	100% (N=86)	0.068
Competitive Market					
Surveys sent	20.9% yes	N/A	79.1% no	100% (N=86)	N/A
Customers want competition	16.3%	51.2%	32.1%	100% (N=86)	-0.185
Cities choose to compete	19.7%	47.7%	32.6%	100% (N=86)	-0.266

Purpose 3: Differences in Opinions Occur

The third purpose of this research, exploratory in nature, tests several hypotheses dealing with differences in opinions among directors, city managers, and mayors. A one-way analysis of variance (ANOVA) was run on several categories to test for differences in opinions (note: Appendix C displays the complete ANOVA results). Due to the unequal group sizes, a Levene Test for Homogeneity was run on each ANOVA to determine that ANOVA testing was

valid for the research. The Levene Test confirmed for hypothesis, an ANOVA could be used.

Do Residential Customers Benefit from Competition?

Hypothesis 1: There will be differences in opinion among directors, city managers, and mayors in regards to which customers will benefit from electric retail competition.

Hypothesis 1a: Opinions will differ on the following statement:
 "Residential customers will benefit from electric retail competition."

Table 5.3 below shows that null hypothesis 1a can not be rejected. No statistically significant differences occur among the three groups.

Table 5.3: Retail Customers Will Benefit from Retail Electric Competition

	Mean	Standard deviation	F statistic Significance level	Number of responses
Directors	-1.11	0.85	0.3640	27
City Managers	-0.89	1.15		37
Mayors	-0.95	1.00		22
Significance level			0.6960	

Commercial Customers will Benefit

Hypothesis 1b: Opinions will differ on the following statement:

"Commercial customers will benefit from electric retail competition."

As was the case with residential customers, all three groups are of the overall opinion that commercial customers will not benefit from competition. The opinions are not, however, as strong as they were regarding residential customers. In fact, the mayors as a group are closer to undecided. Table 5.4 displays the results. The null hypothesis for Hypothesis 1b can not be rejected. No statistically significant differences occur.

Table 5.4: Commercial Customers will Benefit From Retail Electric Competition

	Mean	Std. Deviation	f-Statistic Significance Level	Number of responses
Directors	-0.56	1.05	0.8352	27
City Managers	-0.30	1.24		37
Mayors	-0.14	1.13		22
Significance Level			0.4374	

Large Commercial Customers Benefit

Hypothesis 1c: Opinions will differ on the following statement:

"Large commercial and industrial customers will benefit from electric retail competition."

Opinions were also measured regarding the benefit to large commercial or industrial customers of retail electric competition. Table 5.5 measures these opinions. Noticeable differences of opinion were observed, but the differences were not statistically significant. The null hypothesis for Hypothesis 1c can not be rejected.

Table 5.5: Large Commercial/Industrial Customers will Benefit from Retail Electric Competition

	Mean	Std. Deviation	F-statistic Significance Level	Number of responses
Directors	-0.30	1.14	2.3501	27
City Managers	0.08	1.36		37
Mayors	0.50	1.30		22
Significance level			0.1017	

Opinions Towards Participation in a Competitive Market

One of the key provisions of Senate Bill 7 is the choice that is left to municipal utilities of whether or not to open their doors to competition. Therefore, the opinions of directors, city managers, and mayors towards

competition is very important. The third part of the conceptual framework, which is descriptive, determines these opinions.

Did Surveys Determine Customers' Opinions?

Public opinion could play a very important role in each municipality's decision about competition. Survey participants were asked if they surveyed their customers to determine if these customers wanted access to an open market. Most utilities have not performed such surveys yet, although to be fair, Senate Bill 7 was not passed too long ago. Of the responses received, 66.7 percent of the directors, 81.1 percent of the city managers, and 90.9 percent of the mayors answered that they had not yet surveyed customer opinion towards retail electric competition. Recipients were not asked if they had plans to survey their customers in the future.

Expectations of Customers' Opinion Towards Deregulation

Hypothesis 2: Opinions will differ among directors, city managers, and mayors in regards to opening doors to competition

Hypothesis 2a: Opinions will differ on the following statement: "Our customers would like to participate in a competitive retail electric market"

Although most utilities have not yet conducted public opinion surveys, they were asked whether they felt their customers felt strongly about retail

electric competition. Table 5.6 displays these opinions. No statistically significant differences occur among the three groups regarding opinion on whether their customers want access to a competitive retail electric market. Null hypothesis 2a can not be rejected

Table 5.6: Customers Want Retail Competition

	Mean	Std. Deviation	F-statistic Significance level	Number of responses
Directors	-0.30	0.91	0.5016	27
City Managers	-0.05	0.85		37
Mayors	-0.27	0.98		22
Significance level			0.6957	

Opening Doors to Competition

Hypothesis 2b: Opinions will differ on the following statement:

"When allowed by law, we (municipal utilities) will open our doors to electric retail competition"

Survey participants were asked whether or not they would choose to participate in a deregulated retail electric market, and open their doors to

competition. Table 5.7 displays these opinions. No statistically significant differences in opinion occur among directors, city managers, or mayors regarding the decision of whether or not to open cities' doors to competition. The null hypothesis for hypothesis 2b can not be rejected.

This was perhaps the most surprising response to the survey. It was expected that of the three groups, directors would have the strongest opinions about opening doors to competition, when in fact, they were the closest to undecided of the three groups. In general, all three groups seem to be undecided about what they will do at this time.

Table 5.7: Cities Will Open Their Doors to Competition

	Mean	Std. Deviation	F-statistic Significance Level	Number of responses
Directors	-0.11	1.01	0.7365	27
City Managers	-0.43	1.17		37
Mayors	-0.18	1.14		22
Significance level			0.4819	

Chapter 6: Conclusions

Introduction

The purpose of this chapter is to summarize the findings of this research, discuss weaknesses of the study, and discuss potential follow-up research.

Discussion of Findings

Table 6.1 summarizes the findings of the hypotheses:

Table 6.1: Summary of Hypotheses

Hypothesis 1: Differences in opinion will occur regarding which customers will benefit from deregulation:	
Hypothesis 1a: Differences in opinion will exist regarding the benefit of retail electric competition to residential customers	Failed to support
Hypothesis 1b: Differences in opinion will exist regarding the benefit of retail electric competition to commercial customers	Failed to support
Hypothesis 1c: Differences in opinion will exist regarding the benefit of retail electric competition to large commercial/industrial customers	Failed to support
Hypothesis 2: Differences in opinion will occur regarding opening doors to competition	
Hypothesis 2a: Differences in opinion will exist regarding customers wishing to have access to a competitive retail electric market	Failed to support
Hypothesis 2b: Differences in opinion will occur regarding the decision of whether or not to open doors to electric retail competition	Failed to support

Prior to sending the questionnaire, it was the opinion of the researcher that differences in opinion were very likely to occur for hypothesis 2b. This opinion was based on the perception of what was seen and heard at TPPA meetings. The opinions of mayors was unknown, but opinions towards opening doors to competition were expected to be more strongly against then they turned out to be. At the same time, it is good that differences in opinion do not occur at this time, from the standpoint of a municipal administrator.

Weaknesses of the research

It seems as though the timing of this research may have skewed some of the results. Opinions of mayors, and to a lesser degree, city managers, may not be formed yet, because the issue of electric retail competition is a fairly new issue. Opinions could form and become stronger as people get more information about deregulation. Since the issue is new, consumer interest may not be aroused much yet, so that city administrators that have not conducted customer surveys may not yet have a solid picture of what their customers want. At the same time, directors for the most part are aware of deregulation issues, but may be withholding final judgment on "opting in" to a competitive market until they see what kinds of problems other utilities run into. Also, directors do not ultimately have the final say in opting in to competition, the municipal politicians do. This fact may have swayed, or tempered the directors' opinions somewhat. Of course,

the possibility exists that opinions will differ no more among directors, city managers, and mayors.

Confidentiality issues weakened the research somewhat as well. The information would have been much more complete if the survey was conducted by telephone or via e-mail. While time restrictions affected the decision to mail out surveys, confidentiality was another issue considered in choosing to mail out surveys. Many administrators would have refused to answer if they were not absolutely certain that their confidentiality was assured, or at the least may not have answered as honestly.

The value of this research was weakened somewhat by excluding the largest body of political decision makers, the members of city councils. It would have been very interesting to have included city councils in the survey, but would have made for a very large number of surveys to be sent out.

Possible Follow-up Studies

It would be very interesting to duplicate this research in a year or two, as the date approaches when competition is allowed. Municipalities will be discussing deregulation issues in much greater detail as the deadline approaches, and opinions may become stronger, and possibly drift further apart as we get closer to the reality of retail electric competition. If differences in opinion still do not occur, perhaps some light would be shed on what the role of practitioners is in the political decision making process. Better information could also be

gathered regarding the effect of public opinion on the decision making process, as more utilities perform surveys to determine public opinion (or the lack of importance of public opinion would be displayed, if, two years from now, public opinion was still not quantified by the majority of cities).

Conclusion

Municipalities will be faced with some very serious choices in the very near future. Senate Bill 7 will force municipal administrators and municipal politicians to make decisions that could have serious impacts on their citizens. It is understandable that opinions have not yet been formed on many of the important deregulation issues, but a time will come in the next two years when "undecided" will no longer be an acceptable answer to these questions. There is much work to be done.

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Appendix A
Retail Electric Deregulation Survey - Directors

1. How many customers does your utility serve?
 - a. 15,000
 - b. 5,001 – 15,000
 - c. 15,001 – 50,000
 - d. 50,001 – 100,000
 - e. > 100,000

2. How many large commercial and/or industrial customers (500 kW and above) do you have?
 - a. < 5
 - b. 6-10
 - c. 11-15
 - d. > 16

3. What percentage of your electric revenue comes from these large commercial and/or industrial customers?
 - a. < 5%
 - b. 6% to 10%
 - c. 11% to 15%
 - d. 16% to 20%
 - e. > 20%

4. Do you generate your own electricity, or do you purchase from a wholesale electricity provider?
 - a. Generate our own electricity
 - b. Purchase from a wholesale provider
 - c. Both generate and purchase from a wholesale provider

5. Do you transfer electric utility funds to other funds within your city?
 - a. yes
 - b. no

6. Rate your opinion to the following statement: "Retail electric competition would be beneficial to our residential customers."
 - a. strongly disagree
 - b. disagree
 - c. undecided
 - d. agree
 - e. strongly agree

7. Rate your opinion to the following statement: "Retail electric competition would be beneficial to our *commercial* customers."
 - a. strongly disagree
 - b. disagree
 - c. undecided
 - d. agree
 - e. strongly agree

8. Rate your opinion to the following statement: "Retail electric competition would be beneficial to our *large commercial and/or industrial* customers."
 - a. strongly disagree
 - b. disagree
 - c. undecided
 - d. agree
 - e. strongly agree

9. Have you done any surveys or studies to determine if your customers would like to have access to a competitive electric utility market?
 - a. yes
 - b. no

10. Rate your customers' opinion towards the following statement: "The majority of om customers would like for us to open our service area to competition."
 - a. strongly disagree
 - b. disagree
 - c. undecided
 - d. agree
 - e. strongly agree

11. Rate your opinion on the following statement: "When allowed by law, our utility will choose to participate in a competitive market"
 - a. strongly disagree
 - b. disagree
 - c. uncertain
 - d. agree
 - e. strongly agree

Retail Electric Deregulation Survey – City Managers

1. Rate your opinion to the following statement: "Retail electric competition would be beneficial to our *residential* customers."
 - a. strongly disagree
 - b. disagree
 - c. undecided
 - d. agree
 - e. strongly agree

2. Rate your opinion to the following statement: "Retail electric competition would be beneficial to our *commercial* customers."
 - a. strongly disagree
 - b. disagree
 - c. undecided
 - d. agree
 - e. strongly agree

3. Rate your opinion to the following statement: "Retail electric competition would be beneficial to our *large commercial and/or industrial* customers."
 - a. strongly disagree
 - b. disagree
 - c. undecided
 - d. agree
 - e. strongly agree

4. Have you done any surveys or studies to determine if your customers would like to have access to a competitive electric utility market?
 - a. yes
 - b. no

5. Rate your customers' opinion towards the following statement: "The majority of our customers would like for us to open our service area to competition."
 - a. strongly disagree
 - b. disagree
 - c. undecided
 - d. agree
 - e. strongly agree

6. Rate your opinion on the following statement: "When allowed by law, our utility will choose to participate in a competitive market"
- a. strongly disagree
 - b. disagree
 - c. uncertain
 - d. agree
 - e. strongly agree

Retail Electric Deregulation Survey - Directors

1. Rate your opinion to the following statement: "Retail electric competition would be beneficial to our *residential* customers."
 - a. strongly disagree
 - b. disagree
 - c. undecided
 - d. agree
 - e. strongly agree

2. Rate your opinion to the following statement: "Retail electric competition would be beneficial to our *commercial* customers."
 - a. strongly disagree
 - b. disagree
 - c. undecided
 - d. agree
 - e. strongly agree

3. Rate your opinion to the following statement: "Retail electric competition would be beneficial to our *large commercial and/or industrial* customers."
 - a. strongly disagree
 - b. disagree
 - c. undecided
 - d. agree
 - e. strongly agree

4. Have you done any surveys or studies to determine if your customers would like to have access to a competitive electric utility market?
 - a. yes
 - b. no

5. Rate your customers' opinion towards the following statement: "The majority of our customers would like for us to open our service area to competition."
 - a. strongly disagree
 - b. disagree
 - c. undecided
 - d. agree
 - e. strongly agree

6. Rate your opinion on the following statement: "When allowed by law, our utility will choose to participate in a competitive market"
- a. strongly disagree
 - b. disagree
 - c. uncertain
 - d. agree
 - e. strongly agree

Appendix B

Texas Public Power Association Member Cities:

Austin	Jasper
Bartlett	Kerrville
Bastrop	Kirbyville
Bellville	La Grange
Boerne	Lampasas
Bowie	Lexington
Brady	Liberty
Brenham	Livingston
Bridgeport	Llano
Brownfield	Lockhart
Brownsville	Lubbock
Bryan	Luling
Burnet	Mason
Caldwell	Moulton
Castroville	New Braunfels
Coleman	Newton
College Station	Pineland
Cuero	Robstown
Denton	San Antonio
Electra	San Augustine
Farmersville	San Marcos
Flatonia	San Saba
Floresville	Sanger
Floydada	Schulenburg
Fredericksburg	Seguin
Garland	Seymour
Garrison	Shiner
Georgetown	Smithville
Giddings	Timpson
Goldsmith	Tulia
Goldthwaite	Waelder
Gonzales	Weatherford
Granbury	Weimar
Greenville	Whitesboro
Hallettsville	Yoakum
Hearne	
Hemphill	
Hempstead	
Hondo	

Appendix C: ANOVA Tables

The ANOVA for null hypothesis 1a, that there are no differences in opinion about whether residential customers will benefit from retail electric competition:

	D.F	Sum of Squares	Mean Squares	F	Significance
Between groups	2	0.7647	0.3824	0.3640	0.6960
Within groups	83	87.1888	1.0505		
Total	85	87.9535			

The ANOVA for null hypothesis 1b, that there are no differences in opinion about whether commercial customers will benefit from retail electric competition:

	D.F	Sum of Squares	Mean Squares	F	Significance
Between groups	2	2.2336	1.1168	0.8352	0.4374
Within groups	83	110.9873	1.3372		
Total	85	113.2209			

The ANOVA for null hypothesis 1c, that there are no differences in opinion about whether large commercial customers will benefit from retail electric competition:

	D.F	Sum of Squares	Mean Squares	F	Significance
Between groups	2	7.6950	3.8475	2.3501	0.1017
Within groups	83	135.8864	1.6372		
Total	85	143.5814			

The ANOVA for null hypothesis 2a, that there are no differences in opinion regarding whether customers want access to a competitive retail electric utility market

	D.F	Sum of Squares	Mean Squares	F	Significance
Between groups	2	1.1381	0.5690	0.6957	0.5016
Within groups	83	68.8852	0.8179		
Total	85	69.0233			

The ANOVA for null hypothesis 2b, that there are no differences in opinion about doors should be opened to competition

	D.F	Sum of Squares	Maen Squares	F	Significance
Between groups	2	1.8284	0.9142	0.7365	0.4819
Within groups	83	103.0205	1.241		
Total	85	104.8488			