

Improving Mississippi's Utility Regulatory Structure

**Review and recommendations, especially from the
perspective of regulating the electric industry**

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when professional experience matters

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Executive Summary

The statutory authority to regulate public utilities sunsets December 31, 2018, providing an opportunity for the Mississippi legislature to make improvements to its structure.

The regulation of natural monopolies is a unique feature in American government. It originates from a bargain between the utility companies and state governments whereby the companies are allowed to operate monopolies in exchange for being regulated for price and reliability of service. However, the scope of the regulatory goals and control has expanded since the 1960s, and the process has become more legalized, including reviewing investment decisions for prudence, imposing energy conservation measures, and restricting siting decisions.

Despite the uniqueness of the bargain, fundamental American principles of governance still apply. The structure must be designed assuming that humans have defective motives by separating rival interests where each can be a check on the other.

The U.S. system of regulating investor-owned utilities is perhaps the best in the world, allowing Americans to benefit from affordable and reliable service. Important principles include the following:

- a. Judicial procedures to balance conflicting interests.
- b. All stakeholders have the right to participate, review relevant documents, and submit expert testimony.
- c. The proceedings are open and transparent.
- d. Consumers deserve prices that are “just and reasonable.”
- e. Prices must relate to costs.
- f. Investors deserve the opportunity for a fair rate of return.
- g. Investments cannot be confiscated.

Research supports the following characteristics for successful regulatory commissions:

1. Impartial and politically independent commissions
2. Adequate resources available to the commissions
3. Professionalism
4. Balance in the adversarial process, especially competent utility consumer representation.

Economic studies have found no evidence for the regulatory capture theory and little support for other theories on how regulatory commissions behave. However, this does not mean that individual commissioners have not been unduly influenced or that commissions do not make bad decisions.

Economic research indicates that elected commissions perform better than appointed commissions. Therefore, safeguards for election integrity are important.

Mississippi differs from other state elected commissions as follows:

1. Mississippi does not stagger terms

2. Mississippi has four-year terms while most use six-year terms.
3. Although Mississippi's commissioner-removal provisions are typical, two states have recall provisions.
4. Filling of vacancies relies on appointments as opposed to elections.

Economic research supports “proxy” utility consumer advocates established by statute to represent residential and sometimes small and agricultural businesses as opposed to relying on grassroots groups to represent consumers. Grassroots groups are good at broadening the range of consumer issues but generally lack the resources to be effective in complex cases.

Commissions and public utilities staff cannot be advocates for consumers. In fact, they are statutorily barred from being so and perform the important duty to look after the public interest, balancing rival interests.

Effective proxy consumer advocacy requires the following attributes:

1. Party status before the commission and authority to participate fully in utility proceedings
2. Ability to appeal decisions to courts and other regulatory bodies, both state and federal
3. Discovery and access to information of utility firms
4. Adequate funding for staffing and hiring of expert witnesses
5. Staff, budgets, and mission separate from the commission
6. Independence from political and corporate influence.

Mississippi has a unique arrangement with its staff being bifurcated from the commission as a separate agency. While it makes sense to provide political protection of staff, it is usually done by other means within the structure of the commission.

Base Rate/Rate of Return (RoR) regulation served the public and the electricity industry well at least until the late 1960s prior to diminishing returns of large capital investments and the expansion of regulation.

Although economic studies are dubious over evidence of overinvestment into capital (the Averch-Johnson effect), especially during the growth period of the electricity industry, the maturing of the industry raises renewed concerns over the potential for the Averch-Johnson effect. Additionally, the profit motive in conjunction with RoR regulation potentially encourages utilities to gold-plate expenses. Proxy consumer advocacy provides a sentinel against those potentials.

Regulators do not have the ability to force technological development, as these decisions reside with the utilities. However, incentives can be built into the RoR system to encourage technological development.

Investors cannot escape risk nor can they transfer all costs onto consumers. Even when regulators and states err, they have been known to cap, disapprove returns, or even claw back earnings of utilities.

For prudent investments in standard technologies, it is reasonable to expect that consumers bear the cost of the risk. However, regulators need to adopt strategies to ensure that investors bear the cost of risks when the technologies are more experimental. These strategies may include capping costs and allowing utilities to keep savings for a duration of time.

It is recommended that the legislature consider the following reforms when reauthorizing the statutory authority for the administrative structure for regulating public utilities.

Reform 1: Create an independent office of a utility consumer advocate. The attorney general shall appoint the advocate. The advocate must have an independent budget, the ability to hire expert witnesses, the power to participate in any Public Service Commission (PSC) proceeding, and the power to appeal cases before state and federal courts.

Reform 2: Create an independent office of a utility agricultural and small business advocate. The commissioner of agriculture and commerce shall appoint the advocate. The advocate must have an independent budget, the ability to hire expert witnesses, the power to participate in any PSC proceeding, and the power to appeal cases before state and federal courts.

Reform 3: Extend the terms of the PSC commissioners to six years and stagger the terms.

Reform 4: Require that vacancies on the PSC are filled by special elections as soon as logistically possible, and allow for temporary appointments only until the seat is filled by election. The legislation should specify qualifications for the temporary appointees and prohibit appointees to run for the seat while serving as a temporary appointee.

Reform 5: Provide for a voter recall of commissioners.

Reform 6: Change the selection of the Public Utilities Staff executive director to appointment by the commission for an indefinite term and allow his removal by a unanimous decision by the commissioners.

Reform 7: Strengthen language for the public right to review records relative to protective orders on trade secrets and other confidential information

Reform 8: Remove the prohibition that prevents employees of the PUS from working for the PSC and vice-versa.

Reform 9: Add statutory language to promote professionalism by requiring training and imposing codes of ethics and conduct specific to PSC commissioners and regulatory staff.

Long-term solutions may also be considered, but these will require further research and evaluation. Among them are consumer choice for electric power generation, wholesale competition for electric generation, and requiring incentive-based regulations.

Contents

- Executive Summary iii
- Introduction..... 1
- Evolution of the Regulatory Compact 2
 - Development of the Regulatory Regime 2
 - Mississippi Regulatory Structure..... 4
 - The Changing Role of Utility Regulatory Commissions 6
- Public policy goals of regulation..... 9
 - The Original Regulatory Compact 9
 - Expanded Role for Regulatory Commissions 10
- Elements of a Functional Regulatory System 11
 - Strength of the U.S. Regulatory Model 11
 - The Capture Theory Debunked..... 13
 - Successful Commission Cultural Characteristics 14
 - Overview and Initial Review 14
 - A Closer Look at Openness 15
 - Professionalism 17
 - Resources 18
- Evidence for Elected Commissions..... 19
- Comparing States with Elected Commissioners..... 22
- Evidence for Statutory Utility Consumer Advocates 23
- Key Characteristics for Effective Consumer Advocacy..... 26
- Mississippi Experience with Consumer Advocacy 28
- Base Rate/Rate of Return Regulation..... 29
- Balancing Risk for Developing New Technologies 31
- Compilation of Findings and Conclusions 33
- Recommendations 36
 - Immediate Solutions for Reform 36
 - Possible Long-Term Alternatives in the Electric Industry 40
- Sources 42
 - Articles and Books 42
 - Institute of Public Utilities (IPU), Michigan State University..... 46

Note on Statutory Sources 47
Discussions and Interviews.....48
About the Author49

Introduction

If men were angels, no government would be necessary. If angels were to govern men, neither external nor internal controls on government would be necessary. ... This policy of supplying, by opposite and rival interests, the defect of better motives, might be traced through the whole system of human affairs, private as well as public. We see it particularly displayed in all the subordinate distributions of power, where the constant aim is to divide and arrange the several offices in such a manner as that each may be a check on the other -- that the private interest of every individual may be a sentinel over the public rights.

James Madison, Federalist Papers¹

These words of James Madison are rightly associated with the framework for the federal government. Helping Alexander Hamilton and John Jay to persuade their fellow New Yorkers to ratify the U.S. Constitution, Madison exposed some basic truths that can be applied to more than just the national government. It is undeniable that we as humans frequently suffer from the defect of better motives. The brilliant solution lies in how we arrange our governing structures so that rival interests serve as a check on the other.

These ideas of designing governing structures along these lines of balance and using rival interests to provide a check against the other also work for the governing structures that regulate public utilities. The utility regulatory systems that have evolved since the nineteenth century are based on these principles. The utility regulatory commissions are judicial bodies that decide the public interest to ensure adequate and reliable service and reasonable prices of industries considered to be public utilities. The public interest differs from the interests of consumers. No fault of their own, these commissions cannot be advocates for the consumers. In fact, they are statutorily barred from being so. Instead, they must balance the various rival interests to produce the best possible outcome that is beneficial for both the consumers and the investors.

Therefore, in designing these regulatory systems, attention needs to be given to ensure there is balance. Commissions only can decide issues based on the evidence and testimony that they are given. When rival interests are not equally presented, it can skew the results. Better motives can always fix weaknesses in governing structures. But alas, as Madison reminds us, men are not angels. In designing governmental structures, we must assume defective motives.

A non-profit, non-partisan, educational organization, the Mississippi Bigger Pie Forum sponsored this study. Members of the forum have developed expertise in utility regulation, and they are concerned that the system may not be structured properly. Their

¹ Federalist Papers, 51 (Wednesday, February 6, 1788): <http://www.constitution.org/fed/federa51.htm>.

interest is in finding ways to improve the governing structure to benefit the citizens of Mississippi.

The timing for recommending these kinds of improvements could not be better. The statutory authority for the Mississippi Public Service Commission expires end of calendar year 2018. The time is ripe for the legislature to make changes.

The issue is of great importance to the citizens of the state. Everyone uses public utilities nearly every hour of every day. The public deserves to have the best system possible.

It seems that everyone in Mississippi knows about the recent fiasco of the Kemper County coal gasification project. The Bigger Pie Forum was on top of this issue from the very beginning, exposing the problems long before many understood the issues. However, this report is not about the Kemper County project. There are other projects and other utility areas of equal importance subject to the governing structure and vulnerable to any defects that may exist. This report is simply about addressing weaknesses in the regulatory structure that increase the potential for projects like the one in Kemper County. The fundamental public policy question is this: How can we design the regulatory system to maximize the public interest and minimize the possibilities of another project like Kemper County?

The focus of this report is to review the development of utility regulatory commissions using the electric industry as the basis for understanding. The electricity industry is more complex than most other public utility industries, making it an ideal focal point. However, the principles contained herein make for effective regulation of utilities in general. That is, these recommendations work not just for electricity but public utilities in general.

Finally, the views stated herein are those of the author and not necessarily of the sponsor or its members.

Evolution of the Regulatory Compact

Development of the Regulatory Regime

From the earliest days of the electrical power industry, investor-owned utilities (IOUs) secured bargains with state governments to allow them to have monopolies in exchange for reasonable prices and reliable service.

It has long been understood that monopolies can charge higher prices for larger profits. Writings on this relationship go back at least as far as Aristotle who wrote about cases where business owners established monopolies, which enabled them to become rich.²

² Henry W. de Jong and W. G. Shepherd, editors, *Pioneers of Industrial Organization: How the Economics of Competition and Monopoly Took Shape*. Northampton, MA: Edward Elgar Publishing, 2007, p. 9.

History is replete with examples of the struggle between granting monopolies and protecting consumers from perceived abuses of monopoly power.

Although anti-monopoly provisions existed in common law in most states since the nation's founding, the Sherman Act of 1890 enacted prohibitions against monopolies and anti-monopolistic behavior into federal statute to be enforced by the United States government. It was during these early days of this anti-trust activity when the electric power industry was born.

Along with other early entrepreneurs, Samuel Insull, who had worked for Thomas Edison, decided to pursue bargains with state governments to allow monopolies for electric power in exchange for being regulated to give the public confidence that monopolistic abuses would be avoided.³ City-owned utilities became an alternative approach to IOUs, advocated by many who opposed big business interests and preferred control by local governmental officials over self-interested entrepreneurs. By 1902, there were 815 municipal systems providing 9.3 percent of the nation's electric capacity. However, the banking panic of 1907 devastated the municipal bond market, making it challenging for the municipal governments to raise necessary funds.⁴

Insull argued that electric power is a natural monopoly. The extremely large capital costs make it too expensive for more than one company to provide the service. Consumers benefit because one provider can more efficiently provide the service, giving consumers a lower price than if more than one company provided the service.⁵ Insull's insight preceded economic theory. As with all natural monopolies, not just electric power companies, economic theory that defined and justified natural monopolies chronologically followed regulatory developments in the field.⁶

In general, economic theory says monopolies can exact higher prices, are not as innovative, i.e., less quality improvement, and have organizational inefficiencies⁷ compared to other market structures where firms are subject to both price and non-price competition.

Microeconomically, it is a question of economies of scale. Extremely high capital costs for natural monopolists mean extremely high fixed costs, which in turn means the average cost continues to decline over the entire production range of the market demand. In other words, economies of scale allow a natural monopolist to charge a lower price than what

³ Richard. F. Hirsh, *Technology and Transformation in the American Electric Utility Industry*, Cambridge University Press, 2003.

⁴ Hirsh, p. 22.

⁵ Idem.

⁶ Sanford V. Berg and John Tschirhart, *Natural Monopoly Regulation: Principles and Practices*, Cambridge: Cambridge University Press, 1988, p. 1.

⁷ Organizational and managerial efficiencies of monopolies are known as X-inefficiencies. Ibid, p. 10.

two or more firms could charge because they would necessarily be higher up on the long-run average cost curve.⁸

Microeconomic theory also states that monopolists do not charge the highest possible price. If unregulated, they would charge the price where they can maximize their profits, which is not the same thing. No matter the market structure, a firm technically and theoretically maximizes its profit by charging a price where its marginal cost equals its marginal revenue. Theoretically, this profit-maximizing price may still be substantially less for a natural monopolist than what two firms might be able to charge for the same service.

Nonetheless, Insull's bargain allowed for the regulation of price so that consumers benefit from prices lower than what the utility might otherwise charge, thus reducing the economic profit of the utility. In other words, consumers share a portion of the economic profit with the investors through lower prices than what they would have paid without the regulation.

The first state to regulate electric power utilities was Wisconsin in 1907, followed by New York and Massachusetts the same year. Soon all states empowered commissions to regulate the electric industry.⁹ Most states already had commissions that regulated railroads, and in some cases like Louisiana, steamboats and other watercraft. Often these railroad commissions were given the responsibility of regulating the emerging utility industries of electricity and natural gas, and the names of these commissions were changed to reflect their expanded duties. Generally, these regulatory commissions are today known as public utility commissions or public service commissions.

Mississippi Regulatory Structure

Mississippi's regulatory history is typical. The Mississippi Railroad Commission was established in 1884. Its name was changed to the Public Service Commission (PSC) in 1938, and in 1956, the PSC received responsibility for the electric, gas and water utilities. In 1968, the PSC gained jurisdiction over sewer utilities. The Public Utilities Reform Act of 1983 made numerous changes, including shortening the maximum time for the PSC to decide cases to 120 days, allowing the hiring of hearing examiners, and the monitoring of major construction projects. In 1990, Mississippi adopted a unique arrangement among

⁸ Ibid, chapter 2, for more details on defining natural monopolies. Technically, economists have used mathematics to more precisely define the property of subadditivity, meaning that the cost for a single supplier will be less than many suppliers, and further defined natural monopolies as strong (MC pricing creates deficits) or weak (MC pricing allows profits). Another key characteristic is the barrier to entry.

⁹ Delaware did establish a commission until 1949. In 1963, Nebraska established an Electric Power Review Board. However, Nebraska is unique because it has no IOUs.

the states by creating the Public Utilities Staff (PUS) as a separate agency to play an investigative and advisory role to the Commission.¹⁰

Mississippi is one among twelve states that relies on elections to select its commissioners, including South Carolina and Virginia where the state legislatures, as opposed to the entire electorate, elect the commissioners.¹¹ Mississippi has three PSC commissioners by district for four-year terms, and commissioners must be at least 25 years old, a citizen of the state for at least five years, and cannot own stock or operate or be in the employment of any PSC regulated entity. The commissioners elect their own chairman. The governor has the power to fill vacancies. A candidate for commissioner, a sitting commissioner, or its employees may not accept money or gifts from PSC regulated entities. Commissioners may be removed for bad behavior or “unsound mind” by a hearing of three chancery judges appointed by the governor.¹²

Statutorily, the Public Utilities Staff are to be “completely separate and independent” from the PSC and shall represent “the broad interests of the State of Mississippi by balancing the respective concerns of the residential, commercial or industrial ratepayers, and the state and its agencies and departments, and the public utilities.” The agency is to aid the PSC to perform its “regulatory and quasi-judicial” role, as defined by statute. The primary investigatory and advisory functions of the PUS are stated plainly in statute.¹³

The executive director of the PUS is appointed for a six-year term by the governor from a list of candidates submitted by the PSC and confirmed by the Senate. The executive director is responsible for maintaining professional staff in areas of expertise related to public utilities as prescribed by law, has the power to hire, and may dismiss employees for cause pursuant to rules and regulations of the State Personnel Board.¹⁴

The selection of the executive director is unusual among the states. In almost all other cases, the commission selects the chief administrator. The other exceptions are Colorado, North Carolina, and Rhode Island—where the governor appoints the chief administrator—and Tennessee—where the appointment is jointly made by the governor, speaker of the Senate, and speaker of the House of Representatives.¹⁵

¹⁰ Summary based on agency history of regulatory commissions by Michael Foley and Jessica O’Connor-Petts, *Profiles of Regulatory Agencies of the United States and Canada Yearbook 1995-96*, National Association of Regulatory Utility Commissioners, 1996, pp 225-226.

¹¹ IPU Database on Commission Structure (2015); South Carolina Code § 58-3-20.

¹² Election and qualifications of commissioners found in Miss. Cod Ann. § 77-1-1, setting qualifications equal to the Secretary of State, found in Miss. Const. Ann. Art. 5, § 133; prohibition on gifts in Miss. Code Ann. § 77-1-11; filling of vacancies in § 25-1-7; removal provisions found in § 25-5-1 et seq. Statutory citation for selection of chairman not found but verified by the Institute of Public Utilities Database on Commission Structure (2015), Michigan State University.

¹³ Miss. Code Ann. § 77-2-1, 77-2-3, and 77-2-5.

¹⁴ Miss. Code Ann. § 77-2-1, 77-2-7, and 77-9.

¹⁵ IPU database and Tenn. Code Ann. § 65-1-109.

Theoretically, the PUS and PSC arrangement provides protection for the Public Utilities Staff and helps insure that their advice and investigatory findings are truly independent from the PSC. It adds another level of separation, although all other state commissions provide the same level of protection within the confines of a single agency.

Within one year of leaving office, a PSC commissioner, the executive director of the PUS, or the executive secretary of PSC may not be employed or enter into a contractual relationship with any entity or its affiliate that was subject to rate regulation. Also, no employee of the PUS may work for the PSC within one year, and vice-versa.¹⁶ While the former restriction is not unusual for government service, intending to prevent agency capture, the reason for the latter restriction is less apparent. Both PSC employees and PUS employees share an identical mission in representing the broad interest of Mississippi. It is unclear what dangers exist that would justify restricting employee movement between the agencies.

The Changing Role of Utility Regulatory Commissions

Until the mid-1960s, the work of utility regulatory commissions was relatively easy. The bargain, or social contract, with the IOUs worked extremely well. Despite having no competition within service areas, the business culture of the utility industry enabled prices to fall precipitously and consumption to grow exponentially, benefiting both consumers and investors. Electric service was justifiably linked to better standards of living, enabling consumers to purchase lighting and labor-saving appliances, such as washing machines, and other electrical gadgets, such as television sets, that otherwise enhanced lifestyles. In fact, the availability of cheap electricity spawned a host of spin-off industries, thus increasing general prosperity.¹⁷

Contrary to economic theoretical thought on the nature of monopolies, the electric power utility industry was very innovative at least until 1970. The utilities were managed professionally, mostly by engineers. Competition among electric power equipment suppliers, i.e., General Electric, Westinghouse, and Allis-Chalmers Corporation, and inter-utility competition led to a “one-upmanship” style of adopting the newest and best technologies, which improved service and lowered prices. Consumption subsequently increased and expanded even more because of the many new innovative products coming to market that used electricity.¹⁸

The U.S. model of regulated investor-owned utilities created the world’s best electrical supply system, out-innovating European models. For example, Britain’s nationalized system was slow to adopt new technologies, quickly falling behind the U.S. system technologically.¹⁹ By the year 2000, British citizens paid 44 percent more for electricity,

¹⁶ Miss. Code Ann. § 77-2-11.

¹⁷ Hirsh, Chapter 2.

¹⁸ Ibid, p. 75.

¹⁹ Ibid, p. 23.

85 percent more for local telephone service, and 26 percent more for natural gas than Americans did. And British prices were low among European nations.²⁰

State regulators played a benign role in the development of the U.S. system. During this period (to the mid-1960s), utility regulatory commissions mostly decided how to distribute the benefits of decreasing prices. No commission got involved in questioning the judgment of utilities in siting generating plants or questions of prudence when it came to making investments or adopting new technologies. These decisions were left solely to the utility managers.²¹

The role of utility regulatory commissions began to change in the late 1960s when the industry hit a plateau in technological efficiencies and began asking for rate increases. The technological benefits from adopting larger capacity generating plants hit physical limits. Although larger generating plants always drove prices down compared to smaller ones, the even larger ones adopted in the 1960s began having diseconomies of scale, requiring more downtime, needing more labor to maintain, and encountering other problems due to the higher pressures and higher heat of the steam used to turn the turbines, such as the metallurgical limits of blades and valve failures.²²

The technological hurdles and diseconomies of scale could not have come at a worse time for the industry. The macroeconomy began to suffer from inflation that led to the stagflation of the 1970s with inflation rates reaching double digits. Utilities were saddled with more costly construction costs. Additionally, new environmental regulations delayed siting decisions, required impact studies, and demanded implementation of abatement technologies, exacerbating costs. Lastly, rising petroleum prices, made worse by the Arab oil embargo, and rising coal prices from a combination of factors, like the substitution effect for petroleum and labor strikes, put further financial strain on the utilities. The confluence of those factors made for a nightmare scenario for the utilities.²³

Public pressure pushed government and, subsequently, utility regulatory commissions to play a more active role. Gone were the days when commissioners only loosely oversaw the industry and occasionally allocated to customers a portion of profits from autonomous decisions made by utility managers during rate decrease requests.

Utility regulatory commissions not only began seriously reviewing rate increase requests but also began scrutinizing other decisions made by utility managers. Foremost among them, commissions began reviewing questions of investments by utilities, relying on established legal and financial definitions of prudence. The benign relationship that had

²⁰ Greg Palast, Jerrold Oppenheim, and Theo MacGregor, *Democracy and Regulation: How the Public Can Govern Essential Services*, London: Pluto Press, 2003.

²¹ Hirsh, p. 84.

²² Ibid, Chapter 6.

²³ Idem.

existed transitioned to a new era relying heavily on a specialized legal system where commissioners were expected to actively oversee a range of utility decisions.²⁴

Many states recognized the changing roles for commissioners who were, more than ever, acting as administrative judges in a system based on an adversarial process balancing interests to come to fair decisions for both consumers and investors. In response, most states created utility consumer advocates to represent residential ratepayers in these highly specialized cases tried before the commissions and appellate courts. This specialized adversarial process provides a format for utilities to make requests and allows highly trained advocates to call up expert witnesses to challenge the evidence and testimony presented by the utilities.

Regulating utilities can be thought of as making a monopolistic industry behave more like a competitive one. The adversarial process before commissions and the courts is an attempt to replace the adversarial process found in competitive industries.²⁵ When it comes to price, consumers and producers have an adversarial relationship. Consumers want the cheapest price and producers want the highest price, and market forces bring about a price that economists consider to be both efficient and equitable when there is perfect competition. A critical component is the adversarial relationship among producers, called competition. When there is only one producer, efficiency is lost and consumers pay higher prices. When markets are contestable, i.e., not natural monopolies, single producers can be disciplined by the threat of new entrants in the market, incentivizing them to keep prices reasonable, maintain quality, and improve their products.²⁶

Some economists question whether regulation is even necessary. If the added costs of the regulatory process exceed savings from monopoly pricing, clearly it would be disadvantageous to even regulate utility pricing. At least in this case, the social bargain should be abandoned, removing the exclusive right for a utility to provide services. Whether the threat of contested markets and new technologies, such as solar panels, would do a better job in serving the public interest than economic utility regulation has not yet been tested.²⁷

²⁴ Ibid, pp. 151-154.

²⁵ For example, see risk principle 19 (economic regulation and regulatory risk substitute for competition and competitive risk), Janice A. Beecher and Steve G. Kihm, *Risk Principles for Public Utility Regulators*, East Lansing: Michigan State University Press, 2016, pp. 63-65.

²⁶ de Jong, chapter 13.

²⁷ Michael A. Crew and Paul R. Kleindorfer, *The Economics of Public Utility Regulation*. MacMillan Press, 1986, p. 118.

Public policy goals of regulation:

The Original Regulatory Compact

The original bargain had two fundamental principles of regulatory governance: reasonable prices and reliability of service. This is how the public interest was originally defined.²⁸ As long as prices were coming down with improved service, commissioners had a relatively easy job. They relied on the expertise of the utility managers to make the decisions concerning technologies, capital, and infrastructure to fulfill the utilities' end of the bargain. Prior to the late 1960s, commissions did not intrude on non-price utility manager economic decisions presuming the utility managers acted prudently.

These two fundamental principles of public interest cannot be misconstrued to mean that it is the job of commissioners to seek the lowest possible price for consumers. First, prices cannot be so low that the reliability, quality of service, or the long-term capacity of the supplying electricity is sacrificed. Second, commissioners also have a responsibility to look after investors, which is also a part of the public interest. The financial viability of the business is paramount, and ensuring a fair return on investments ensures that viability. Like any business and especially true for businesses that make large capital investments, a utility cannot survive without ready access to financial markets. Besides, the public benefits from a vibrant financial system. For example, utility bonds and stocks, i.e., the original “widow and orphan” stocks,²⁹ have long been considered safe investments for those with little money to risk.

Reliable and reasonably priced electricity is not only important for residential users' quality of life, but it is also central to the regional economy. Everyone benefits from dependable electric service. Agricultural and commercial establishments rely on it. Local governments and economic development agencies use the availability of inexpensive electricity as an element of their marketing tools to attract businesses to their local economies, benefitting everyone by creating jobs and opportunities. Heavy industrial electricity users place a premium on inexpensive and reliable service and can also be harmed by unreasonable pricing.

Large industrial users have more options available to them than do residential or small business owners. Because of their size, it may be cost-effective to hire attorneys to represent their interest before commissions. They can negotiate directly with the utilities. They can build their own independent power plants. Or worse for the community, they can relocate. Therefore, the focus of commissioners historically has been residential ratepayers, and, to a lesser degree, commercial and small business ratepayers.

²⁸ Economists define it as guarding against potential abuses of monopoly power and maximizing social welfare. Berg, p. 285.

²⁹ Rick Wayman, “Do ‘Widow and Orphan’ Stocks Still Exist?” Investopedia, accessed July 27, 2017: <http://www.investopedia.com/articles/analyst/121802.asp>.

Expanded Role for Regulatory Commissions

It is important to recognize that the regulatory environment as well as the relationship with and perhaps even the character of the electric utility industry has changed. The job of commissioners is no longer easy but complex and demanding. New duties have been imposed on them, and they are expected to make decisions considered intrusive by utility managers during the prior era. Federal and state governments have imposed further standards on utilities, further complicating the role of commissioners. Utility law and regulations have become a vehicle for imposing energy conservation, enforcing environmental standards, and promoting social policies, such as lifeline services, universal service, and low-income assistance programs.

The traditional role of utility regulatory commissions has thus been expanded. The conventional goals of just and reasonable rates, service without discrimination, licensed market entry, minimal standards of service and safety, and the transparent use of securities and financing used to define the public interest. Utility regulatory commissions are now playing a more expansive role promoting conservation and efficiency, environmental protection, public health protection, minimal quality-of-life impact, state economic growth, and low-income consumer assistance.³⁰

The building of new—and usually bigger capacity—power plants used to mean greater efficiencies and lower prices for consumers. The base rate/rate-of-return (RoR) regulation is well-tailored for this purpose when greater capacity means lower prices. The utility deserves a fair return on its investment, and because the new facilities lowered prices, all was good. There was no need for commissioners to get involved in those decisions.

Now, however, this assumption appears to no longer be valid, at least for the foreseeable future. Because of diseconomies of scale, building additional capacity may not necessarily lower prices. Utilities are still rewarded for building capacity under RoR regulation but because greater capacity does not necessarily mean lower prices, commissions now routinely raise questions about whether those investments are prudent.

The new demands and expanded role for utility regulatory commissions provide justification for states to review the structure of the regulatory structures to be sure that all the elements are in place to allow for the best possible outcomes. The Mississippi legislature clearly recognized this need when it imposed the 2018 sunset provision on its utility regulatory structure.

³⁰ Eric Filipink, “Serving the ‘Public Interest’ – Traditional vs. Expansive Utility Regulation,” National Regulatory Research Institute, NRRI Report 10-01, December 30, 2009. Summary taken from Figure 1 on page 7.

Elements of a Functional Regulatory System

Strength of the U.S. Regulatory Model

As already mentioned, the regulatory compact with investor-owned utilities has produced perhaps the best system in the world, which stands as a model for other nations. U.S. production is practically unmatched with low prices and high levels of reliability and without the problems of supplying electricity associated with developing countries. Basic industry data support the strength of the American system. Only China exceeds the United States in electricity production. However, at 4.1 trillion kilowatt-hours (2014) and with less than a quarter of China's population, the U.S. generates 75 percent of China's production. India produces the next highest amount and less than 30 percent of what the U.S. generates.³¹ U.S. household electricity prices are significantly lower than most developed countries when adjusted for purchasing power parity. Germany residents pay three times as much for electricity, and British residents pay 76 percent more. Only Canada, which has the same regulatory system as the United States, and Norway were found by the OECD to have cheaper prices.³²

Literature in the field all seems to make the very same points. Commissions need to be independent. Staff need to be independent. Staff and commissioners need to be professional and ethical and follow codes of conduct. The process needs to be open and transparent. These points are summarized well in publications by Janice A. Beecher, director of the Institute of Public Utilities, Michigan State University.³³

In *Democracy and Regulation*, the authors—who have extensive experience in the utility ratemaking process and have provided consulting services around the world—argue that public participation in and the openness of the ratemaking process are the secrets to the success of the U.S. system. They termed these characteristics democratic regulation. Despite some failings and cases of bad decisions by regulatory commissions, on the whole and compared to other countries' systems, the U.S. system of regulating utilities is superior. For example, British regulators negotiate with the utilities behind closed doors, which has produced higher costs and inferior service compared to their American counterparts. Closed negotiations and secret deals are prohibited in the U.S. system.³⁴

The ability to participate and the openness of the process bring transparency to the system. Only when all the cards are laid on the table while allowing everyone to comment

³¹ Energy Information Agency, U.S. Department of Energy, International Energy Statistics, data for 2014: <https://www.eia.gov/beta/international/rankings/#?product=2-12&cy=2014>, accessed 08/25/2017.

³² Carol Tran, "Worldwide electricity prices: How does Australia compare?" Australian Energy Council, <https://www.energycouncil.com.au/analysis/worldwide-electricity-prices-how-does-australia-compare>, accessed 08/25/2017.

³³ See, for example, Janice A. Beecher, "The Prudent Regulator: Politics, Independence, Ethics, and the Public Interest," *Energy Law Journal*, Vol. 20: 577-614, 2008. Downloaded from Institute of Public Utilities, Michigan State University, 2008: <http://ipu.msu.edu/wp-content/uploads/research/pdfs/Beecher-Prudent%20Regulator.pdf>.

³⁴ Palast. The superiority of the U.S. regulatory system is a major theme of the book.

on what they believe is the public interest can commissions best adjudicate what is fair. Stressing the importance of openness, the authors quote former World Bank chief economist Joseph Stiglitz:

Smart people are more likely to do stupid things when they close themselves off from outside criticism and advice. If there's one thing I've learned in government, it's that openness is most essential in those realms where expertise seems to matter most.³⁵

The authors list five principles that characterize the U.S. system.

1. Rights of transparency and participation, or “due process,” must be observed.
- ...
2. All prices must be “just and reasonable.”
3. Investments by utilities must not be arbitrarily confiscated.
4. Conflicting interests must be balanced against each other.
5. Prices must relate to costs.³⁶

The system recognizes the rights of the investors, allowing them *the opportunity* to earn a fair rate of return. In exchange for allowing them a monopoly and the rights of eminent domain, consumers are promised just and reasonable prices. The regulatory system achieves this balance through openness, allowing any interested party to inspect utility documents. The process functions like a court hearing with rules of discovery and expert testimony.

Courts have evolved over thousands of years to handle disputes and seek fair and just decisions, and U.S. judicial roots extend back to Roman law and the brilliant English Common Law. The U.S. utility regulatory system benefits from this tradition. It has developed into an adversarial process among varying interest groups where the commission acts as the judge in ruling what is just and fair.

Because humans are fallible, there are always horrific examples of bad decisions by regulators.³⁷ No matter what system is in place, these cannot be avoided. However, the public policy task is to ensure that the system is designed in a manner that allows the best results to be produced and maximizes the ability of the commission to secure the public interest.

Structurally, three broad principles must be put in place to allow a utility regulatory commission to secure the public interest:

- The selection of commissioners must be done in a way that ensures impartial and independent judicial decisions in the public interest.
- Commissions must have adequate resources to allow them to succeed.

³⁵ Quoted in Palast, p. 167: from Joseph Stiglitz, “What I Learned at the World Economic Crisis,” *The New Republic*, April 17, 2000.

³⁶ Ibid, p. 66.

³⁷ Ibid, p. 71.

- The proceedings must allow for balance in presentation of evidence before the commission. In other words, there needs to be competent presentation of evidence and testimony other than the utility company—which normally has the advantage—during the adversarial process. In fact, “[d]emocratic regulation does not work, unless there are strong advocates on all sides ...”³⁸

In conclusion, there is strong evidence and testimony that the American system of relying on investor-owned utility firms and regulatory agencies based on openness and time-tested judicial practice is unsurpassed. Therefore, in examining the structure of Mississippi’s utility regulatory structure, the best lessons are likely to come from the experiences of other states.

The Capture Theory Debunked

A common concern regarding regulating industries is that the regulator becomes captured by the industry being regulated, thus undermining the public interest. In fact, political studies in the 1950s and 1960s suggested that regulated entities often capture or control regulators.³⁹ However, several studies in the 1970s and 1980s challenged the findings, suggesting no evidence of regulatory capture concerning utility regulatory agencies.⁴⁰

Commission decisions disliked by any particular stakeholder within the regulatory process or even clearly bad decisions by commissions are not sufficient evidence to prove regulatory capture. There needs to be a pattern of behavior demonstrating that the public interest was sacrificed for industry goals. Furthermore, it needs to be shown that specific commissioners lost their independence and were not acting impartially. States typically take steps to reinforce the impartiality of commissioners, including clear statutory language defining the purpose of commissions and placing restrictions on commissioners to ensure financial independence from regulated entities.

Studies have shown that commissioners respond to different prompts, including aspirations to be successful in their regulatory role. Using multivariate regression analysis and contextual correlation analyses of data on state utility regulatory commissions and electric utility firms in 1967 and 1974, William D. Berry (University of Kentucky) concluded that professionalism and consumer representation were good predictors of good utility regulation outcomes. Specifically:

1. “The greater the level of professionalism of a commission, the greater the strength of the correlation between the cost of production and the price established.”

³⁸ Ibid, p. 101.

³⁹ William D. Berry (University of Kentucky), “An Alternative to the Capture Theory of Regulation: The Case of State Public Utility Commissions,” *American Journal of Political Science*, Vol. 28, No. 3, August 1984, p.524.

⁴⁰ William D. Berry, “An Alternative to the Capture Theory of Regulation: The Case of State Public Utility Commissions,” *American Journal of Political Science*, Vol. 28, No. 3, August 1984, pp. 525-526.

2. “The *resources* [such as staffing and information] available to state commissions also prove to be important determinants of the nature of regulatory outcomes.”
3. “*Public and consumer intervention* in the electric utility regulatory process affects the nature of policy outcomes. There is evidence for the proposition that both the presence of a consumer intervenor and the presence of public observers at regulatory proceedings serve to lower the price of electricity.”⁴¹

These findings are not surprising given the literature on the role of utility regulatory commissioners. They provide three important factors to evaluate regulatory structures: professionalism, resources, and consumer intervention.

There is little support among economists for the capture theory—that regulatory agencies begin their existence with the public interest in mind but succumb to the interest of the regulated firms. Neither the public interest nor the capture theory explains well the behavior of regulatory commissions. Instead, economists have offered other theories, which suggest that the behavior extends from demand and supply for the regulation⁴² and the transfer of wealth from one group to another.⁴³ These theories also are not widely accepted as explanatory. “No single theory of regulatory behavior has been able to explain fully the motivations for and the impacts of regulation. The phenomenon is far too complex to be characterized by a set of equations.”⁴⁴ Thus, public interest, capture, and other theories have been shown to be inadequate in helping to design public utility policy.

The fact that economic theory debunks the capture theory as a useful explanation to explain the behavior of regulatory commissions does not mean that individual commissioners have not and do not give in to temptations. There is also the danger that commissioners will find it advantageous to shirk their judicial responsibilities for financial gain. However, states have adopted safeguards against those contingencies.

Successful Commission Cultural Characteristics

Overview and Initial Review

Already-cited research shows three key cultural characteristics for a successful utility regulatory commission. First, there must be openness of the regulatory process. Proceedings must be open to the public and relevant information available for inspection. Second, there must be a culture of professionalism. Commissioners and staff must adhere

⁴¹ Ibid, p. 554.

⁴² Berg, p. 287. See also S. Peltsman, “Pricing in Public Enterprises: Electric Utilities in the United States,” *Journal of Law and Economics* 14, 1971, pp. 109-47, and S. Peltsman, “Towards a More General Theory of Regulation,” *Journal of Law and Economics* 19, 1976, pp. 211-40.

⁴³ Ibid, p. 288. Berg cites George J. Stigler, *Theory of Price*, New York: Macmillan, 1946; Stigler, *The Organization of Industry*, Homewood, IL.: R.D. Irwin, 1968; Stigler, “The Theory of Economic Regulation,” *Bell Journal* 2, 1971, pp. 3-21.; Stigler, “Free Riders and Collective Action: An Appendix to Theories of Economic Regulation,” *Bell Journal* 5, 1974, pp. 359-65.

⁴⁴ Ibid, p 320.

to standard practices and ethics to enable the process to work. Third, the commission and staff must have adequate resources to fulfill their duties and accomplish their tasks.

Using the national database on the structure of utility regulatory structures of the Institute of Public Utilities (IPU), Michigan State University, to compare Mississippi to other states regarding internal characteristics, Mississippi appears to have most of the necessary pieces per the surveyed elements. The table below provides a summary of some of those characteristics. All states have open meetings and open records, which are necessary components. The only characteristic that Mississippi arguably lacks is the requirement for internal performance reviews. However, forty other states also lack that characteristic.

Internal Characteristics of Regulatory Commissions⁴⁵

Description	States with Characteristics		Mississippi
	Yes	No	
Internal Performance Review	9	41	No
Data Verified by Commission	48	2	Yes
Open Meetings	50	0	Yes
Personal Privacy	46	4	Yes
Attorney-Client Privilege/Litigation	38	12	Yes
Security/Police Information	31	19	Yes
Purchase or Sale of Property	37	13	Yes
Union Negotiations	30	20	No
Licensing Exams/Decisions	18	32	Yes
Exempt Under Other Laws	27	23	Yes
Open Records	50	0	Yes

Although dated, a review of National Association of Regulatory Utility Commissioners (NARUC) data on openness shows that Mississippi laws allow public inspection of all records of PSC hearing. The only notable weakness spotted in the NARUC data on public information was the lack of a public information officer.⁴⁶

A Closer Look at Openness

Despite the IPU and NARUC reviews, recent experience suggests that improvements to PSC practice on openness of records may be warranted. For example, when Mississippi Power filed for a certificate of convenience and necessity to build the Kemper County coal gasification power plant on January 16, 2009, the PSC allowed some documents to be marked confidential. Protecting documents that contain trade secrets or other confidential information from public viewing is common practice. However, in this case, some of those documents were later determined to be non-confidential information that should have been open to public inspection. Ultimately, the information was released, but

⁴⁵ IPU Database on Commission Structures.

⁴⁶ Foley, *Profiles of Regulatory Agencies*, p. 489.

it took a ruling by the Mississippi Supreme Court to clarify that the information in dispute was not entitled to confidentiality protection.⁴⁷

Compared to other states, the statutory language requiring disclosure of documents along with confidentiality protections relating to PSC matters appears relatively weak. The applicable statute appears in Title 79 (Corporations, Associations, and Partnerships), as follows:

(1) Commercial and financial information of a proprietary nature required to be submitted to a public body, as defined by paragraph (a) of Section 25-61-3, by a firm, business, partnership, association, corporation, individual or other like entity, shall be exempt from the provisions of the Mississippi Public Records Act of 1983; provided, however, that nothing herein shall be construed to deny access to such information submitted to a regulatory agency by a public utility that is related to the establishment of, or changes in, rates regulated by such agency.

(2) Nothing in this section shall be construed to deny a public utility the right to protect trade secrets or confidential commercial or financial information, as provided in subsection (1) of Section 25-61-9.⁴⁸

The language itself tersely states the principles that allow public access to information regarding ratemaking while protecting trade secrets and confidential information. However, it could use more specificity. Texas law, for example, states that “each file pertaining to a matter that was at any time pending before the commission or to a record, report, or inspection required by ... [various sections] is public information.”⁴⁹ Note the scope is wider than Mississippi’s language that limits public access to issues of rates.

Texas law also gives its commission the power to adopt rules to protect the disclosure of “highly sensitive competitive or trade secret information.”⁵⁰ Its rules give the presiding officer the power to issue a protective order on confidential or proprietary information as deemed appropriate by the officer. However, the parties of the case, including the Office of Public Utility Counsel of Texas, may view the confidential information if they enter into agreements to protect the confidentiality of the information.⁵¹ Giving the Texas utility consumer advocate access to the information under these arrangements enables the information to be used by the advocate to represent consumers before the commission.

Pennsylvania law, too, provides a wider scope in defining what the public may access than Mississippi law: “The transcript of a public input hearing, the transcript of testimony and exhibits, together with all papers and requests filed in the proceeding, constitutes the exclusive record for decision, and shall be available for inspection by the public. states

⁴⁷ Mississippi Power Company v. Mississippi Public Service Commission and Bigger Pie Forum, LLC., No. 2012-CC-00682-SCT, April 2, 2013: <https://courts.ms.gov/Images/Opinions/CO93472.pdf>.

⁴⁸ Miss. Code Ann. § 79-23-1.

⁴⁹ Title II, Texas Utilities Code, § 14.057(c).

⁵⁰ Title II, Texas Utilities Code, § 17.051.

⁵¹ Texas Administrative Code, Title 16, Part II, §22.142 (c).

more clearly the scope of what the public has the right to access.”⁵² Note the specificity in Pennsylvania law.

In protecting trade secrets and proprietary information, Pennsylvania statute gives clear authority to the commission to make the determination whether the disclosure of the information would be harmful to the utility and provides for expurgation of the information that may be potentially damaging.⁵³ Typically, the public may receive access to documents with confidential information but the confidential parts are redacted. This practice allows the public to view the parts of those documents that contain no confidential information. Of course, the administrative law judge or commission may rule an entire document requires protection.

In practice, Pennsylvania, like Mississippi, has had instances in which utilities attempted to claim information to be proprietary when indeed it was not. However, like in Texas, the disadvantage to ratepayers is greatly mitigated because Pennsylvania’s utility consumer advocate has access to all confidential information under confidentiality agreements, enabling the advocate to utilize the information while representing ratepayers before the commission. Furthermore, the advocate can even challenge the administrative law judge’s or commission’s protection determination if thought to be misplaced.⁵⁴

Although strengthening Mississippi’s statutory language will help, the more important protection would be having a utility consumer advocate with the ability to view confidential documentation. That way, consumers are not totally locked out from potentially important information. On the consumers’ behalf, the advocate will have knowledge of the information and may use that knowledge to represent the interests of the consumer. Moreover, because utility consumer advocates can challenge protective orders based on actual review of the content of those documents, it may serve as a check against utilities requesting protection of documentation undeserving of protection.

Professionalism

Professionalism is an attitude that can permeate throughout an organization. The tone needs to be set by the leaders of an organization and adopted by its employees. It is a critical component of the culture necessary for effective regulation of utilities.

Judging the culture of professionalism is tricky and subjective. However, observations shared with the author indicate the Mississippi PSC may not lack in this area. Foremost, the PSC chairman’s participation in the NARUC, an organization that promotes professionalism and advancement in regulatory knowledge, is a positive indication. The PSC chairman also chairs NARUC’s Consumer Affairs Committee and recently ran four

⁵² Title 66, Pennsylvania Consolidated Statutes (Pa.C.S.) §332.

⁵³ Title 66, Pa.C.S. §335.

⁵⁴ Interview with Irwin (Sonny) Popowsky, Consumer Advocate (retired) for the Pennsylvania, September 13, 2017.

sessions during the 2017 NARUC Summer Policy Summit.⁵⁵ Furthermore, the chairman’s name was mentioned several times in discussions with various individuals in the field as an exemplary commissioner with a national reputation.

Mississippi’s ethics law applies to all government officials and employees,⁵⁶ and commissioners and staff have additional restrictions⁵⁷ dealt with elsewhere in this report. However, there is no statutory language specifically promoting professionalism of the commission or the Public Utilities Staff. In contrast, Texas law requires mandatory training before a commissioner may assume duties,⁵⁸ and Pennsylvania law imposes a specific code of ethics on its commissioners.⁵⁹

Resources

One way to get an indication on the adequacy of resources is to compare budgets for the PSC and PUS to other states. As with all states, the budgets for the PSC and PUS are controlled by the legislature. They are funded by two dedicated funds: the Public Utilities Staff Regulation Fund and the Public Service Commission Regulation Fund based on assessments and fees on the utilities.⁶⁰ As part of the budget process, the agencies are responsible for submitting the budgets that they believe are necessary for their operation. The table below shows some basic financial data, according to the IPU database. The database did not have comparable data for the same year for California, Georgia, Kansas, and Vermont, which were therefore excluded from the table. Mississippi data was updated to include PSC and PUS data.

Budget/Staffing Characteristics of Regulatory Commissions⁶¹

	Staffing*	2010 Agency Budget**		Commissioner Salary (2015)
		Total	Per Capita	
average	164	\$ 27,053,795	\$ 8.59	\$105,202
median	96	\$ 10,839,650	\$ 3.88	\$110,838
low	10	\$ 3,016,689	\$ 0.78	\$30,000
high	940	\$ 119,601,138	\$ 129.98	\$163,617
Mississippi**	109	\$ 7,365,704	\$ 2.48	\$78,000

*Only 46 states included in analysis. Missing CA, GA, KS and VT data.

**Data includes both PSC and PUS

Because its staffing level is above the state median, the staffing level for Mississippi does not appear to be an issue. However, the agency budget, the budget-per-capita indicator,

⁵⁵ 2017 Summer Policy Summit Program, NARUC: <http://pubs.naruc.org/pub/057D2EA7-0693-2CA4-3127-FEC323F5A2C6>, and <https://www.naruc.org/summer-policy-summit/2017-summer-policy-summit>, Committee on Consumer Affairs, NARUC website, accessed August 24, 2017.

⁵⁶ Miss. Code Ann. § 25-4-1 et seq.

⁵⁷ Miss. Code Ann. §77-1-11 and §77-2-11.

⁵⁸ Title II, Texas Utilities Code, § 12.059.

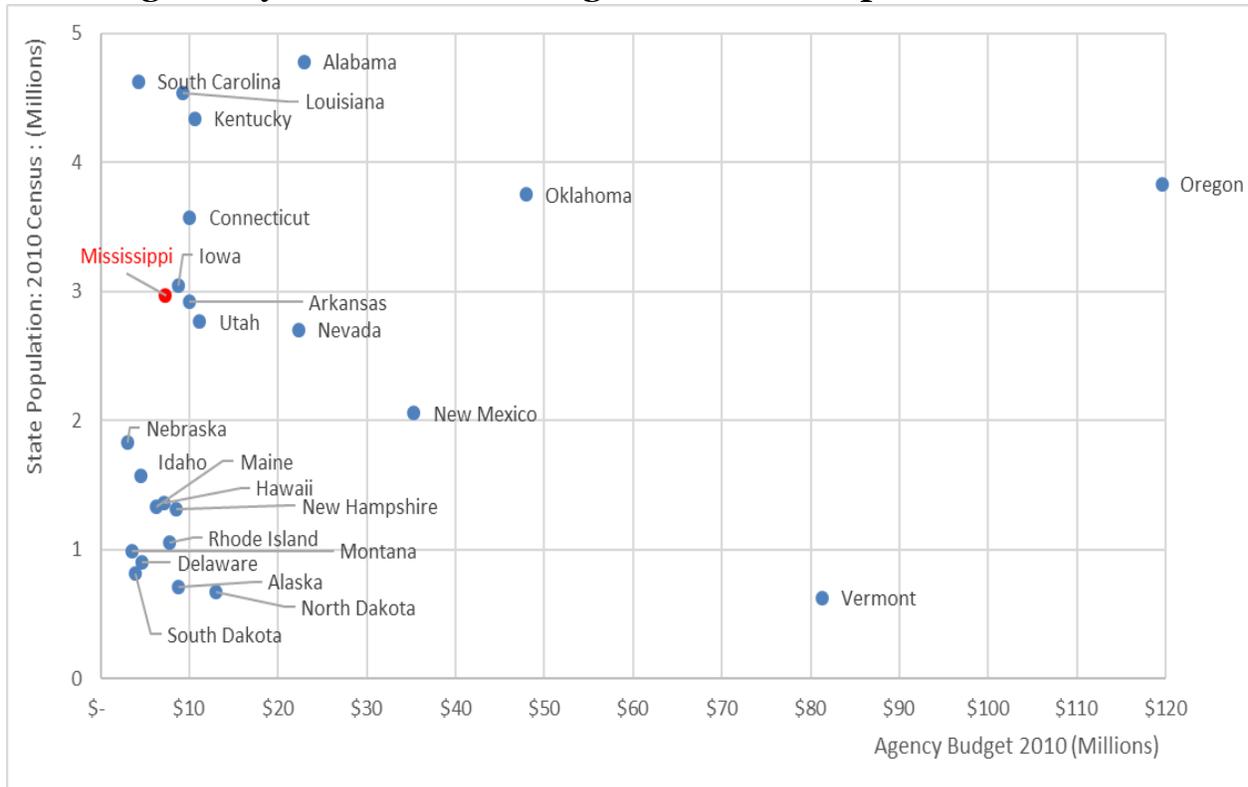
⁵⁹ Title 66, Pa.C.S. §319

⁶⁰ Miss. Code Ann. § 77-3-87.

⁶¹ IPU Database on Commission Structures and 2010 Mississippi *PSC Annual Report*, Data for California, Georgia, Kansas, and Vermont were unavailable in the database.

and commissioner salary are below the state median. When compared to other states with populations between 2 million and 4 million, including Arkansas, Mississippi spends the lowest amount.

State Regulatory Commissions Budgets and State Population⁶²



These measures by themselves do not necessarily mean that Mississippi’s spending is inadequate. Other factors need to be considered, such as jurisdictional differences among commissions and economic differences in price levels among the states, such as Mississippi’s income scale relative to other states. However, these measures do raise the possibility that Mississippi’s spending levels may be low, justifying further examination.

Evidence for Elected Commissions

There is debate over whether elected commissions do a better job than appointed commissions. Interviews of professionals and utility consumer advocates in the field showed varying opinions, suggesting that the question is still unsettled. However, academic research studies weigh in favor of elected commissions.

Evidence-based research by Timothy Besley (London School of Economics) and Stephen Coate (Cornell University) supports the theory that elected commissioners tend to be more pro-consumer—reflected by better utility rates and less pass-through of costs onto

⁶² Idem. Author’s graphic.

consumers—than appointed ones. Although voters also elect the chief executives who appoint the commissioners, utility-related election issues are bundled with other, often more salient issues of gubernatorial candidates. In contrast, utility issues stand on their own during direct elections of commissioners.⁶³

An older study (1984) by Kevin Costello found little difference between appointed and elected commissioners, and its author even speculated that “If anything, elected commissions may cause electricity rates to rise in the long run because they tend to create at least the appearance of an unfavorable regulatory climate.”⁶⁴ Using data for 1973 and 1980, the author recalculated three older studies from other authors. For the two studies that gave evidence in favor of elected commissioners who did a better job at controlling prices for consumers, the results were reversed when Costello updated the data. For the one study that had supported the idea that it makes no difference whether a commission is elected or appointed, the conclusion was confirmed using the new data.

Additionally, Costello presented data suggesting that from 1973 to 1980, “elected [utility regulatory commissions] have been no more successful than their appointed counterparts in holding down electricity prices to residential customers.⁶⁵ However, elected commissions held the growth rate of revenue per kWh for residential customers to the lower rate of 10.3% compared to 10.9% for appointed commissions that he described as similar. He also noted lower electricity rates with elected commissions might be explained by other factors. Namely, the difference “seems to lie in higher fuel costs, distribution costs, and taxes in the states with appointed PUCs.”⁶⁶

Besley and Coate point out that studies subsequent to Costello’s suggest “elected regulators do produce more pro-consumer policies than those that are appointed.”⁶⁷ Their conclusions dispute Costello’s findings in favor of the more recent studies. Importantly, they advanced the understanding by improving the methodology and using better data sources than did Costello and earlier studies. Unlike prior studies, they used Edison Electric Institute panel data, looked “at the long-conditional mean differences in prices rather than at a single cross-section, ... use[d] measures of production costs that have typically been omitted from previous studies, ... [and] exploit[ed] a very different source of identification in the tests based on the pass through of costs into prices.”⁶⁸

According to a 2001 study by Franklin G. Mixon, Jr., from the Economics Department of the University of Southern Mississippi, elected commissions may have other advantages

⁶³ Timothy Besley and Stephen Coate, “Elected versus Appointed Regulators: Theory and Practice,” *Journal of the European Economic Association*, Vol. 1, No. 5, September 2003, pp. 1176-1206, 1200.

⁶⁴ Kenneth W. Costello, “Electing Regulators: The Case of Public Utility Commissioners,” *Yale Journal on Regulation*, Fall 1984, p. 11.

⁶⁵ *Ibid*, p. 6.

⁶⁶ *Ibid*, p. 9.

⁶⁷ Besley, pp. 1176-1206, p. 1179.

⁶⁸ *Idem*.

for those concerned about administrative costs. Elected commissions tend to have more lean operations, and elected commissioners tend to earn less.⁶⁹

Accepting the proposition that elected commissions are better than appointed commissioners, Mississippi is one of twelve states that elect commissioners. The advantage assumes professional standards on avoiding influence from regulated entities. Mississippi law reinforces this independency by specifically making it illegal for any commissioner, candidate for commissioner, PSC employee or PUS employee to accept gifts, campaign contributions, or other benefits from any utility or representative of a utility. Likewise, it is unlawful for any person, so defined, to give any such gifts, campaign contributions, or benefits.⁷⁰

Like judges, commissioners need independence from political influences. Elected commissions have the theoretical advantage in this regard because there is no appointing official, i.e., the governor, to hold sway over them because they report only to the voters. To counter this disadvantage, states that appoint commissioners have adopted strategies, including statutory language mandating independence, senate confirmation of appointees, and political party balance by forbidding all commissioners to belong to the same political party.

The time that Mississippi might be most vulnerable to the potential for undue gubernatorial influence would be when vacancies occur. Under Section 103 of the Mississippi Constitution, the governor has the power to make provincial appointments to fill vacancies, as occurred in 2006 with a PSC vacancy in District 02, that lasted until the following election.

The vulnerability exists because anyone appointed may feel obligated to fulfill wishes of the governor on any case important to the governor. Simply because the governor can help advance a person's political career, there naturally would be a sense of gratitude and feelings of reciprocity to return a favor to the governor. This potential situation is not just hypothetical. A PSC commissioner who had been appointed along with another commissioner was accused of being unduly influenced by the governor when the commission allowed the Kemper project to continue in 2010 after the governor sent them an enthusiastic letter in favor of the project. These accusations were soundly denied, and it is not important here to ferret out the truth. The important point is to reduce the potential or at least the appearance of undue influence.⁷¹

The same constitutional section provides that the legislature may specify the manner in which vacancies can be filled. To reduce the potential—or at least the appearance—of influence, the legislature may choose to place parameters around the appointments. For example, the legislature may make any appointment short-term by requiring special elections to be held as soon as logistically feasible. Furthermore, the legislature may

⁶⁹ Franklin G. Mixon, Jr., "The Impact of Agency Costs on Regulator Compensation and the Size of Electric Utility Commissions," *The Energy Journal*, Vol. 22, No. 2, 2001.

⁷⁰ Miss. Code Ann. § 77-1-11.

⁷¹ Adam Lynch, "Commissioners Deny Barbour's Influence," *Jackson Free Press*, June 23, 2010: <http://www.jacksonfreepress.com/news/2010/jun/23/commissioners-deny-barbours-influence>.

impose the additional condition that any temporary appointee to fill the vacancy cannot simultaneously run for election to fill that same seat. This rule would have the effect of making the appointment truly temporary, dampening any sense of reciprocity to return a favor.

Comparing States with Elected Commissioners

Among states that elect commissions, there are structural differences. A review of those differences is useful to determine whether Mississippi can improve its structure.

Characteristics of Elected Commissions by State⁷²

Elected Commissions	commissioners	election method	term (years)	staggered	chairman (president-ND)
Alabama Public Service Commission	3	statewide	4	Staggered	elected by commissioners
Arizona Corporation Commission	3	statewide	6	Staggered	elected by commissioners
Georgia Public Service Commission	5	statewide	6	Staggered	Rotated annually based on seniority
Louisiana Public Service Commission	5	district	6	Staggered	elected by commissioners
Mississippi Public Service Commission	3	district	4	Concurrent	elected by commissioners
Montana Public Service Commission	5	district	4	Staggered	elected by commissioners
Nebraska Public Service Commission	5	district	6	Staggered	elected by commissioners
North Dakota Public Service Commission	3	statewide	6	Staggered	elected by commissioners
Oklahoma Corporation Commission	3	statewide	6	Staggered	elected by commissioners
South Carolina Public Service Commission	7	state legislature	4	Concurrent	elected by commissioners
South Dakota Public Utilities Commission	3	statewide	6	Staggered	elected by commissioners
Virginia State Corporation Commission	3	state legislature	6	Staggered	elected by commissioners

Other than South Carolina where the state legislature elects commissioners, Mississippi is the only state where the terms of elected commissioners run concurrently. All other states stagger the terms. Staggering terms of office provides advantages over concurrent terms of office. It provides continuity for the regulatory body where all commissioners are not replaced at once. It avoids the cyclical attention deficit problem that all members of the commission must run for reelection at the same time. As anyone who has run for public office knows, the time commitment of elections can be disruptive to other duties. If all commissioners are running for reelection at the same time, the work of the commission may be sacrificed during the months leading up to an election.

Most states with elected commissions have six-year terms. Longer terms are normally associated with more deliberative bodies, and utility regulatory commissions are unquestionably deliberative. Although not the most important goal, longer election cycles reduce election costs. If staggered terms are adopted with three commissioners, which is the statistical mode, staggered terms would work out nicely mathematically with one commissioner election every two years.

Commissioner removal provisions for Mississippi are standard. However, two states—Arizona and North Dakota—allow voters to recall a commissioner. Both states have six-

⁷² IPU Database on Commission Structure and Foley, *Profiles of Regulatory Agencies*.

year staggered terms, and if Mississippi extends the terms of the Commissioner, it might consider a recall provision.

Most states, including Mississippi, rely on governor appointments to fill vacancies. North Dakota relies on elections to fill vacancies, and Louisiana provides that the first assistant fills the position for no more than one year. Because elections have proven more effective, Mississippi ought to consider relying on elections to fill vacancies and allowing only temporary appointments by the governor.

Filling Vacancies on Elected Commissions by State⁷³

Elected Commissions	Filling Vacancies
Alabama Public Service Commission	Gov. appoints for remainder of term
Arizona Corporation Commission	Gov. appoints for remainder of term (Senate confirms)
Georgia Public Service Commission	Gov. appoints for remainder of term
Louisiana Public Service Commission	First assistant fills position for no more than 1 year
Mississippi Public Service Commission	Gov. appoints for remainder of term
Montana Public Service Commission	Gov. appoints for remainder of term
Nebraska Public Service Commission	Gov. appoints for remainder of term
North Dakota Public Service Commission	Vacancies filled for the unexpired term by election
Oklahoma Corporation Commission	Gov. appoints until a new commissioner is elected
South Carolina Public Service Commission*	Gov. appoints for remainder of term (informs AG, confirmation not required)
South Dakota Public Utilities Commission	Gov. appoints for remainder of term
Virginia State Corporation Commission*	Gen. Assem. appoints for remainder of term; Gov. appoints if not in session
*elected by state legislature	

Evidence for Statutory Utility Consumer Advocates

Statutorily established utility consumer advocates have been justified primarily on the basis of their legitimacy in the regulatory process, allowing them to present independent testimony and evidence in contraposition to utility firms. Arguments have stressed the unique democratic role in representing consumers to help make the system fair.⁷⁴

Advocates need to be attorneys to represent the interests of residential ratepayers. To be effective, utility consumer advocates also need to be administratively separated from the commission itself. They need the flexibility to choose to intervene, to have the power of discovery, to bring forth expert testimony, and to be able to appeal commission decisions to the courts.⁷⁵

A recent statistical analysis published in *PUBLIC CHOICE* provides evidence that utility consumer advocates play a positive role in controlling utility costs. The study defined

⁷³ IPU Database on Commission Structure. Mississippi data amended.

⁷⁴ Adam R. Fremeth, Guy L.F. Holburn, Pablo T. Spiller, “The impact of consumer advocates on regulatory policy in the electric utility sector,” *Public Choice* (2014) 161: p. 159.

⁷⁵ *Ibid*, p. 161.

utility consumer advocates as those who are publicly funded, as opposed to special interest groups.⁷⁶ Although utility consumer advocates unsurprisingly justify their existence by claiming a benefit for ratepayers, this study independently provides the first⁷⁷ statistical evidence to support the claim in three measured outcomes.

The first observed benefit is that utility filings on average are “14 percentage points less likely to be initiated in states for which consumer advocates have statutory jurisdiction.”⁷⁸ The authors view this as a benefit because utilities in states with utility consumer advocates are less likely to file for rate increases.⁷⁹ Using seven different statistical models, the second statistically significant finding is that utility consumer advocate participation reduces the allowed return on equity. The third finding is that utility consumer advocates are correlated with more favorable rate structures for residential ratepayers at the expense of commercial and industrial ratepayers.⁸⁰

In addition to providing statistical evidence in favor of utility consumer advocates, the third finding also provides justification for the creation of a separate advocate to represent ratepayer groups other than residential ratepayers. Pennsylvania uniquely has a utility small business advocate in addition to a utility consumer advocate. While all ratepayer classes benefit from reductions in the amount of revenue utilities may collect, the subsequent decision on how to split the burden by each ratepayer class is also important. At this junction of a rate increase hearing, the utility consumer advocate has a conflicting role in deciding how to split the burden between residential and commercial ratepayers, especially small business ratepayers. By creating a utility small business advocate, it frees the utility consumer advocate from this conflict and relies on the adversarial process of the ratemaking proceedings to work out a fair sharing of the burden by ratepayer class. This rationale was the statutory basis for Pennsylvania Office of the Small Business Advocate.⁸¹

The 1970s witnessed an expansion of public participation in utility regulatory proceedings along with the creation of statutory offices of utility consumer advocates. An early observation by William T. Gormley, Jr., (University of Wisconsin, Madison) was that the bureaucratization and specialization of these proceedings diminished the public’s ability to understand and influence policy. Gormley defined statutory utility consumer advocates as proxy advocates and citizen groups as grass-roots advocates. He defined both types of

⁷⁶ Ibid, pp. 157–181.

⁷⁷ Ibid, p. 179.

⁷⁸ Ibid, p. 169

⁷⁹ Idem.

⁸⁰ Ibid, pp. 175-176.

⁸¹ State representative Italo Cappabianca effectively argued for and pursued the establishment of an Office of Small Business Advocate that became Act 181 of 1988. Information based on prior conversations with Small Business Advocate Bernard A. Ryan, Jr. (retired) and Consumer Advocate Sonny Popowsky (retired).

advocates as public advocates. He raised concerns over the meager resources of grassroots advocates that do not have the expertise that proxy advocates have.

However, he believed that grassroots advocacy is important because it encompasses a full range of interests beyond what proxy advocates typically undertake.⁸² Furthering his research using statistical methods by examining data from 51 utility regulatory commissions in four issue areas using multiple regression and probit analyses, Gormley found significant differences between grassroots advocates and proxy advocates. He found that grassroots advocates are effective when the issues are low in technical complexity. However, when the issues are complex, they lack the resources to participate effectively.

He confirmed his statistical findings with interviews from 284 public advocates, utility executives, and regulators in 12 states.⁸³ The clear implication is that states cannot rely exclusively on grassroots organizations to fill the role of public advocacy when it comes to challenging utility firms before utility regulatory proceedings.

States with Statutory Consumer Advocates		
State	Year	Legislation
Alabama	1977	§ 37-1-16
Arizona	1983	40-461
Arkansas	1981	23-4-301
California	1996	SB 960
Colorado	1984	40-6.5-104
Connecticut	1975	16-2a
Delaware	1978	29-8716
Florida	1974	Fla. Stat. § 350.061
Georgia	1981	46-10
Hawaii	1976	§ 269-651
Illinois	1983	§ 220 ILCS 10/1
Indiana	1981	IC 8-1-1.1
Iowa	1983	§ 475A.1
Kansas	1989	66-1222
Maine	1981	35-A M.R.S. § 1701
Maryland	1976	Art. 78 § 57
Massachusetts	1973	ALM GL ch. 12, § 11E
Missouri	1977	§ 386.700 R.S.Mo.
Montana	1973	§ 69-1-211
Nevada	1981	Nev. Rev. Stat. Ann. § 228.300
New Hampshire	1981	RSA 363:28
New Jersey	1974	52:27E
New York	1970	NY CLS Exec § 550
North Carolina	1977	N.C. Gen. Stat. § 62-15
Ohio	1976	§ 4911
Pennsylvania	1976	71 P.S. § 309-1
South Carolina	1978	§ 37-6-601
Tennessee	1994	§ 65-4-118
Texas	1983	Tex. Rev. Civ. Stat. art. 1446c
Utah	1977	§ 54-10a-101
Vermont	1981	30 V.S.A. § 1
West Virginia	1980	§ 24-1-1
Wyoming	2003	37-2-401

Source of Table⁸⁴

⁸² William T. Gormley, “Public Advocacy in Public Utility Commission Proceedings,” *The Journal of Applied Behavioral Science*, Vol. 17, No. 4, 1981.

⁸³ William T. Gormley, Jr, Policy, Politics, and Public Utility Regulation, *American Journal of Political Science*, Vol. 27, No. 1, February 1983, pp. 86-105.

⁸⁴ Fremeth, p. 160.

More recent studies confirm the usefulness of utility consumer advocates. Even in a restructured regulatory environment, that allows consumer choice for generation sources, they have expertise and powers exceeding those of grassroots organizations, that is, consumer-oriented interest groups. They do not duplicate functions of commissions and can effectively represent consumers.⁸⁵

Key Characteristics for Effective Consumer Advocacy

Three defining attributes of a proxy utility consumer advocates exist among the states that have them. The advocates:

1. have an independent office,
2. are statutorily enabled, and
3. have authority to appeal commission decisions⁸⁶

The effectiveness of utility consumer advocates is related to the following characteristics:

1. They must have sufficient authority to participate fully in regulatory proceedings, including the ability to appeal decisions.
2. They must have independence from political and corporate pressures to allow them to represent fully the interest of residential consumers.
3. They must have access to information of utility firms.
4. They must be adequately funded to allow for full representation, including the important ability to hire expert witnesses.⁸⁷

The Vermont Public Service Department issued a recent report on the structure of utility consumer advocate offices in the United States with recommendations on how to revamp Vermont's advocate. It noted that they go by numerous names, such as consumer advocate, ratepayer advocate, public advocate, consumer counsel, rate counsel, and citizens utility board. Although they may be housed in or attached to other agencies or departments, 21 states have utility consumer advocates considered to be independent state agencies. In 17 states, the utility consumer advocate resides as part of the attorney general or department of justice. The specifics vary by state. In some cases, the attorney general merely appoints the utility consumer advocate. In other states, the attorney general may set aside staff for the purpose or simply choose to intervene.⁸⁸

⁸⁵ Michael Murphy and Francine Sevel, "The Role of Utility Consumer Advocate in a Restructured Regulatory Environment," National Regulatory Research Institute, Report No. 04-12, September 2004. Downloaded from <http://nrri.org/research-papers>.

⁸⁶ These attributes were used by Murphy, p.2., as they were derived from the definition of "proxy advocate" by William T. Gormley, Jr., "Policy, Politics, and Public Utility Regulation," *American Journal of Political Science*, Vol. 1, February 1983, and the National Association of State Utility Consumer Advocates (NASUCA) criteria for a "consumer advocate" (www.nasuca.org).

⁸⁷ Summarized and elaborated based on important themes observed by Murphy, pp 2. Palast also stresses the importance that advocates must be able to hire expert witnesses, p. 103.

⁸⁸ Vermont Public Service Department, "An Evaluation of Ratepayer Advocate Structures Pursuant to Act 56, Section 21b—A Report to the Vermont House Committee on Commerce and Economic Development and the Senate Committee on Finance," February 22, 2016, pp 13-15

The Vermont PSD found the following common characteristics among the advocates:

- They represent consumers on price and quality-of-service utility matters before their respective state commission, federal agencies, and the courts.
- They have the power to appeal decisions to the courts.
- They have party status on matters before their commission.
- They have staff, budgets, and mission separate from the commission.⁸⁹

Some states have Citizen Utility Boards that are funded by private support and may receive government funding who perform the duties of utility consumer advocate. Illinois has both a Citizen Utility Board and a Public Utilities Bureau within its Office of Attorney General. California has an independent private non-profit—The Utility Reform Network (TURN)—that is funded mostly by commission awards.⁹⁰

The report also had the following findings:

1. Offices that appoint utility consumer advocates with the number of states in parentheses:

- Attorney general (17)
- Governor (14)
- Legislature (2)
- Other (11)⁹¹

2. Terms of office of utility consumer advocates with the number of states in parentheses:

- At will (23)
- Four years (11)
- Two years (3)
- Five years (2)
- Other (3)⁹²

3. Utility consumer advocate agency affiliation with number of states in parentheses:

- Attorney general (16)
- Utility commission (8)
- Governor (6)
- Independent (4)
- Legislature (2)
- Other (8)⁹³

4. Utility consumer advocate representation with number of states in parentheses:

- All consumers (19)

⁸⁹ Ibid, p. 14.

⁹⁰ Ibid, pp. 16-17.

⁹¹ Ibid, Appendix B.

⁹² Idem.

⁹³ Idem.

- Residential (9)
- Residential/small business (6)
- Prioritized representation (3)
- Residential/small business/agriculture (2)⁹⁴

Mississippi Experience with Consumer Advocacy

The Office of the Attorney General can play a role in defending residential and other consumers in PSC proceedings. Although prior attorney generals participated in selected cases, these decisions were at the discretion of the attorney general. The state legislature at times appropriated money to the attorney general for the hiring of expert witnesses for utility cases. Without a funding stream dedicated to the cause, however, the attorney general must balance dedicating resources for utility cases against the many other duties of his office.⁹⁵

Currently, the attorney general monitors utility cases. However, successful representation requires participation and the development of expertise, which can be best accomplished when resources are dedicated to the cause.

The Public Utilities Staff is not the same thing as a utility consumer advocate, and it is an ineffective replacement. The PUS fulfills a critical function providing investigative and advisory services to the PSC. However, the PUS cannot be an advocate for ratepayers before ratemaking proceedings at the same time. As stressed throughout this report, the regulatory system is based on an adversarial system that requires balance. The various stakeholder interests need to be a check on the others. In Mississippi, there is no office statutorily dedicated to represent ratepayers before the commission, which means the commission receives an unbalanced presentation. Recall that balance is one of the important criterion for an effective regulatory structure. The PSC can only make its decisions based on what is presented before it during proceedings, and the lack of effective proxy advocacy for ratepayers skews the potential for balance.

As already discovered, the PUS is statutorily charged to aid the PSC in representing “the broad interests of the State of Mississippi by balancing the respective concerns of the residential, commercial or industrial ratepayers, and the state and its agencies and departments, and the public utilities.”⁹⁶ Therefore, it cannot play the role of an advocate before the PSC. Additionally, the staffing of the PUS is distinctly different from the way one would likely staff an office of a utility consumer advocate. The PUS is staffed mostly with accountants, engineers, and legal experts.⁹⁷ Although not true for all utility consumer advocate offices, a successful model of an office of utility consumer advocate consists mostly of attorneys with some support staff and perhaps only one or two in-house

⁹⁴ Idem.

⁹⁵ Interview with former Mississippi Assistant Attorney General Frank Spencer, July 6, 2017.

⁹⁶ Miss. Code Ann. §§ 77-2-1, 77-2-3, and 77-2-5.

⁹⁷ Staffing determined from the organization chart available on the agency’s website: <http://mpus.ms.gov>, accessed September 2, 2017.

accounting and technical experts, relying on outside experts when presenting their cases.⁹⁸

Base Rate/Rate of Return Regulation

Surprisingly, the roots of the base rate/rate of return regulation reach back as far as 1804, prior to states enacting laws allowing the incorporation of businesses to be handled administratively. The RoR design is arguably brilliant, compensating private firms for investments, and it was developed concurrently with the rise of business in the nineteenth century. The Massachusetts Legislature initially created RoR regulation to compensate firms for turnpikes. In 1836, the legislature applied and refined the concept to the emerging railroad industry. The fundamental principle underlying RoR regulation is that investors are entitled to a fair return on the capital they invested, not on the value of the property used.⁹⁹

Adopted by all the states and used for regulation of public utilities, RoR regulation still dominates the regulatory landscape today. There was little reason to question the efficacy of the regulatory system when large capital investments corresponded to increased consumption and declining prices. Consumers clearly benefitted alongside investors who received fair compensation for their investments.

As industries mature, as with the electric industry, with consumption growth leveling off and capital investments hitting diminishing returns, weaknesses in RoR regulation became more apparent. Regulation may encourage overinvestment and gold plating of costs that reduce market efficiency at the expense of the consumer. These potential inefficiencies are exacerbated by the new demands of expanded regulation imposed on the industry, not least of which are environmental controls that raise the price of electricity and conservation efforts intended to reduce consumer demand.

Overinvestment is a potential drawback because RoR regulation may incentivize utilities to overbuild. Two economists published a paper proposing this relationship in 1962, and the effect is named after them, i.e., the Averch-Johnson effect.¹⁰⁰ The extent to which the Averch-Johnson effect existed in the electric industry during the prior era that lasted to the late 1960s is debatable.¹⁰¹ However, given the new realities of the regulatory environment and the maturing of industries, the potential for its effect now is more real.

In response, regulatory commissions become more proactive in reviewing large capital investments for prudence, a relatively new role for utility regulatory commission that is

⁹⁸ Interview with Popowsky, August 29, 2017.

⁹⁹ Foley, *Profiles of Regulatory Agencies of the United States*, p. 222.

¹⁰⁰ Harvey Averch and Leland L. Johnson, "Behavior of the Firm Under Regulatory Constraint," *American Economic Review* 52, 1962, pp. 1052-69.

¹⁰¹ Hirsh, p. 81.

now commonplace. According to one study, there were only nine such cases in the thirty years prior to 1974 but 42 cases between 1974 and 1983¹⁰²

Initially, states responded to the challenges by beefing up their regulatory systems. Mississippi reformed its PSC in 1983. Today 34 states—including Mississippi—require electric companies to receive certification—that is, the utilities must demonstrate need—to build a new power plant.¹⁰³ Stated differently, the public participates, through the regulatory process, in major investment decisions that used to be made solely by the utilities.

Although prudence reviews were not done in the prior era, they are not part of the expanded role for regulatory commissions—that is, environmental, conservation, or social policy—but fall under the traditional regulatory goals ensuring reliable service at reasonable prices. Recognizing that imprudent decisions lead to higher costs—that is, ratepayers are captive,¹⁰⁴ the public wants some reassurance that large investment decisions are in the public interest.

Under the RoR regulatory system, investors are not guaranteed a return on their investments, just an opportunity to earn a fair return based on the “used and useful” standard.¹⁰⁵ However, an approval by a ratemaking body can mean the utility is entitled to compensation for the investment even if it never gets used. Non-regulated industries do not have this advantage. Poor capital investments in a non-regulated industry cannot be charged to customers. Given competition, its options are limited, which means taking a loss. In the extreme, it could mean bankruptcy and going out of business altogether. Because regulated monopolies deliver essential services, no one is served well if they go out of business. Along with investors, customers may need to share the pain for poor decisions. It takes little imagination to realize that an electric power company cannot be shuttered without a devastating economic impact. Government officials would be in crisis mode trying to find alternative arrangements.

When investments decisions turn out badly, as with the Kemper County project, sometimes the certification for building a power plant is not enough protection for the investors. Public pressure can influence regulators and even state legislatures to renegotiate agreements, cap costs, find some way out of an agreement, or even claw back investments determined after the fact to be imprudent. Although investors may win lawsuits against claw-backs, a utility must weigh the short-term gains of winning the legal case against the long-term negative consequences for future projects and ratemaking

¹⁰² Robert E. Burns, Robert D. Poling, Michael J. Whinihan, and Kevin Kelly, “The Prudent Investment Test in the 1980s, The Regulatory Research Institute, NRRI-84-16, April 1985, p. iii.

¹⁰³ Database on Commission Jurisdiction, Institute for Public Utilities, Michigan State University, 2015

¹⁰⁴ Janice A. Beecher and Steve G. Kihm, *Risk Principles for Public Utility Regulators*, East Lansing; Michigan State University Press, 2016, pp. 60-62.

¹⁰⁵ *Ibid*, pp. 82-84.

cases from the bad publicity and the poisoning the relationship with the regulator and legislature.

Another known defect of RoR regulation is that utility firms can exaggerate their costs for which they receive compensation,¹⁰⁶ known as “gold-plating.” For this reason, full-fledged rate cases open for consideration all financial aspects of maintenance and operations of a utility company. The best way to reveal overlooked areas where the utility can save money is through the adversarial process, which reinforces the argument for a statutory utility consumer advocate with sufficient resources to discover and inspect financial documents and present alternative findings during the proceedings.

Therefore, whenever a state utilizes the traditional RoR regulatory system as Mississippi does, it is crucial that the regulatory system is structured in a balanced way that allows commissioners to make the best possible decisions. This means providing well-defined roles for the commissioners and staff and other participants, providing safeguards for independence, enforcing integrity standards, and allowing for competent representation of consumers before the commission.

The defects of RoR regulation are well-known among regulators and those in the industry, and awareness of the defects by regulatory commissioners and utility consumer advocates can go a long way toward counteracting those defects. This report does not intend to delve into the complexities of ratemaking and the alternatives built into the framework of RoR regulations, including recent experimentation with alternatives by Alabama, Maine, Wisconsin, Utah, Ohio, and California.¹⁰⁷ That said, older economic literature on regulating natural monopolies did not find much promise in replacements for RoR regulation. One idea—to franchise contracts to firms who then provide the utility service—has complications that make it unlikely to be superior to RoR regulation. Other alternatives, such as regulating quality or developing a price-capping scheme that allows for inflation discounted by improvements in productivity, also have significant drawbacks in comparison.¹⁰⁸

Balancing Risk for Developing New Technologies

The development of new technologies is widely recognized as beneficial to consumers and the broader economy. It is also one of the most important decisions for public utilities.¹⁰⁹ As already summarized, the electric power industry evolved from entrepreneurship in harnessing the power of electrons by not only inventing the technologies that spawned an industry but also by continually developing newer and better technologies. Without

¹⁰⁶ Berg, pp. 300-302.

¹⁰⁷ For an analysis of alternative ratemaking, see Ken Costello, “Alternative Rate Mechanisms and Their Compatibility with State Utility Commission Objectives,” National Regulatory Research Institute, Report No. 14-03, April 2014.

¹⁰⁸ Berg, pp. 484-497.

¹⁰⁹ Palast, p. 86.

entrepreneurship, there would be no electric power industry to which we have grown accustomed and on which we depend. Moreover, none of the spin-off technologies and their spin-off industries that rely on electricity would exist.

The public interest would not be served if the utility regulatory process squashed or stifled innovation and the development of new technologies. New technologies give hope for the traditional needs of better service and lower prices as well as for expansive challenges like protecting the environment. Stated more emphatically: “from a society’s perspective, avoiding risk may present the greatest risk of all.”¹¹⁰

On the other hand, ratepayers cannot be expected to undertake all risk associated with the development of new technologies, because it introduces what economists call moral hazards. If a utility firm would be protected from a loss if the ratepayers assumed all risk for the development of a new technology, then the firm loses its financial disincentive from undertaking unreasonable risks.

The principle of moral hazard also helps explain why it is most often a bad idea for government to directly invest in the development of specific technologies and industries. When they do, politicians put on the line not their own money but other people’s money—money that people had no choice in paying because it was collected as taxes.

In fact, the current Mississippi State Constitution adopted in 1890¹¹¹ prohibits the use of taxpayer money to support private firms, as follows:

Section 258. Credit of State

The credit of the State shall not be pledged or loaned in aid of any person, association, or corporation; and the State shall not become a stockholder in any corporation or association, nor assume, redeem, secure, or pay any indebtedness or pretended indebtedness alleged to be due by the State of Mississippi to any person, association, or corporation whatsoever, claiming the same as owners, holders, or assignees of any bond or bonds, now generally known as “Union Bank” bonds and “Planters Bank” bonds.

This general prohibition originated as part of Mississippi’s 1832 Constitution¹¹² during a time of financial crisis when ultimately nine states defaulted on their debts due to substantial investments in canals, railroads, and banks that went sour.¹¹³

Still reeling from the debt crisis, state legislatures were keenly aware of the dangers of public investment. They chose an alternative path by developing a legal system of

¹¹⁰ Beecher and Kihm, p. 112.

¹¹¹ John Ray Skates, “Constitutions of Mississippi,” Mississippi History Now website: <http://mshistorynow.mdah.state.ms.us/articles/98/constitutions-of-mississippi>, accessed August 18, 2017.

¹¹² Historical note on sources, LexisNexis.

¹¹³ Arthur Grinath, III, John Joseph Wallis, and Ricahrd E. Sylla, “Debt, Default and Revenue Structure: The American State Debt Crisis in the Early 1940s,” National Bureau of Economic Research, NBER Working Paper Series on Historical Factors in Long Run Growth, Historical Paper 97, March 1997. <http://www.nber.org/papers/h0097.pdf>.

incorporation and liability to stimulate private investment and relied on private financial markets that coincided with tremendous technological change and economic growth.

Financial markets operate not on the coercion principle like the tax system but on voluntary actions. People are free to choose where to invest their money. They make their own decisions based on their individual risk tolerances. If their investments pan out, they may be rewarded handsomely. In counterposition, they may regret not having made an investment when one does succeed. However, if the new technology fails to fulfill its promise, they stand to lose the money they invested. Or, if they declined to invest, they will have no regrets.

The policy question for utility regulation cannot be about eliminating risk. It is not possible to eliminate risk or regret in business. Merely operating a business involves undertaking risk because it is always possible that costs will exceed revenue. Therefore, the mere act of providing a utility service is a question of risk and regret.

A report sponsored by Ceres highlight three critical observations concerning risk:

1. Risk cannot be eliminated, but it can be managed and minimized.
2. It is unlikely that consumers will bear the full cost of poor utility resource investment decisions.
3. Ignoring risk is not a viable strategy.¹¹⁴

The second observation of the report predicted that regulators will be less likely in the future to burden ratepayers with risks associated with large investments, thus pushing more of the risk cost onto shareholders. This prediction rings true with the Kemper project, which ultimately capped ratepayers' share of the burden.

Commissions play an important role in technology development, but they are limited in what they can do. Economic studies have concluded that “[r]egulators probably are unable to force technological change. ... Regulators may establish incentives, but ultimately it is up to utility managers to determine the level and mix of R&D expenditures and the rate [by] which new technologies are adopted”¹¹⁵ However, research has shown that “regulation influences the pace and pattern of technological change.”¹¹⁶

Compilation of Findings and Conclusions

The following points summarize the findings and conclusions of this report.

1. Invented and developed first in the United States, the U.S. electric industry is unmatched anywhere. Only China exceeds the U.S. in production but lags behind significantly on a per-capita basis, and no other country comes close. The U.S. also

¹¹⁴ Ron Binz, Richard Sedano, Denise Furey, and Dan Mullen, “Practicing Risk-Aware Electricity Regulation: What Every State Regulator Needs to Know,” A Ceres Report, April 2012.

¹¹⁵ Berg, pp. 426.

¹¹⁶ Idem.

has some of the world's most affordable prices for electricity without issues of reliability found elsewhere around the world.

2. From the beginning of the industry, there was a regulatory bargain to allow investor-owned utilities to have monopolies in exchange for being regulated for price and reliability.
3. The public utility regulatory system developed in the United State is likely the best system in the world, using the process of judicial proceedings and relying on “democratic” principles as follows:
 - a. Judicial proceedings balance conflicting interests.
 - b. All stakeholders have the right to participate, review relevant documents, and submit expert testimony.
 - c. The proceedings are open and transparent.
 - d. Consumers deserve prices that are “just and reasonable.”
 - e. Prices must relate to costs.
 - f. Investors deserve the opportunity for a fair rate of return.
 - g. Investments cannot be confiscated.
4. Traditional regulated issues of reliability of service and price have generally been redefined since the late 1960s to include more scrutiny of utility investments, i.e., prudence reviews, that serve to reduce costs to consumers, and expanded to include other concerns, such as siting decisions, environmental controls, conservation of energy, and social policies that often add to the cost of electricity.
5. Economic theory of public utilities and monopolies followed, not led, innovations in the industry and the regulation of natural monopolies. However, economic research is helpful for identifying viable alternatives and making public policy decisions.
6. Economic studies have found no evidence for the capture theory and little support for other theories on how regulatory commissions behave, leading to the conclusion that the relationships are too complex to be modeled successfully. However, this does not mean that individual commissioners have not been unduly influenced or that commissions do not make bad decisions.
7. Research supports the following characteristics for successful regulatory commissions:
 - a. Impartial and politically independent commissions
 - b. Adequate resources available to the commissions
 - c. Professionalism
 - d. Balance in the adversarial process, especially competent utility consumer representation.
8. Economic research indicates that elected commissions perform better than appointed commissions. Safeguards for election integrity are important.
9. While it is not uncommon for states to impose professional qualifications for commissioners and require balance in political party affiliation on commissions, these attributes are restricted to appointed commissions. Elected commissions rely on the electoral process and voters to judge qualifications and balance.
10. Mississippi differs from other state elected commissions as follows:

- a. Mississippi does not stagger terms
 - b. Mississippi has four-year terms while most use six-year terms.
 - c. Although commissioner-removal provisions seem standard, two states have recall provisions.
 - d. Filling of vacancies relies on appointments as opposed to elections.
11. Economic research supports “proxy” utility consumer advocates established by statute to represent residential and sometimes small and agricultural businesses as opposed to relying on grassroots groups to represent consumers. Grassroots groups are good at broadening the range of consumer issues but generally lack the resources to be effective in complex cases.
12. Effective proxy consumer advocacy requires the following attributes:
- a. Party status before the commission and authority to participate fully in utility proceedings
 - b. Ability to appeal decisions to courts and other regulatory bodies, both state and federal
 - c. Discovery and access to information of utility firms
 - d. Adequate funding for staffing and hiring of expert witnesses
 - e. Staff, budgets, and mission separate from the commission
 - f. Independence from political and corporate influence.
13. Mississippi has strengths and weaknesses as follows:
- a. Elected commission: strength
 - b. Statutes for election integrity: strength
 - c. Openness: potential weakness. While Mississippi has statutory language for open meetings and public inspection of records, the statutory language for public inspection can be strengthened and, more importantly, there is no utility consumer advocate with the ability to enter confidentiality agreements to inspect records under protective orders.
 - d. Professionalism: strength with caveat. Although there is no indication of lacking professionalism, the legislature might consider statutory language promoting professionalism, which may include mandatory training or codes of ethics and conduct specific to utility regulators.
 - e. Adequate resources: possible weakness. The PSC’s and PUS’s combined budgets are low compared to other states and warrants further review for adequacy.
 - f. Balance in adversarial process: major weakness. Mississippi’s adversarial process is missing a funded, statutory proxy utility consumer advocate. The PUS cannot play the role of a utility consumer advocate, and, without dedicated resources, the attorney general cannot be expected to effectively participate on a consistent basis.
14. Mississippi has a unique arrangement with its staff being bifurcated from the commission as a separate agency. While it makes sense to provide political protection of staff, it is usually done by other means within the structure of the commission. The prohibition that no staff member of commissioner may work for

the PUS within one year, and vice-versa, seems to be a restriction without a sufficient justification.

15. Base Rate/Rate of Return regulation originally developed in Massachusetts in the early 1800s to regulate turnpikes and was eventually adopted to regulate railroads, and then public utilities.
16. All indications show that RoR regulation has served the electricity industry well at least until the late 1960s prior to diminishing returns of large capital investments and the expansion of regulation.
17. Economic studies are dubious over evidence of overinvestment into capital (the Averch-Johnson effect), especially during the growth period of the electricity industry. However, the maturing of the industry, evidenced by a slowing in consumer demand and diminishing returns on efficiencies, raises concerns over the potential for the Averch-Johnson effect, which must be guarded against. Proxy consumer advocacy provides a sentinel against this potential.
18. The profit motive in conjunction with RoR regulation potentially encourages utilities to overinvest or gold-plate expenses. Proxy consumer advocacy provides a sentinel against this potential.
19. Regulators do not have the ability to force technological development, as these decisions reside with the utilities. However, incentives can be built into the RoR system to encourage technological development.
20. Investors cannot escape risk nor can they transfer all costs onto consumers. Even when regulators and states err, they have been known to cap, disapprove returns, or even claw back earnings of utilities.
21. For prudently-invested standard technologies, it is reasonable to expect that consumers bear the cost of the risk. However, regulators need to adopt strategies to ensure that investors bear the cost of risks when the technologies are more experimental. These strategies may include capping costs and allowing utilities to keep savings for a duration of time. More research is needed to identify best strategies.

Recommendations

Immediate Solutions for Reform

Recognizing that Mississippi's structure of governance has strengths, there are some weaknesses that can be addressed to better protect the public interest. The following reforms provide short-term solutions to address those weaknesses. The immediate solutions should be adopted when the legislature reviews the regulatory structure pursuant to the statutory sunset provisions.

Reform 1: Statutorily establish an independent office of a utility consumer advocate. He (or she) shall be appointed by the attorney general, who shall also have the power to remove him, and confirmed by the state senate. However, the advocate shall have administrative independence from the attorney general. He

will have his own budget financed in the same manner as the PSC and PUS, which is through assessments on regulated utilities and not general tax revenue. He will independently submit his budget for staffing, expert witnesses, and other operating expenses directly to the Mississippi legislature. He will have the power to contest any utility filing before the PSC, initiate cases, and appeal PSC decisions to the proper courts.

The modern regulatory structure requires a highly-trained and well-versed attorney dedicated exclusively to public utility cases to balance the superior advantage of utilities. The responsibilities of the attorney general are vast, which has sacrificed his ability to actively participate in utility proceedings. Creating an independent office guarantees a more vigilant monitoring and participation to protect consumer interests.

The utility consumer advocate needs to be competent and independent and an attorney. The attorney general represents the best person who can make the decision of his appointment.

However, the utility consumer advocate needs adequate resources to perform his duties. He must have budgetary independence from the attorney general and the governor. Therefore, he should submit his budget request directly to the legislature for approval.

To maximize his effectiveness, the utility consumer advocate must have the power to participate in any case before the PSC, appeal any PSC decision before any state or federal court, and initiate cases.

Reform 2: Statutorily establish an independent office of a utility small agricultural and business advocate. He (or she) shall be appointed by the commissioner of agriculture and commerce, who shall also have the power to remove him, and confirmed by the state senate. However, the advocate shall have administrative independence from the department. He will have his own budget financed in the same manner as the recommended utility consumer advocate. He will independently submit his budget for staffing, expert witnesses and other operating expenses directly to the Mississippi legislature. He will have the power to contest any utility filing before the PSC, initiate cases, and appeal PSC decisions to the proper courts.

Although only Pennsylvania has such an office, research shows that utility consumer advocates favor residential customers over all others. Testimony and logic also support creating a utility agricultural and small business advocate as a separate office. During the first phase of base rate increase proceedings, his role would overlap substantially with that of the utility consumer advocate. However, during the second phase

of proceedings, if and when an increase is approved, he will be in opposition to the utility consumer advocate. This phase of the proceeding decides what class of ratepayers—residential, commercial or industrial—will bear the burden of the rate increase. Otherwise, there will be a conflict of interest for the utility consumer advocate in deciding the balance. Alternatively, the office of the utility consumer advocate could create a division within its office, but this is an inferior option.¹¹⁷

Reform 3: Extend terms of PSC commissioners to six years and stagger the terms.

Commissioners need to be deliberative in deciding the public interest, and sometimes that means making decisions that the voting public may dislike, such as approving rate increases. U.S. senators, for example, were given six-year terms for this very reason. Most states have six-year terms for their commissioners.

Although election cycles importantly help commissioners justify their performance before voters, they can be time-consuming, taking away from commission duties. Extending the term allows more time to focus on duties by increasing the cyclical time between elections. By extending the cycle, it will also serve to decrease the cost of running the elections.

Staggering elections helps guard against situations where all commissioners are campaigning at the same time, thus creating a time period when the commission will have diminished attention to rate cases. Thus, it allows for continuity of the commission.

Finally, changing the cycle from four to six years works out nicely mathematically because it easily allows for election of a commissioner every two years.

Reform 4: Change the manner by which Mississippi fills vacancies for PSC commissioners as follows: Establish special elections to fill vacancies and place restrictions on temporary appointments by the governor, such as limiting the appointment by providing qualifications and requiring that the appointee may not run for election for the post. Temporary appointments shall be for only the time until the position is filled by a special or regular election. For example, if the vacancy occurs less than a year prior to the expiration of the term, then no special election is called. If more than one year, a special election will be automatically called for the next election cycle.

¹¹⁷This opinion is based not only on testimony from Bernard A. Ryan, Jr., Pennsylvania's first utility small business advocate, while he served but also upon his reflection after being retired for ten years. As legislative staff, the author handled legislation and budgeting for the office for over nineteen years. The advocate was also interviewed on September 22, 2017.

Because independence of commissioners is crucial and research-based evidence shows that elected commissioners are more consumer-friendly, it is important to fill vacancies as quickly as is feasible given the logistics of running elections. However, the governor should still appoint replacements until the special election or next regular election so the districts with the vacant seat get immediate representation. There needs to be a check on the governor's ability to appoint temporary replacements, such as providing qualifications of the candidate and specifying that the candidate cannot run for election to the seat. Senate confirmation is another potential check of the governor's appointment power. However, given the part-time nature of the legislature and that the appointments are only temporary, it may be unnecessary and infeasible to require senate confirmation.

Reform 5: Provide for voter recall of commissioners

A voter recall provision may provide an additional safeguard against an incompetent or unduly influenced commissioner. Even the threat of a recall may incentivize a commissioner to behave.

Reform 6: Change the selection of the Public Utilities Staff executive director to appointment by the commission for an indefinite term. Allow his removal by a unanimous decision of the commission.

The PUS serves the PSC with the mission to aid the PSC in its duties. Very few states have the governor appoint this position. Therefore, the commissioners ought to decide who will best serve their needs. Because Mississippi relies on the election process to maintain independence of the PSC, this change will really be an extension of the reliance on the election process. Likewise, the PSC should be in control of the removal of the executive director, but a unanimous decision helps guard against removal for political reasons. This change also helps maintain the neutrality of the executive director by guarding against circumstances, perceived or real, where a governor may appoint or influence an executive director to help push through specific utility projects.

Reform 7: Strengthen language for the public right to review records relative to protective orders on trade secrets and other confidential information.

Mississippi statutory language should make clear that the public has the right to inspect records for any regulatory business before the commission and more clearly define what records deserve protection from disclosure.

Reform 8: Remove the prohibition that prevents PUS staff from working for the PSC after employment at the PUS and vice-versa.

The danger of revolving doors and agency capture exists with utilities, not between the PSC and PUS. Therefore, this prohibition does more harm than good.

Reform 9: Add statutory language to promote professionalism by requiring training and imposing codes of ethics and conduct specific to PSC commissioners and regulatory staff.

Requiring training helps promote professionalism of commissioners and staff, and creating codes of ethics and conduct will send a strong message on legislative expectations that the regulatory culture must be professional.

Possible Long-Term Alternatives in the Electric Industry

The immediate solutions for reform rely on improving the governing structure for the PSC to ensure there is balance, which will improve its performance in deciding issues of prudence. However, even well-designed and balanced regulatory processes are ill-suited for making prudence decisions on behalf of investor-owned firms. There still exists underlying problems with the traditional rate base/rate-of-return regulatory structure that incentivizes utilities to make capital investments and build capacity. Entrepreneurs and professional business managers often are best able to make these decisions, and in non-regulated industries they benefit or suffer from the natural consequences of their decisions, i.e., market discipline.

Long-term solutions, at least in the electric utility industry, include finding alternatives to the traditional regulatory structure where ratepayers do not share the investment risks with an IOU at least in regard to large capital investments. This solution would remove the PSC from making prudence decisions that utilities have historically found to be intrusive and would place the risk squarely on the investors.

There are at least three alternative options that need further research and evaluation.

Possible alternative 1: Consumer choice for electric power generation, often known as electric competition, is a possible alternative. Consistent with what 15 other states have done, Mississippi can consider allowing consumers to choose their electric power generation source, essentially removing the generating stage of production from regulation. Commissioners will no longer need to review questions of prudence for new generation plants because investors will assume all the risk, and competition will determine investments choices and prices.

Moving to competition will be a major decision requiring research and analysis. Although this alternative appears simple enough, implementation is complex, involving issues such as compensating utilities for stranded costs (legal/constitutional requirement for allowing utilities to recover investment decisions made during the prior regulatory regime) and designating providers of last resort (establishing safeguard mechanisms to ensure that there is always a

power source available and assigning power sources to those who refuse or neglect to choose their supplier.) Additionally, economic literature on the success of electric competition has been mixed, and the pros and cons need to be sorted out to discover if there is an optimal approach that will benefit Mississippi.

Possible alternative 2: Wholesale competition for electric power generation is another possible alternative. By bifurcating the generation stage of production from the transmission and distribution stages of production, the new system establishes competition at the wholesale level where utilities also become purchasers of power. Generating plants are no longer regulated, thus having the same impact as the first alternative by removing prudence decisions on new generating plants from the PSC.

In contrast to the first alternative, consumers lose their ability to choose their source of power. This option was in play when states were considering electric power competition, but instead, the fifteen states that allowed for competition chose the first alternative.

Like the first alternative, this alternative also is a major decision requiring further research and analysis. The benefits of driving down prices and promoting innovation from allowing competitors to bid directly to the utilities would need to be greater than the markup costs for generating firms and any lost efficiencies from vertical integration. Additionally, stranded costs issues will need to be resolved.

Other issues to consider include market structure analysis to determine adequate market size and whether it is advisable for a single state to undertake the reform or if it is best to approach wholesale competition regionally.

Possible Alternative 3: Incentive-based regulation may provide a less challenging alternative than the first two options. These changes can be relatively small changes within the RoR regulatory structure, or they can be broader changes. States have experimented with several incremental approaches. This alternative will require a survey of the various approaches and analyses of the impact relative to the traditional approach, as mentioned earlier in this report.¹¹⁸

¹¹⁸ See Costello, “Alternative Rate Mechanisms.”

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Note on Statutory Sources

The IPU database on commission structure also provides links to state statutes on regulatory structures, and the information on state statutes was not independently verified in every case. State statutes reviewed included the statutes from Mississippi, Pennsylvania, Tennessee, Texas, Georgia, and South Carolina. LexisNexis 2017 was often used to extract and search statutes. (Note: Mississippi data is current through the 2017 Regular Session but the final official version of the statutes was not yet available when this study underwent final editing.) Some states, such as Pennsylvania and Texas, make their utility statutes available online. Also cited, *Mississippi Power Company v. Mississippi Public Service Commission and Bigger Pie Forum, LLC*, No. 2012-CC-00682-SCT, April 2, 2013: <https://courts.ms.gov/Images/Opinions/CO93472.pdf>.

Discussions and Interviews

Several experts were consulted in the writing of this report. Most interviews were conducted over the phone. The following persons were interviewed, some on more than one occasion. Other persons, not listed here, were also consulted for fact checking.

Janice A. Beecher, Ph.D., Director of the Institute of Public Utilities, Michigan State University

Lois Burns, legal counsel to Andrew Place, vice chairman of the Pennsylvania Utility Commission.

Tanya J. McCloskey, Acting Consumer Advocate, Pennsylvania

Lew Craig, Consumer Advocate, Alaska

Charles Grayson, Ph. D., Bigger Pie Forum board member.

Billy Jack Gregg, former Consumer Advocate, West Virginia

Ed Kostman, Financial Analyst, Office of Utility Consumer Advocate, Indiana

Sonny Popowsky, Pennsylvania consumer advocate (retired) and former executive director of the National Association of State Utility Consumer Advocates (NASCUCA).

James Bradford Ramsay, General Counsel and Director of Policy Development, National Association of Regulatory Utility Commissioners.

Bernard A. Ryan, Jr., Small Business Advocate, Pennsylvania (retired)

Frank Spencer, former Assistant Attorney General of Mississippi

David Springe, Executive Director, National Association of State Utility Consumer Advocates (NASCUCA)

About the Author

A contributing scholar to the Georgia Center for Opportunity, a senior fellow with the Illinois Policy Institute and an economics lecturer for York College of Pennsylvania, Erik Randolph provides economic- and policy-related consulting services. He has testified before Congress and two state legislative bodies on his research. He worked for more than nineteen years on public utility policy when he was legislative staff for the Pennsylvania House of Representatives. In this role, he drafted, analyzed and negotiated legislation for utility policy, law, and budgeting.

Erik began his professional career in 1986 at the U.S. General Accounting Office (later renamed the Government Accountability Office) where he was trained as a program evaluator. He coauthored the GAO Staff Study U.S. Science and Engineering Base: A Synthesis of Concerns About Budget and Policy Development and received a “Special Commendation Award” for “outstanding contributions” to the staff study.

Afterward, Erik became a senior fellow with the University-Industry Programs division at the New York State Science and Technology Foundation. In 1989, Erik moved back to his native Pennsylvania as an economic development analyst for the Office of Technology Development at Pennsylvania’s Department of Commerce, working with the nationally recognized Ben Franklin Partnership program to spawn economic development by sponsoring industry-university research projects. He also helped to solidify the newly formed Industrial Resource Center program intended to revitalize small to medium-sized manufacturers. Additionally, he produced a statistical report profiling defense industry impact in the state.

In 1991, Erik became an analyst with the Committee on Appropriations, Pennsylvania House of Representatives. He developed expertise in the legislative process, the drafting of legislation, fiscal analysis, forecasting costs of proposed legislation, budgeting, revenue forecasting, debt analysis, and capital budgeting. Erik wrote bill analyses, hundreds of fiscal notes, budget briefings, and white papers. He was given responsibility of special projects on behalf of the Chairman. He organized forums and hearings on areas of public policy, participated on task forces, worked on bipartisan issues, and negotiated legislation. For all nineteen years, he was the lead analyst for all public utility issues. During that time, he was responsible for all fiscal analyses of legislation and budgets relating to public utility policy. In addition, he was personally involved in the development of major public utility legislation, including law that created competition in the electric generation and natural gas industries. He also coauthored legislation to reform consumer service functions of the Public Utility Commission.

In 2011, Erik became a special assistant to the Pennsylvania Secretary of Public Welfare. He led teams of executive staff on numerous projects, including preparing Congressional testimony and recommendations for changes in federal law. He developed an early version of the welfare cliff model, demonstrating the economic impact of the welfare system on specific household types, and led a team of staff that developed a prototype solution. He led another team of staff that developed options relating to linking child

support to subsidized childcare services, addressing a conflict between Court Rules of Civil Procedure on child support and departmental regulations.

From 1996 to 2013, Erik taught principles of economics on a part-time basis for the Harrisburg Area Community College. In 2015, he became an economics lecturer for York College of Pennsylvania.

In 2013, Erik began his consulting career, including working on three projects for the Alexander Group. His projects include work for the Georgia Center for Opportunity, the Illinois Policy Institute, the Mississippi Center for Public Policy, the Heritage Foundation, the Arkansas Legislature, the Pennsylvania House of Representatives, the Pennsylvania Defense Attorneys Association, the State of Maine, the Pennsylvania Commonwealth Foundation, the Pennsylvania Lincoln Institute, and the Caesar Rodney Institute of Delaware.

Erik received a Master of Science degree in science and technology studies, an interdisciplinary program from the College of Humanities at Rensselaer Polytechnic Institute in 1988. He has two bachelor's degrees from the Pennsylvania State University: a Bachelor of Science degree from the University's College of Science (mathematics) and a Bachelor of Arts degree from its College of Liberal Arts (political science).