Free markets. Real solutions.

R STREET POLICY STUDY NO. 205
September 2020

CONTENTS

ELECTRIC COMPETITION: THE ANTIDOTE FOR BAD BEHAVIOR

By Devin Hartman and Mike Haugh

INTRODUCTION

The electric power industry has an inordinate history with corruption and other undesirable political and economic behavior. The summer of 2020 reignited this sordid legacy, perhaps in a manner not witnessed since Enron. Topping the list are twin scandals alleged in Illinois and Ohio between legislators and nuclear power plant owners who received legislated subsidies.

In July, Commonwealth Edison (ComEd), a subsidiary of Exelon Corporation, agreed to pay a $200 million fine to avoid prosecution after admitting in court that it directed contracts and jobs to associates of Michael Madigan, the Illinois Speaker of the House of Representatives, in exchange for favorable legislative treatment.[1] In Ohio, federal prosecutors charged Ohio House of Representative Speaker Larry Householder, Householder's advisor Jeffrey Longstreth, former Ohio Republican Party Chairman Matthew Borges and consultant Juan Cespedes with a racketeering conspiracy, money laundering and bribery.[2] The Ohio allegations constituted the more extravagant scheme, claiming that FirstEnergy Corporation funneled $61 million in "dark money" to not only pass a legislative bailout of nuclear power plants, but use the bulk of the funds to defeat a referendum and harass and buy-off signature gathers opposed to the legislation.[3]

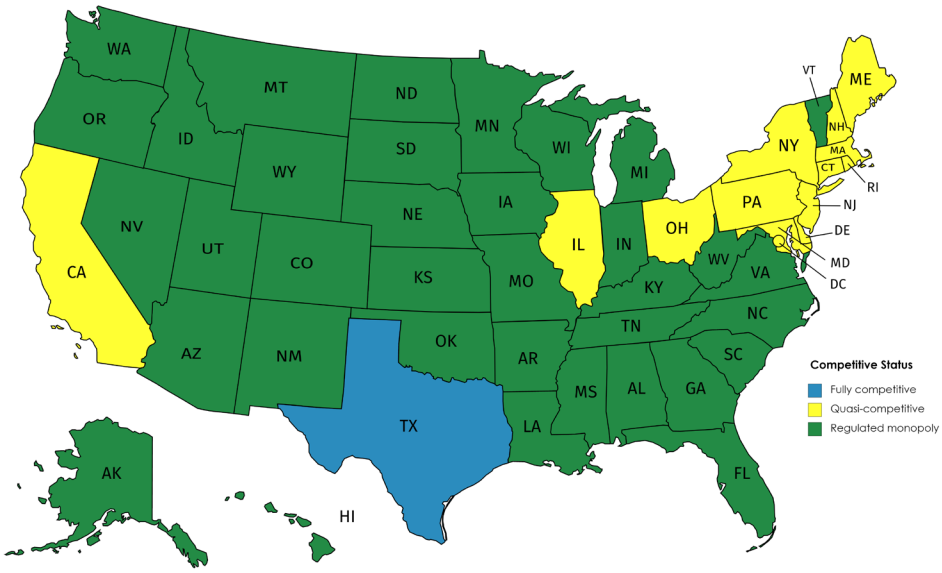
Policymakers should not dismiss these developments as merely the work of a few bad actors, but as the latest evidence of an established behavioral pattern tied to perverse incentives from flawed institutions. The propensity for bad behavior is tied to the structural incentives of political and economic systems. Generally, the stronger the relationship between firms and government officials in determining companies' net revenues, the more suppliers orient their business development around favorable political treatment and the more likely that policy developments socialize costs and risk on captive customers or taxpayers. Specifically, political science and economic evidence suggest that institutions reinforcing transparent and open market competition result in superior economic behavior and provide an antidote to corruption and lesser forms of political rent-seeking behavior.

1. Tony Arnold and Dave McKinney, "ComEd Charged With Bribery For Steering Jobs, Other Benefits For Speaker Michael Madigan. Speaker Denies The Feds' Claims," WBEZ, July 17, 2020. https://www.wbez.org/stories/comed-avoids-prosecution-in-sprawling-corruption-probe-over-its-springfield-lobbying-activities/67133f96-6dc0-4e62-81cf-a9ebc6edad9c.

2. Eric Heisig, "Read the criminal complaint against Ohio House Speaker Larry Householder, aide, lobbyists charged with racketeering conspiracy," Cleveland.com, July 21, 2020. https://www.cleveland.com/open/2020/07/read-the-complaint-against-ohio-house-speaker-larry-householder-aide-lobbyists-charged-with-racketeering-conspiracy.html; "Ohio House Speaker Larry Householder and 4 others arrested in $60 million bribery case," CBS News, July 22, 2020. https://www.cbsnews.com/news/ohio-house-speaker-larry-householder-arrested-60-million-bribery-case.

3. Ibid.

FIGURE I: STATE STATUS OF ELECTRICITY COMPETITION



Source: Figure created on mapchart.

Note: Categorizations are imperfect. Notably, California is often not considered "competitive" but permits a substantial degree of retail choice. Michigan follows the regulated monopoly model for generation and only permits 10 percent retail choice.[4]

As profit-maximizing enterprises, firms have a base incentive to lower costs and increase revenues naturally (e.g., market acquisitions, productivity gains) or artificially (e.g., subsidies, regulatory processes shielding incumbents from new entrants). The strength of economic and political incentives varies across different institutional arrangements. In the electric industry, the regulatory structure is the primary institutional consideration driving firm behavior.[5]

Two paradigms define the base institutional arrangements of the electric industry: regulated, vertically-integrated monopolies and restructured markets, where wholesale generation and retail supply are competitive, but the local distribution segment remains under a regulated monopoly. Figure 1 below shows the current, U.S. institutional arrangement.

Beginning in the 1990s, roughly half the states entered significant efforts to restructure, but today, only 14 states plus the District of Columbia could arguably be considered restructured.[6] At the heart of these reforms was to subject parts of the business that had experienced cost overruns to the discipline of competition. However, all states that restructured—with the exception of Texas – did so incompletely. These quasi-restructured states left utility monopolies in a position to supply energy customers on a "default" basis if customers did not shop, and those same monopolies were often indirectly financially tethered to an affiliated company in the competitive generation market. Illinois and Ohio are examples of this kind of half-baked competition. As such, this paper examines political and economic behavior across the regulated monopoly, quasi-restructured and fully restructured models.

REGULATED MONOPOLY INCENTIVES

Industry stakeholders and scholars have recognized that when companies successfully use their political influence to insulate themselves from competition, it creates conditions ripe for cronyism. Specifically, the literature recognizes that the artificial retention of market power by government intervention gives rise to rent-seeking, defined as: "[T]he unproductive resources spent by firms in attempting to influence policymakers."[7] The regulated monopoly model is uniquely vulnerable to rent-seeking, where the government grants a single company an exclusive franchise in exchange for close scrutiny by state regulators. In this arrangement, state regulators determine what costs are prudent for a utility to incur and determine the rate of return on their asset

4. See, e.g., Philip O'Connor, "Restructuring Recharged: The Superior Performance of Competitive Electricity Markets 2008-2016," Retail Energy Supply Association, April 2017, p. 13. https://www.resausa.org/sites/default/files/RESA_Restructuring_Recharged_White%20Paper_0.pdf.

5. See, e.g., Charles R. Plott, "An updated review of industrial organization: Applications of experimental methods," *Handbook of Industrial Organization* 2 (1989), pp. 1109-1176. https://www.sciencedirect.com/science/article/pii/S1573448X89020078.

6. Ibid.

7. Luis Cabral, "Chapter 1: What is Industrial Organization?", *Introduction to Industrial Organization*, (The MIT Press, 2017), p. 8. http://mitp-content-server.mit.edu:18180/books/content/sectbyfn?collid=books_pres_0&id=3928&fn=9780262032865_sch_0001.pdf.

base; in other words, regulation serves as a substitute for the economic discipline induced by competitive forces. This special state-monopolist arrangement was welcomed by utilities at the onset of the electric industry and remains the industry's preference today.[8]

The historic justification for the regulated monopoly model was that electric generation, transmission and distribution appeared to be a "natural monopoly," whereby only a single entity can provide least-cost service, given characteristics like enormous economies of scale and the inefficiencies of duplicative infrastructure.[9] Today, natural monopoly arguments can still be applied to aspects of transmission and distribution infrastructure. However, power generation is not a natural monopoly, as characterized by the underlying economics and noted by sophisticated, energy-intensive customers .[10] The fact that the predominate form of power generation remains the regulated monopoly model raises questions over why states retain an economically inferior model and the nature and extent of its economic and political consequences.

The essence of cost-of-service regulation institutionalizes rent-seeking, where securing favorable regulatory treatment lies at the core of a utility's financial interests. Specifically, utility financial motives are to obtain regulatory support to overcapitalize investments and earn above-market rates of return, subject to political constraints. [11] This manifests in a number of ad hoc political behaviors, most notably efforts to secure favorable regulatory treatment for specific utility assets, often in processes to obtain regulatory pre-approval to recover costs for new construction. Prominent, project-specific examples associated with alleged ethics violations from the past decade include:

- In 2010, an ethics scandal erupted over the approval of Duke Energy Indiana's Edwardsport power plant and that led to the indictment of Indiana's chief regulator for official misconduct.[12] Both the chairman and the president of Duke Energy Indiana were fired, the courts called the actions a "betrayal of [public] trust" and the new power plant increased costs well over one billion dollars compared to alternatives.[13]
- In 2013, California's chief regulator held secret meetings with representatives of Southern California Edison, where he allegedly agreed to allow the utility rate recovery of over $3 billion in costs associated with prematurely closing a nuclear facility.[14]
- In 2019, the Department of Justice announced an investigation into a Southern Company subsidiary, Mississippi Power, related to its failed Plant Ratcliffe facility.[15] A construction manager on the project has alleged that the utility engaged in fraudulent misrepresentation concerning concealment of cost overruns and schedule delays that regulators take into account in reviews authorizing cost recovery.[16]
- In July 2020, the former executive vice president of SCANA Corporation pleaded guilty to conspiracy to commit wire and mail fraud in connection to a Department of Justice charge that his false and misleading statements contributed to the company's success in securing approval from South Carolina regulators for cost recovery on its now-abandoned $9 billion VC Summer power plant expansion.[17]

Corruption aside, most forms of undue influence from monopoly utilities and "regulatory capture" are legal and routine.[18] These can take the form of project-specific initiatives, such as those undertaken by Georgia Power to yield continued support for the Vogtle nuclear power facility, despite billions of dollars in cost overruns, years of delays and the bankruptcy

8. See, e.g., Lynne Kiesling, "History and Economics of the Electricity Industry," Institutional and Organizational Economics, last accessed Sept. 14, 2020, https://www.learnioe.org/video/history-and-economics-of-the-electricity-industry; L. Lynne Kiesling, *Deregulation, Innovation, and Market Liberalization: Electricity Restructuring in a Constantly Evolving Environment*, (Routledge, 2008). https://www.routledge.com/Deregulation-Innovation-and-Market-Liberalization-Electricity-Regulation/Kiesling/p/book/9780415541183.

9. Devin Hartman, "Economic Characteristics of Electricity," *R Street's Electricity 101 Series* No. 1, August 2016, p. 2. https://www.ourenergypolicy.org/wp-content/uploads/2016/12/Electricity1-5.pdf.

10. See, e.g., Michael Hogan, "Operation of Wholesale Electricity Markets," The Regulatory Assistance Project, July 11, 2012. pp. 10-12. https://www.raponline.org/wp-content/uploads/2016/05/rap-hogan-wholesalemkts-erra-2012-jul-11.pdf; See, e.g., "Generation Policy Principles," Electricity Consumers Resource Council, June 27, 2019, p. 1. https://elcon.org/elcon-fact-sheet-generation-policy-principles.

11. For further reading on the Averch-Johnson Effect see Seth Blumsack, "6.2.1 The Averch Johnson Effect," EBF 483: Introduction to Electricity Markets, Penn State University. https://www.e-education.psu.edu/ebf483/node/681.

12. Chris O'Malley, "Grand jury indicts former state utilities chief Hardy," *Indiana Business Journal*, Dec. 12, 2011. https://www.ibj.com/articles/31316-grand-jury-indicts-former-state-utilities-chief-hardy.

13. John Russell, "Charges dismissed against former Indiana utility regulator David Lott Hardy," *IndyStar*, Aug. 13, 2013. https://www.indystar.com/story/news/1/01/01/charges-dismissed-against-former-indiana-utility-regulator-david-lott-hardy/2644125.

14. Josiah Neeley and Devin Hartman, "Unnatural Monopolies," *The American Conservative*, Aug. 3, 2016. https://www.theamericanconservative.com/articles/unnatural-monopolies; Ivan Penn, "Q&A: Embattled former PUC chief Peevey resurfaces with a green energy book," The Los Angeles Times, Nov. 21, 2017. https://www.latimes.com/business/la-fi-peevey-book-20171121-htmlstory.html.

15. Ellen Meyers, "DOJ opens civil investigation into Southern, Mississippi Power for Kemper plant," S&P Global, May 2, 2019. https://platform.marketintelligence.spglobal.com/web/client?auth=inherit#news/article?id=51564060&KeyProductLinkType=2.

16. Giacomo Bologna, "Ex-Kemper plant manager says execs ignored her warnings: 'It was essentially a cover-up,'" *The Clarion Ledger*, May 10, 2019. https://www.clarionledger.com/story/news/politics/2019/05/10/kemper-power-plant-ex-manager-calls-cover-up/1127749001.

17. Nuclear News Staff, "Former SCANA exec pleads guilty in Summer fraud case," American Nuclear Society, July 27, 2020. https://www.ans.org/news/article-381/former-scana-exec-pleads-guilty-in-summer-fraud-case.

18. Neely and Hartman. https://www.theamericanconservative.com/articles/unnatural-monopolies

of the lead contractor.[19] Another well-documented case is Entergy Louisiana, which deployed paid actors masquerading as concerned residents to offer public comments in support of a new Entergy power plant proposal.[20]

The value of a favorable regulatory environment is so integral to monopoly utilities' business models that they not only engage in ad hoc rent-seeking but extensive systematic political behavior. A common practice is robust political campaign financing and conditional philanthropic contributions. For example, an August 2020 report from the Illinois Governor's office identified that Illinois utilities currently "make substantial 'charitable' contributions each year to various foundations, golf outings, and other community events, often to curry favor with elected officials."[21] This prompted Gov. Pritzker to recommend new transparency and ethics requirements to "prohibit utility companies from recovering charitable contributions, which are often used to bolster their political power at ratepayers' expense."[22]

This behavior extends far beyond a few anecdotes. One report found that the philanthropic contributions of 10 leading monopoly utilities exceeded $1 billion from 2013-2017, with a considerable portion going to recipients with "strings attached" to extract political action from their grantees that favor the utilities' regulatory positions.[23] The study concludes that some utilities extort community groups, such as DTE Energy's charitable giving to faith-based and social organizations that in turn support various utility proposals before Michigan regulators.[24]

Utilities also tailor their political activity to the political incentives of regulators. In states where regulators are elected, monopolies have a strong incentive to influence the electoral process. For example, Arizona Public Service company back-channeled millions in "dark money" to influence the election of Arizona Corporation Commission members.[25] In states where regulators are appointed, utility lobbying tends to route through the governor's office to indirectly influence regulators without violating *ex parte* rules.

If anticipated regulatory scrutiny proves too strict, monopoly utilities often engage in legislative activity to bypass regulatory oversight. This includes securing rate freezes to avoid rate cases when the utility is over-collecting from customers and obtaining project approvals that circumvent regulatory certification of public need processes. For example, Xcel Energy secured legislation in 2017 to build a natural gas plant "without having to go the traditional route of gaining approval from Minnesota utilities regulators."[26]

The full suite of behavior is on display in Virginia, where Dominion Energy secured a rate freeze and legislative approval for an offshore wind project that the state regulatory body opposed.[27] A recent report found that Virginia monopoly utilities enabled an environment where the legislature makes decisions typically reserved for the state regulator in ratemaking processes, resulting in utility earnings exceeding their authorized profit margin.[28] The Virginia Poverty Law Center identified that under this construct utilities "enjoy virtually no risk as a business because all risks are shifted to their customers to pay out of pocket, and they enjoy rewards in the form of excess profits without adding value to their service."[29]

The key takeaway is that such political behavior is a predictable outcome of the institutional environment of monopoly utility regulation. The "rent-seeking strategies and the political maladies" of such institutional arrangements have been studied for decades by regulatory economists.[30] As a matter of industrial organization, scholars became particularly concerned about rent extraction incentives under asymmetric information, where firms hold an information advantage

19. Rod Walton, "Vogtle Cost Upgrade Causes Rethinking of $25B Nuclear Plant's Future," Power Engineering, Aug. 9, 2018. https://www.power-eng.com/2018/08/09/vogtle-cost-upgrade-causes-rethinking-of-nuclear-plant-s-future.

20. "Strings Attached: How utilities use charitable giving to influence politics and increase investor profits," Energy and Policy Institute, Dec. 10, 2019. https://www.energyandpolicy.org/strings-attached-how-utilities-use-charitable-giving-to-influence-politics-increase-investor-profits.

21. "Putting Consumers & Climate First: Governor Pritzker's Eight Principles for a Clean & Renewable Illinois Economy," Office of Governor JB Pritzker, Aug. 20, 2020, p. 3. https://www.eenews.net/assets/2020/08/24/document_ew_03.pdf.

22. Ibid.

23. Ibid.

24. Ibid.

25. Ryan Randazzo, "APS acknowledges spending millions to elect Corporation Commission members, after years of questions," *The Republic*, March 29, 2019. https://www.azcentral.com/story/money/business/energy/2019/03/29/arizona-public-service-admits-spending-millions-2014-corporation-commission-races/3317121002.

26. Mike Hughlett, "Dayton signs law allowing Xcel to build natural gas-fired plant in Becker," *StarTribune*, Feb. 28, 2017. https://www.startribune.com/dayton-signs-law-allowing-xcel-to-build-natural-gas-fired-plant-in-becker/415001534.

27. See e.g., Robert Walton, "Dominion to invest $277M in unauthorized revenue from 2018 in offshore wind, smart meters," Utility Dive, Sept. 3, 2019. https://www.utilitydive.com/news/dominion-to-invest-277m-in-unauthorized-revenue-from-2018-in-offshore-wind/562108; Robert Walton, "Virginia approves Dominion $300M offshore wind pilot, despite ratepayer concerns," Utility Dive, Nov. 5, 2019. https://www.utilitydive.com/news/virginia-approves-dominion-300m-offshore-wind-pilot-despite-ratepayer-con/541383.

28. Marguerite Behringer, et al., "Reward Without Risk: A Look at Imbalances in Virginia's Unique Regulatory Construct," E9 Insight on behalf of the Virginia Poverty Law Center, August 2020, p. i. https://vplc.org/wp-content/uploads/2020/08/E9-Insight-Virginia-Comparative-Analysis.pdf.

29. Virginia Poverty Law Center, "Virginia Poverty Law Center releases new report on imbalances in Virginia's electric utility regulation," Press Release, Aug. 19, 2020. https://vplc.org/virginia-poverty-law-center-releases-new-report-on-imbalances-in-virginias-electric-utility-regulation.

30. Kenneth G. Elzinga, "Letting Go: Deregulating the Process of Deregulation. Alfred E. Kahn," *Review of Industrial Organization*, 16:3, February 2000, pp. 323–325. https://www.researchgate.net/publication/5156992_Letting_Go_Deregulating_the_Process_of_Deregulation_Alfred_E_Kahn.

over the regulators "substituting" for competition.[31] Given the exceptional rise in the complexity and heterogeneity of power generation resources along cost and performance parameters, the information asymmetry problem may face a step-function increase in the future.[32] For example, some regulators and utilities are flagging the inability to determine the type and amount of balancing services that are prudent to acquire through utility resource planning processes.

As the economic advantage of competitive generation increases, the political response from incumbent monopolies is becoming evident in the face of consumer pushback. Incumbent monopolies leverage their unique relationships with regulators, legislators and civil society grantees as a means to protect their competitive moat. For example, monopoly utilities have been active in ballot initiatives to convince consumers to vote against the introduction of competitive supply and consumer choice. This includes a deceptive ballot initiative backed by Florida utilities to deny competition from third-party solar providers.[33] Likewise, a fierce campaign to defeat a consumer choice initiative in Nevada, where the incumbent utility spent over $60 million in a counter-campaign and creatively courted labor and environmental groups.[34]

This incentive is unlikely to change, considering these entrenched interests benefit from a guaranteed complete market share at rates of return above those of competitive generators.[35] Further, the long-term outlook for power commodities remains bearish and the cost curve for new technologies is declining. Such conditions are a major deterrent for monopolies to welcome a transition to markets, unlike the first wave of restructuring conditions. However, this makes a far stronger economic and governance quality case for using competitive markets to drive investment in an era of massive capital stock turnover.

DISTRIBUTION MONOPOLY INCENTIVES UNDER RESTRUCTURING

In response to the historic shortcomings of the regulated monopoly model, Illinois and Ohio joined Texas and most states in the Mid-Atlantic and Northeast in the 1990s in beginning to restructure their electricity industry. Generation investment decisions under the competitive model immediately improved risk management, lowered costs and mirrored economic fundamentals. After about a decade of transition policies, the rates in market states showed downward pressure while they continued upward in monopoly states.[36] Retail choice markets developed unevenly, however, reflecting the departure of state implementation from the original restructuring blueprint.

A key component of "textbook" electricity restructuring was to functionally separate competitive and non-competitive services.[37] The policy objective was to isolate the regulated distribution monopoly to prevent subsidies from flowing through to the company's affiliates in the competitive wholesale market. Scholars emphasized the need to "quarantine the monopoly" for distribution services, after the concept originated in the 1980s to avoid the anti-competitive effects of the AT&T monopoly from extending its regulated monopoly into an open marketplace.[38]

Two key debates emerged over how to isolate the monopoly:

1. Whether the monopoly should provide default service in the competitive retail market.
2. Whether the distribution monopoly's parent company should be required to divest its generation assets or shift them to an arms-length affiliate.

The literature found that most restructured states, including Illinois and Ohio, failed to isolate the monopoly in large part because they retained the monopolist's role as a default retail service provider that erected an artificial cost of entry for retail competition.[39] Figure 2 below provides a representation of the differences in corporate structure fully restructured and quasi-restructured models. The literature has remained ambiguous on the second debate until recently. Recent developments not yet reflected in the literature have

31. Nancy Rose, "Putting the IO back in regulatIOn," Massachusetts Institute of Technology (MIT): FTC Microeconomics Conference, November 2011, p. 9. https://www.ftc.gov/sites/default/files/documents/public_events/fourth-annual-microeconomics-conference/rose-p.pdf.

32. See e.g., "Technical Conference regarding Hybrid Resources (Docket No. AD20-9-000)," The Federal Energy Regulatory Commission: The hybrid resources technical conference, July 23, 2020. https://www.ferc.gov/news-events/events/technical-conference-regarding-hybrid-resources-docket-no-ad20-9-000-07232020; Devin Hartman, "Integrated Resource Planning in an Era of Transformation," Center for Public Utilities Advisory Council: Current Issues 2019 conference, April 8, 2019. https://elcon.org/integrated-resource-planning-in-an-era-of-transformation-devin-c-hartman-current-issues-2019-conference-center-for-public-utilities-advisory-council.

33. Mary Ellen Klas, "Insider reveals deceptive strategy behind Florida's solar amendment," *Miami Herald*, Oct. 19, 2016. https://www.miamiherald.com/news/politics-government/election/article109017387.html.

34. Riley Snyder, "How energy choice, the most expensive ballot question in Nevada history, went from a slam dunk to an airball," *The Nevada Independent*, Nov. 18, 2018. https://thenevadaindependent.com/article/how-energy-choice-went-from-a-slam-dunk-to-an-airball.

35. "Resource Investment in Competitive Markets," PJM Interconnection, May 5, 2016. p. ii. https://hepg.hks.harvard.edu/files/hepg/files/pjm_resource_investment_0516.pdf.

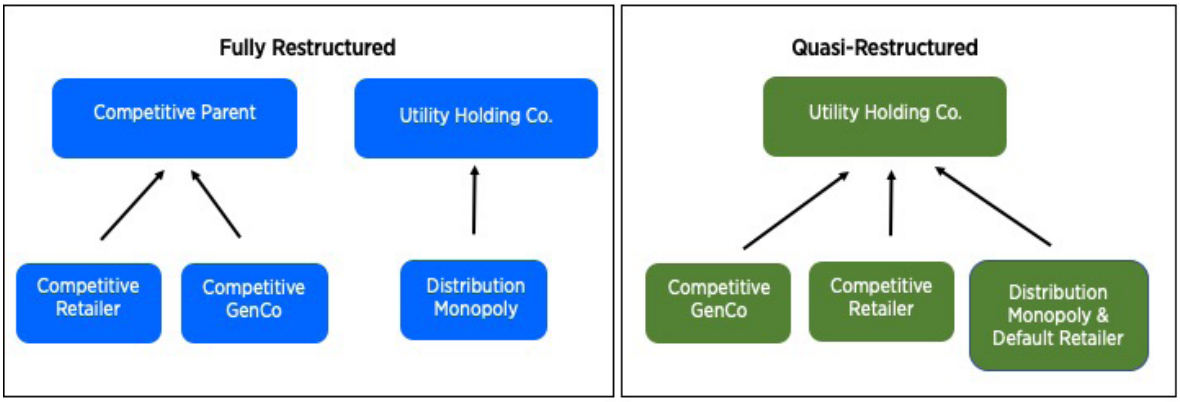
36. Devin Hartman, "Electricity Competition Excels in the Midwest," *R Street Shorts* No. 50, October 2017, p. 1. https://www.rstreet.org/wp-content/uploads/2017/10/RSTREETSHORT50.pdf.

37. Sally Hunt, *Making Competition Work in Electricity*, (John Wiley & Sons, Inc., 2002), p. 3. http://regulationbodyofknowledge.org/wp-content/uploads/2013/03/Hunt_Making_Competition_Work.pdf; Paul Joskow, "The Difficult Transition to Competitive Electricity Markets in the United States," MIT, May 2003, p. 3. https://economics.mit.edu/files/1160.

38. Michael Giberson and Lynne Kiesling, "The Need for Electricity Retail Market Reforms," *Regulation*, Fall 2017, p. 37. https://www.cato.org/sites/cato.org/files/serials/files/regulation/2017/9/regulation-v40n3-4.pdf.

39. Ibid., pp. 37, 40.

FIGURE 2. CORPORATE STRUCTURE UNDER FULLY AND QUASI-RESTRUCTURED MODELS



shown that only thorough divestiture has been fully effective in isolating the monopoly.

Generally, all restructured states except Texas retained the distribution monopoly utility's role as the default supplier of retail service. Even if the default supplier does not profit from the service, it necessarily makes the distribution monopoly a large procurer of energy. This enables a convenient conduit for regulatory or legislative reforms to funnel revenue to competitive generators. However, whether distribution monopolies have the incentive to exploit this web of entanglements depends on their corporate structure.

Illinois and Ohio permitted the parent companies of distribution monopolies to shift their generation assets into affiliate companies. All did so, except for Duke Energy Ohio, which divested its generation. In both states, the parent companies subsequently leveraged their distribution monopoly holding to benefit their competitive generation holding, sometimes leveraging unique mechanisms for securing regulatory subsidies, such as retail rate stabilization riders, or harnessing the lobbying advantage held by incumbent utilities relative to new entrants, such as unique social capital and a political branding advantage. The latter is difficult to empirically demonstrate, but it appears the incumbents utilized their political capital advantage to subsidize themselves.[40] However, the subsidy vehicles arising from an entangled monopoly can more concretely influence rent-seeking behavior.

Ohio and Illinois

Ohio provides an excellent natural experiment. The state used regulated generation cost recovery mechanisms through the restructuring transition period and enabled cross-subsidization thereafter, topping $14 billion from 2000-2016.[41] Once this cardinal rule of restructuring was violated—which subsidized competitive generation through a company's regulated distribution affiliate—it legitimized an ongoing campaign for additional generation subsidies.

In 2016, the Public Utilities Commission of Ohio approved additional subsidies for American Electric Power (AEP) and FirstEnergy Corp. that would have cost billions of dollars had the Federal Energy Regulatory Commission (FERC) not stepped in to require federal review of the power purchase agreements between regulated and deregulated affiliates.[42] The FERC did not approve nor deny the transactions, but required the companies submit the transactions for review of affiliate abuses.[43] This occurred under FERC rules intended to prevent competitive generation companies from undermining competition by profiting from their monopoly affiliates.[44] But these rules do not remedy the opportunity for it in the first place, which exists because the default supply role is housed within the corporate structure of the monopoly.

After the FERC's decision, both companies withdrew their applications from review, likely reflecting their anticipation that the FERC would raise anti-competitive, affiliate abuse concerns. After the FERC setback, the companies pivoted the subsidy campaign back to the Ohio legislature. It culminated in 2019 with the passage of House Bill 6, led by FirstEnergy Corp. and AEP, which bailed out uneconomic power plants at the core of the alleged scandal.

40. Mike Haugh, "Electric Monopoly Corruption and Market Promise," Maryland Matters, Aug. 10, 2020. https://www.marylandmatters.org/2020/08/10/opinion-electric-monopoly-corruption-and-market-promise.

41. "Subsidy Scorecard: Electricity Charges to Ohioans," Ohio Consumers' Counsel, Jan. 16, 2020. http://www.occ.ohio.gov/sites/default/files/subsidy-scorecard_n.pdf.

42. See, e.g., Opinions and Orders in Public Utility Commission of Ohio case record 14-1297-EL-SSO, https://dis.puc.state.oh.us/CaseRecord.aspx?Caseno=14-1297&link=DIVA; Opinions and Orders in Public Utility Commission of Ohio case record 14-1693-EL-RDR, https://dis.puc.state.oh.us/CaseRecord.aspx?CaseNo=14-1693.

43.See, e.g., Federal Energy Regulatory Commission, Docket No. EL16-33; Federal Energy Regulatory Commission, Docket No. EL16-34.

44. Jennifer L. Hong, "FERC Expands Scope of Analysis for Affiliate Transactions," Stay*Current*, August 2004. https://www.paulhastings.com/docs/default-source/PDFs/107.pdf.

In the Ohio case, the lesson of Duke Energy is critical. The divesture of nearly all generation by Duke Energy removed the instrumental interest to recover generation costs via riders, or cross-subsidies.[45] The near-complete removal of this perverse incentive may explain the company's more neutral position on legislative packages tied to generate subsidies, rather than active rent-seeking behavior of its counterparts before the Ohio legislature.[46] For example, FirstEnergy Solutions testified as a "proponent" of Ohio H.R. 6, the legislation at the core of Ohio's alleged scandal, whereas Duke Energy Ohio testified as an "interested party." At minimum, it resulted in the only service area in Ohio that saw the benefits of competitive generation flow through to retail users.[47]

Scholars have recognized for decades that statutory ambiguity and a high level of discretion for implementers—public utility commissions in this case—cultivate rent-seeking.[48] In Ohio, researchers found two faulty implementation steps: The creation of corporate—not functional—separation plans that permitted arms-length competition generation and distribution monopoly affiliates; and distribution utilities were granted wide discretion to implement retail tariffs.[49] This created a rent-seeking incentive structure to offset wholesale generation losses with revenues from non-bypassable retail charges, whereas a textbook implementation of restructuring would have privatized the losses and shielded customers.[50]

Ohio researchers flag the political economy challenges of restructuring to avoid welfare transfers to utilities, where the problem resides with eliminating "complicated vestigial relationships and political pressure between utilities and regulators."[51] No comparable, peer-reviewed research is available for Illinois or other states, but the Ohio results delineate the rent-seeking associated with monopoly entanglements, which should hold external validity for other states. It also appears that the political economy challenge carries to state legislatures but remains untested in the literature.

In Ohio and Illinois, the legislative rent-seeking efforts to benefit generators were spearheaded by parent companies holding an incumbent distribution monopoly. The FBI affidavit and indictment specified utility holding company FirstEnergy Corp. as the primary conduit for $60 million in payments, while FirstEnergy officials have long sought to differentiate the corporation from its affiliates.[52] In the Illinois investigation, the distribution monopoly ComEd struck the plea but the legislation named in the indictment primarily benefited the parent company holding competition generation assets. This infers a strategic move by the parent company to use the political capital advantage of its distribution monopoly subsidiary to benefit its generation holdings. Despite the investigations and political controversy, ComEd's parent company, Exelon Corporation, continues to leverage its successful culture of clientelism—referred to as an "old-fashioned patronage system" in the last court filing[53]—to pursue additional rent-extracting reforms.[54]

The Ohio and Illinois experiences stand in sharp contrast to Texas. It is the only jurisdiction to isolate the distribution monopoly by ensuring it does not have generation affiliates or a role in the provision of retail energy supply, which is handled exclusively by unaffiliated retail electricity providers (REPs).[55] Rice University's Baker Institute found that once utility monopolies in Texas were removed altogether from competitive lines of business—both generation and retail—additional economic gains were unlocked and flowed to customers, even beyond those attributable to competition between generators alone.[56] The study found evidence for the hypothesis that greater political influence reduces competition, causing prices to diverge from marginal costs, reflected in cross-subsidies between groups.[57] Altogether, this supports the finding that isolating the monopoly is not only the most effective approach to cultivate robust retail

45. Noah Dormady, et al., "Do markets make good commissioners?: A quasi-experimental analysis of retail electric restructuring in Ohio," *Journal of Public Policy* 39, (2019), p. 486. https://www.cambridge.org/core/services/aop-cambridge-core/content/view/016B8D87745A5EFCB2F25B9401D17C3A/S0143814X18000168a.pdf/do_markets_make_good_commissioners_a_quasiexperimental_analysis_of_retail_electric_restructuring_in_ohio.pdf.

46. H.R. 6, Creates Ohio Clean Air Program, Ohio 133rd General Assembly. https://www.legislature.ohio.gov/legislation/legislation-committee-documents?id=GA133-HB-6.

47. Dormady, et al., p. 506. https://www.cambridge.org/core/services/aop-cambridge-core/content/view/016B8D87745A5EFCB2F25B9401D17C3A/S0143814X18000168a.pdf/do_markets_make_good_commissioners_a_quasiexperimental_analysis_of_retail_electric_restructuring_in_ohio.pdf.

48. See, e.g., Anne O. Krueger, "The Political Economy of the Rent-Seeking Society," *The American Economic Review* 64:3, (June 1974), pp. 291–303. https://assets.aeaweb.org/asset-server/files/9452.pdf.

49. Dormady et al., p. 506. https://www.cambridge.org/core/services/aop-cambridge-core/content/view/016B8D87745A5EFCB2F25B9401D17C3A/S0143814X18000168a.pdf/do_markets_make_good_commissioners_a_quasiexperimental_analysis_of_retail_electric_restructuring_in_ohio.pdf.

50. Ibid.

51. Ibid., p. 504.

52. "FirstEnergy named as company listed in FBI docs on Ohio bribery scandal," Associated Press, Aug. 6, 2020. https://www.power-eng.com/2020/08/06/apfirstenergy-named-as-company-listed-in-fbi-docs-on-ohio-bribery-scandal/#gref.

53. Arnold and McKinney, 2020.

54. Todd Snitchler, "Exelon scandal raises need for competition to stop utility abuse," *Chicago Tribune*, Aug. 18, 2020. https://www.chicagotribune.com/opinion/commentary/ct-opinion-exelon-comed-competition-energy-20200818-t7modzrprrftlguzqpnqrtrz7m-story.html.

55. See, e.g., Giberson and Kiesling. https://www.cato.org/sites/cato.org/files/serials/files/regulation/2017/9/regulation-v40n3-4.pdf.

56. Peter Hartley et al., "Electricity reform and retail pricing in Texas," *Energy Economics* 80, (Jan. 5, 2019), pp. 1-11. https://www.bakerinstitute.org/media/files/files/eef2d021/energyeconomics-electricity-reform-in-texas-jan-2019.pdf.

57. Ibid., pp. 10-11. https://www.bakerinstitute.org/media/files/files/eef2d021/energyeconomics-electricity-reform-in-texas-jan-2019.pdf.

competition, but it also appears to play an integral role in deterring rent-seeking.[58]

Proper Distribution Regulation

Textbook restructuring still leaves the challenge of proper distribution monopoly regulation. Many elements of this are outside the scope of this paper, however, the most salient aspects are to enable competition at the periphery to improve economic outcomes and reduce rent-seeking tendencies of the insulated monopolist. Containing distribution monopolies begins with avoiding extending the monopoly arm into competitive services spaces. For example, even in Texas, distribution monopolies have made extensive attempts to own customer-sited energy storage or electric vehicle charging infrastructure.[59] Even elements of distribution-level service traditionally considered a natural monopoly can utilize competitive procurement or more organic forms of market competition. Improving the transparency of distribution system planning and operations would lay the groundwork for a distribution-level market that fosters distributed resource integration.[60]

No state is a model for proper distribution system planning and operations. For instance, enabling competitive distribution-level services stands at the new frontier for competition in Texas, the only fully restructured state in the country.[61] REPs have the proper incentive structure to customize cost-saving and value-adding financial and physical asset services to their customers, which distribution monopolies lack. Some competition-enhancing reform concepts are better developed, such as how to cultivate better third-party supplier access for end-users to host distributed resources. Other concepts are more novel, such as the suggestion to put the monopoly franchise licenses out to bid.[62] Such introductions of competition should inject a degree of economic discipline and deter rent-seeking by privatizing some investment and asset-management risks.

58. Michael Giberson and Lynne Kiesling, "Vision for a clean, cheap, cutting-edge, customer-focused electric power business," Draft Working Paper, Nov. 1, 2016, p. 3. https://static1.squarespace.com/static/53c4b06fe4b03a89bfc573b3/t/5818e2108419c21ac8d34e5a/1509373199111/Vision+for+a+clean%2C+cheap%2C+cutting-edge%2C+customer-focused+electric+power+business+%28Nov+1+2016+Draft%29.pdf.

59. See, e.g., American Electric Power, "Application of AEP Texas North Company for Regulatory Approvals Related to the Installation of Utility-Scale Batter Facilities," before the Power Utility Commission of Texas, Docket No. 46368.

60. Christopher Villarreal, "Net Metering and Distributed Energy Resources Policy," *R Street Shorts* No. 93, August 2020, p. 1. https://www.rstreet.org/wp-content/uploads/2020/08/Short-No.-93-Net-Metering.pdf.

61. Josiah Neeley and Chris Villareal, "The New Frontier for Texas Electricity Competition: Enabling Distributed Resources and Avoiding Price Controls," R Street Institute, May 2020, pp. 1-2. https://www.rstreet.org/wp-content/uploads/2020/05/Texas-Electricity-Competition-explainer-corrected.pdf.

62. Haugh. https://www.marylandmatters.org/2020/08/10/opinion-electric-monopoly-corruption-and-market-promise.

Takeaways

The key lesson is that the failure to isolate the distribution monopoly retains conduits for rent-seeking. It contaminates the competitive component of the industry with the perverse incentive structure of monopoly regulation that states sought to correct by restructuring. Once exploited—as evidenced in Ohio and Illinois—through cross-subsidies in default service and rate stabilization riders, it affected the political culture by legitimizing the role of government to subsidize competitive generation via regulated monopolies, which then spread to other subsidy vehicles.

This is consistent with the broad literature, which finds that when government creates budget transfers to a regulated firm it introduces the risk of rent-seeking.[63] In theory, this institutional arrangement would affect the "bribing equilibria," for which some limited literature exists.[64] Additional research that constructs counterfactuals would be ideal. However, the preliminary evidence clearly indicates that the cases of Ohio and Illinois demonstrate that the failure to isolate the monopoly increased the propensity for rent-seeking behavior.

Only Texas has isolated the distribution monopoly effectively. All states, including Texas, are nowhere near a mature regulatory architecture for competitive distribution services. First steps include proper distribution system planning and operations that provide the transparency to signal resource value, upon which subsequent rules can create platforms that enable competition for distribution-level services.

COMPETITIVE GENERATION INCENTIVES

Successfully isolating the monopoly is only a partial solution for rent-seeking. State and federal institutions remain vulnerable to rent-seeking arguments even in properly structured systems, where the concentrated interests of uneconomic, legacy generation owners have far greater motive to politically organize than the dispersed interests of consumers and taxpayers. This lobbying asymmetry is exacerbated during periods of large, dynamic shifts between competitive relationships within an industry. Paradoxically, markets perform best when facilitating greater turnover in capital stock, but it also presents the greatest risk for rent-seeking by uneconomic incumbents.

Improving the quality of information available to industry stakeholders and policymakers helps overcome the lobbying asymmetry and deters rent-seeking in every institutional

63. Marc Bourreau, "Industrial Organization 01: Monopoly, Monopoly Regulation, Price discrimination," Telecom ParisTech, p. 22. http://ses-perso.telecom-paristech.fr/bourreau/files/cours01_monopoly_eng.pdf.

64. Jon Strand, *The Economics and Political Economy of Energy Subsidies*, (MIT Pres, August 2016). https://mitpress.mit.edu/books/economics-and-political-economy-energy-subsidies.

FIGURE 3. CYCLE OF SUBSIDIZATION

Source: A portion of this content derived from PJM Interconnection, "Resource Investment in Competitive Markets," May 5, 2016. https://www.pjm.com/-/media/library/reports-notices/special-reports/20160505-resource-investment-tech-appendix.ashx?la=en.

arrangement, including a fully restructured one. In particular, analyses of the effects of subsidies typically only evaluate the direct costs and economic welfare deadweight loss. Generally, the economic arguments against monopolies in the literature are twofold: the conventional argument of economic deadweight loss of inefficient resource allocation and the social cost (i.e., rent-seeking).[65] The social cost appears to be far less examined. The social cost of retaining monopoly vestiges in quasi-restructured states appears completely unexamined.

The social costs of increasing the propensity for and consequences of rent-seeking behavior—a so-called "subsidy culture"—have rarely been quantified. It is typically ignored in analyses and policy discussions. For example, analyses of the social costs of nuclear retirements and subsidies tended to focus exclusively on environmental considerations and ignored the consequences of undermining the quality of governance institutions.[66] However, practitioners and some scholars have recognized the deleterious effects of state subsidy cultures on governance quality and economic outcomes.

The health of electricity markets depends on unwinding the subsidy regime.[67] It is tempting for policymakers to second-guess market outcomes, especially with ever-sophisticated modeling which leads to an "ex ante illusion." But such central planning exercises miss unforeseen consequences. This explains why durable, adaptive frameworks that facilitate decentralized decision-making put resources to their greatest use.[68] It is naïve to believe subsidies could be eliminated but, at minimum, where they are a foregone conclusion they should be "specific in purpose, minimal in duration and should be extended only where there is a valid market failure, all to reduce the likelihood of broader subsidy metastasis."[69]

The subsidy machines in Ohio and Illinois reflect state officials responding to parochial interests and failing to appreciate the institutional context. Notably, the history of bailout policy reveals that "early bailouts set a stage that makes

65. Jiangli Dou, "Industrial Organization: Session 4: The Monopoly," The School of Economics, p.7 https://person.zju.edu.cn/person/attachments/2015-10/07-1445323937-691188.pdf.

66. H.B. 6, Payments for in-state nuclear and in-state renewable resources, Ohio 133rd General Assembly. https://www.legislature.ohio.gov/download?key=13060&format=pdf.

67. David Victor, "Energy and climate: Moving beyond symbolism," Brookings Institution, Oct. 18, 2016. https://www.brookings.edu/research/energy-and-climate-moving-beyond-symbolism.

68. Devin Hartman, "The Grid of the Future," *The American Interest*, June 18, 2018. https://www.the-american-interest.com/2018/06/18/the-grid-of-the-future.

69. Devin Hartman, "Disciplined Policy Responses to Nuclear Retirements," *R Street Policy Study* No. 84, February 2017, p. 16. https://www.eenews.net/assets/2017/02/09/document_gw_04.pdf.

subsequent requests for assistance more difficult to resist."[70] In 2016, the administrator of the wholesale power market covering the affected Illinois and Ohio plants warned that subsidies would create entrenched interests that perpetuate an ongoing cycle of subsidization, which is illustrated in Figure 3.[71] The independent monitor of that market put it more succinctly in warning state legislatures that "subsidies are contagious."[72]

In part, the disregard for these warnings may reflect a decline of institutional knowledge, as the legislative and regulatory institutions that initiated restructuring have since experienced major staff turnover. In contrast, Texas has exhibited exceptional political discipline to let markets drive investment decisions, which has resulted in a wide range of stakeholders considering it the gold standard.[73] Institutional learning, with a special appreciation for applied political economy and public choice, must be enhanced dramatically outside Texas if a culture supportive of liberalized electricity markets is to flourish.

Far more research and policymaking attention must be paid to current institutional contexts, even at the most elemental level. For example, leading proponents of nuclear plant subsidies in New York were dismissive of adverse effects because they believed power generation was still regulated as a natural monopoly, despite the fact New York restructured.[74]

Some institutional considerations are more complex, including integrating the social cost of subsidies into analyses. This is fodder ripe for research agendas such as the new Cronyism and Corporate Welfare research initiative, which seeks a "better empirical understanding of cronyism and rent-seeking, as well as its policy, political, and economic efficiency implications."[75] The infusion of industrial policy, which is a common justification in electricity policy rent-seeking, makes it especially important to convey to policymakers why it is generally viewed unfavorably by economists.[76]

CONCLUSION

This paper underscores how the perverse incentive structure of monopoly regulation institutionalizes extensive rent-seeking behavior, but a quasi-restructured market retains major vulnerabilities. Specifically, systems of half-baked competition like Illinois and Ohio failed to isolate the monopoly, which enabled conduits for rent-seeking. A properly restructured industry, such as Texas, reduces the opportunity and strength of financial incentives for rent-seeking considerably. However, it is not immune from it.

Based on these findings, policymakers and regulators should prioritize the following:

1. *Restructure properly: isolate monopolies to distribution services only*. As regulated states recognize that power generation is not a natural monopoly, they should prioritize thorough generation divestiture and remove the distribution utility from providing default retail service. Quasi-restructured states need to finish the job. State statutory language should clarify that functional, not merely corporate, separation is necessary, such as that in the Texas Public Utility Regulatory Act of 1995. Cross-subsidies between distribution utilities and generators should be prohibited, and regulators should be tasked to identify, report and remedy any residual, vestigial relationships.
2. *Regulate distribution monopolies properly*. State statutes should clarify that regulators should seek to facilitate competition wherever possible and contain monopoly creep. Regulators should improve the transparency of distribution system planning and operations and lay the groundwork for an emerging distribution-level market that fosters distributed resource integration.[77] In addition, states could explore putting monopoly franchises out to bid to improve economic and political outcomes.
3. *Remain disciplined*. Routinize legislative and regulatory reports with the objective of enhancing market information rather than second-guessing competitive forces. Policymakers should aim to cultivate political cultures that understand electricity commodity markets, especially by emphasizing analysis of incentive

70. Cheryl D. Block, "Overt and Covert Bailouts: Developing a Public Bailout Policy," *Indiana Law Journal* 67:4, (Fall 1992). https://www.repository.law.indiana.edu/ilj/vol67/iss4/5/.

71. PJM Interconnection.

72. Joseph Bowring, "Statement on Subsidies for Selected Nuclear Power Plants in New Jersey," Dec. 4, 2017, p. 3. http://www.monitoringanalytics.com/filings/2017/IMM_Testimony_NJSEEC_20171204.pdf.

73. Devin Hartman, "State Policies and Wholesale Markets Operated by ISO New England Inc., New York Independent System Operator, Inc., and PJM Interconnection, L.L.C. to the Federal Energy Regulatory Commission," Docket No. AD17-11-000, June 22, 2017, p. 4. https://www.rstreet.org/wp-content/uploads/2017/06/FERC-state-policy-conference-response_FINAL.pdf.

74. Based on the authors' conversations with stakeholders advocating for nuclear subsidies to New York nuclear plants, 128th Annual Meeting of the National Association of Regulatory Utility Commissioners, November 2016.

75. Mario Villarreal, "Cronyism and Corporate Welfare," Texas McCombs School of Business Salem Center for Policy, last accessed Sept. 15, 2020. https://salemcenter.org/research/cronyism-and-corporate-welfare.

76. Cabral., p. 11. http://mitp-content-server.mit.edu:18180/books/content/sectbyfn?collid=books_pres_0&id=3928&fn=9780262032865_sch_0001.pdf.

77. Christopher Villarreal, p. 1. https://www.rstreet.org/wp-content/uploads/2020/08/Short-No.-93-Net-Metering.pdf.

structures and accounting for the full costs of subsidies in research agendas, in order to build resistance to ad hoc and systematic rent-seeking interests.

As policymakers seek to accelerate the pace of capital stock turnover in power generation, they must remain cognizant that doing so under current institutional arrangements elevates the risk of generic rent-seeking and acute corruption. One pro-market consumer advocate recently noted that the entrenchment of monopolies in legislative and regulatory processes increases the opportunity for corruption, especially with billions to be spent on efforts to decarbonize the sector.[78] They note that under current institutional arrangements: "[C]ustomers will continue to be victims of scandals [but if] competition and good governance prevail, customers and the environment stand to benefit."[79]

This makes institutional reforms to maximize transparency, accountability and fair competition in electricity generation, retail and distribution services all the more critical. The silver lining of scandals is that they can motivate productive reforms. Encouragingly, in the wake of the ComEd scandal, an August 2020 report recognized the need to restore public trust and address the causes of bad utility behavior.[80] In monopoly states, the economic and political consequences of boondoggle projects appear to be an especially potent motivator of calls for electricity market liberalization not witnessed at a scale since the first onset of restructuring.[81] The political integrity and economic outperformance of Texas—the only state to follow the restructuring blueprint fully—attracts increasingly favorable reviews from environmental, free market, competitive suppliers and consumer groups alike.[82]

The recent scandals in Ohio and Illinois should serve as a wake-up call to other quasi-restructured states, especially in the Mid-Atlantic and Northeast, where similar conditions exist.[83] Stakeholders in New Jersey, which adopted $300 million in annual subsidies to prevent three nuclear plants from closing after a bitter legislative battle, are questioning whether there was undue political influence in their state in light of the Ohio and Illinois scandals.[84] Meanwhile, regulators in Connecticut are examining nuclear subsidies as electric rates rise rapidly.[85] Although current attention emphasizes nuclear subsidies, rent-seeking behavior is applicable to any generation fuel or technology class, especially those struggling to compete under expected market conditions.

The Illinois and Ohio scandals and lesser forms of rent-seeking have a common theme: government policy works best when aligning incentives with productive firm behavior. Electric competition is not merely an antidote for bad behavior. It is an essential pathway to restore public trust and accelerate an economical energy transition that drives innovation and emissions reductions.

ABOUT THE AUTHORS

Devin Hartman is director of Energy and Environmental Policy at the R Street Institute. He leads a team that brings a pragmatic and analytically sound pro-market perspective to energy and environmental policy. He rejoined R Street in 2020 after serving as the president and CEO of the Electricity Consumers Resource Council (ELCON), the national association of large industrial users of electricity. He has previously worked for the Federal Energy Regulatory Commission, the Indiana Utility Regulatory Commission, the U.S. Environmental Protection Agency and various energy and environmental policy nonprofit organizations.

Mike Haugh is an independent consultant who focuses on competitive electric markets and bringing benefits to end use customers. Most recently Haugh worked for the Ohio Consumers' Counsel representing residential utility customers before the Public Utilities Commission of Ohio and the state legislature. Earlier in his career he worked in regulatory and government affairs for retail energy suppliers and as a wholesale energy trader.

78. Haugh. https://www.marylandmatters.org/2020/08/10/opinion-electric-monopoly-corruption-and-market-promise.

79. Ibid.

80. Pritzker. https://www.eenews.net/assets/2020/08/24/document_ew_03.pdf.

81. See, e.g., Tom Davis, "Commentary: Time for SC to take the next step in opening up energy markets," *The Post and the Courier*, Sept. 8,2020. https://www.postandcourier.com/opinion/commentary/commentary-time-for-sc-to-take-the-next-step-in-opening-up-energy-markets/article_22f8e522-f1c2-11ea-b547-5bba31e8355b.html.

82. See, e.g., Devin Hartman, "Testing Texas Power," R Street Institute, Jan. 5, 2018. https://www.rstreet.org/2018/01/05/testing-texas-power.

83. Haugh. https://www.marylandmatters.org/2020/08/10/opinion-electric-monopoly-corruption-and-market-promise.

84. Tom Johnson, "After $60M Bribery Charges, Questions Renewed over Ratepayer Subsidies for Nuclear Power," NJ Spotlight, July 28, 2020. https://www.njspotlight.com/2020/07/after-60m-bribery-charges-questions-renewed-over-ratepayer-subsidies-for-nuclear-power.

85. Todd Snitchler and Brian George, "Competition is the best medicine for corruption; 'prescribed' markets could be what the doctor ordered," Utility Dive, Aug. 11, 2020. https://www.utilitydive.com/news/competition-is-the-best-medicine-for-corruption-prescribed-markets-could/583232.