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Policy Experts and Policy Design in Regulatory Agencies

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Abstract
The purpose of this article is to examine the circumstances that determine the degree of involvement by policy experts in the design of public policies. Building on the work of Pielke, *The honest broker: Making sense of science in policy and politics,* (2007), a categorical dependent variable is developed that identifies four different roles that policy experts might play in policy design. Then, a list of independent variables that likely influence which role is played in any given policymaking situation is identified. Finally, three cases of policy formulation by the US Federal Communications Commission are examined in an effort to refine the theoretical ideas and develop some hypotheses for future exploration.

Keywords Policy Design · Knowledge Utilization · Regulatory Policy

Introduction

Under what circumstances do scientists, economists, and other "policy experts" become intimately involved in the details of public policy design? To date, policy scholars have at best partially answered this question. While there is extensive research examining the ways in which expert knowledge is used by decision-makers (Weiss, 1979; Schrefler, 2010), the political circumstances under which it is used (Boswell, 2008; Weible, 2008), the ideas that guide experts (Hall, 1993), and the types of networks within which experts operate (Haas, 1992), few scholars have attempted to identify the circumstances that determine when policy experts play a purely analytical role, versus when they are actually involved in policy design.

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The purpose of this paper is to fill this gap in the literature by utilizing Pielke's (2007) framework to develop a categorical dependent variable that identifies four roles that policy expert might play in policy design: technician, honest broker, formulator, and initiator. Following this, several independent variables that likely influence which role is played in any given policymaking situation are outlined. Finally, three cases of telecommunications policy formulation by the US Federal Communications Commission are used to refine the theoretical ideas and develop some hypotheses for future exploration.

Policy Experts, Policy Design & Regulatory Agencies

Before progressing to a review of the literature, it is first helpful to define some key concepts. For the purposes of this study, *policy expert* is defined as an individual with advanced training in a scientific field or a profession who is employed by government in an analytical capacity, as opposed to an administrative or decision-making capacity. Such employment could take the form of an agency staff position (Derthick & Quirk, 1985), a position on an established advisory committee (Jasanoff, 1990), or a contract between government and researchers employed in academia or think tanks (Zarkin, 2008). In any case, the structure of the advice will likely be shaped by political principals who have both practical and political goals in mind (Majone, 2001; Franchino, 2002).

Following Dryzek (1983: 346) *policy design* is defined as "the process of inventing, developing, and fine-tuning a course of action with the amelioration of some problem or the achievement of some target in mind." As such, policy design may include the development and deployment of policy instruments, either by searching among known options or through creative inspiration (Alexander, 1982; Schneider & Ingram, 1988). Policy design may also include the adjustment of existing policy instruments in response to new social conditions (Hall, 1993). In either case, policy design need not be "rational-comprehensive" in character, and in democratic systems is mainly undertaken either by legislative bodies or by bureaucratic agents employing authority delegated by the former.

The scope of this study is limited to cases of policy design undertaken by regulatory agencies. This seems like a good place to start given the close association between regulatory agencies and expert knowledge. In the US, for instance, the creation of regulatory agencies was justified as a way to solve industrial-era economic and social problems by bringing greater technical expertise into the policy formulation and implementation processes (Eisner, 2000). While some scholarship has cast doubt on whether expert knowledge really drives regulatory decision-making (Wagner, 1995), both the statutory mandates and public decision-making processes of regulatory agencies are structured around the belief that expert knowledge ought to be a centerpiece of their activities (Bryner, 1987).

Literature Review

The vast array of scholarly perspectives on the role of experts in policymaking has been comprehensively and competently reviewed by other scholars (Radaelli, 1995; Christensen, 2021). The purpose herein is much more limited: to review perspectives that can help us understand the degree to which experts are involved in the design of public policy instruments. Following Christensen's (2021) categorization, literature drawn from four major camps is reviewed: knowledge utilization, ideas and politics, epistemic communities, and science and technology studies.

Knowledge utilization studies posit that decision-makers occasionally use expert knowledge for "instrumental" or "rational-comprehensive" purposes when policy problems are technically complex but will more often use knowledge to justify the decision-maker's pre-existing preferences, or to appease political adversaries who question the decision-maker's inaction (Weiss, 1979; Boswell, 2008; Weible, 2008; Schrefler, 2010). This is so because of the so-called "two communities" thesis, which assumes differences in training and outlook between expert analysts and decision-makers, the latter of whom are more likely to prefer forms of knowledge such as personal experience or practical knowledge acquired through the implementation process (Webber, 1992; Oh, 1997). Therefore, while scholars in this tradition recognize that expert knowledge serves a broad array of purposes including setting the agenda, formulating policies, mobilizing support, and even changing the worldviews of policymakers (Weiss and Bucuvales, 1980) they tend to assume that, at least in the near term, the use of knowledge is at the discretion of the decision-maker, and that decision-makers, not expert analysts, are responsible for policy design (Radaelli, 1995).

In this regard, the knowledge utilization literature stands somewhat in contrast to what Christensen (2021: 459) calls the "ideas and politics" literature. This latter perspective, most commonly associated with Hall's (1993) work on "policy paradigms," posits that decision-makers and policy experts in highly knowledge-driven policy areas operate within a common intellectual framework that defines the nature of the policy problem, the ends to be achieved, and the appropriate policy designs with which to achieve them (see also Daigneault, 2015). Much of the early literature on policy paradigms focused specifically on British macroeconomic policy in which the policy paradigms were organized around rival economic theories (Oliver, 1997; Greener, 2001). The case studies presented by these authors provide evidence that policy experts play a strong role in policy design, particularly during the transition from one paradigm to another, when the goals and the means for achieving them may be highly novel.

International relations scholars writing about "epistemic communities" make parallel claims, though placing more emphasis on the network of actors involved rather than the content of the ideas. Haas (1992: 3) famously defined epistemic communities as containing decision-makers and analysts with "recognized expertise and competence in a particular domain and an authoritative claim to policy-relevant knowledge within that domain or issue area." Although all members of an epistemic community need not have strict scientific training, such communities typically include both experts and non-expert decision-makers who share a common grounding in theoreti-

cal and empirical knowledge originating in a particular field of study. Whether scientists or not, however, members of the epistemic community also share normative and programmatic (policy) beliefs that are distinct from scientific knowledge (Cross, 2013). Thus, the ease with which members of an epistemic community communicate suggests that both technical experts and non-expert decision-makers should be intimately involved in policy design discussions. However, more recent developments in the epistemic community literature cast doubt on whether this is always the case. For instance, Dunlop (2010) contends that in addition to the traditional or "evolutionary" type of epistemic communities envisioned by Hass, there are also "governmental" epistemic communities purposely designed by decision-making principals to provide advice that is congruent with the principal's preferences. In these instances, we might expect to see more of a divide between decision-makers and experts in terms of who is responsible for policy design, though the exact details will vary from one situation to another.

In summary, the three schools seem to have the following areas of agreement and disagreement. They broadly agree that the most meaningful uses of expert knowledge occur under conditions of technical complexity. Furthermore, they all acknowledge that experts are involved at multiple stages of the policy process. They seem to differ in their conclusions about whether experts are directly involved in policy design. None of them, however, delineate degrees of involvement on the part of policy experts or offer insights concerning the factors that might lead to their increased involvement in policy design. To address these matters, it is necessary to turn to science and technology studies, and specifically the work of Pielke (2007).

Pielke (2007: 1–5) argues that scientists working alongside policymakers must choose between four distinct roles: the pure scientist, the science arbiter, the issue advocate, and the honest broker. The pure scientist is the least involved in policymaking, choosing to conduct basic scientific research and have no direct contact with decision-makers. The science arbiter serves as a scientific resource for decision-makers but does not express policy preferences or engage in policymaking discussions. The issue advocate has a policy design preference and attempts to persuade others of their point of view. Finally, the honest broker helps decision-makers evaluate a range of policy design options but does not express a preference for any single one.

Pielke's typology may be the most developed conception of the differing policy roles played by scientists, though to date there have been few efforts to operationalize it for purposes of empirical research (Christensen, 2021). In the next section, I attempt to do so by offering some amendments to the framework that make it more relevant to the roles played by policy experts. For instance, the "pure scientist" category is not relevant in this context because it does not represent a role we would expect a policy advisor to play. Additionally, the "issue advocate" role may be underdeveloped because it does not distinguish between situations where experts are asked to participate in policy design by decision-makers, and those where experts act on their own initiative.

With these critiques in mind, the next section outlines a dependent variable based on Pielke's typology, as well as a series of independent variables broadly identified in the policy studies literature as potential explanations for why an expert might end up playing one role over another.

The Theory

This section describes the dependent variable, outlines five relevant independent variables, and provides a justification for the cases that are employed in the empirical application.

The Dependent Variable

The dependent variable is conceptualized as consisting of four values which correspond to four degrees of involvement in policy design. For purposes of this study, the variable is treated as a categorical variable, although it is worth noting that the four roles posit successively greater degrees of involvement, suggesting the possibility that it could also be treated as an ordinal variable. The four values are described as follows:

- ***Technician***: The technician role describes situations where experts are the least involved in policy design. In this scenario, experts perform work to help clarify or justify a policy design already selected by decision-makers. This could involve generating an analysis aimed at predicting the likely outcomes of the policy design. An expert playing the technician role might also be put to work fleshing out the technical details of the policy design. In neither of these scenarios, however, is the expert actively involved in selecting the broader policy design or making arguments in favor of its adoption. The technician role roughly corresponds with Pielke's (2007: 2) "science arbiter" role.
- ***Honest Broker***: The honest broker role describes a situation in which experts prepare a comparative assessment of multiple policy designs at the instruction of decision-makers. In a true honest broker scenario, experts do not develop any of the designs and do not express an obvious preference, even if they have one (Pielke, 2007: 3–5). The honest broker role, however, implies more involvement than the technician role since expert advisors are involved in helping the decision-maker to select a policy design.
- ***Formulator***: The formulator role describes a situation in which experts develop a policy design of their own when instructed to do so by decision-makers. In such a scenario, there might be a single, trusted group of experts asked to formulate a design, or competing groups formulating competing designs. In either scenario, the experts developing policy designs have distinct preferences of their own and are focused on a single, preferred solution.
- ***Initiator***: The initiator role describes situations in which experts not only create a policy design, but also play a very active role in setting the agenda and framing the issue in question. In such a scenario, it is the expert who pushes decision-makers to take the issue seriously and uses policy analysis to convince them of both the seriousness of the problem and the validity of their preferred solution. Both the formulator and initiator roles roughly coincide with Pielke's (2007: 2) issue advocate role, though they represent differences of degree.

The Independent Variables

What factors determine which role experts might play in any given decision-making context? Some clues can be gleaned from the literatures dealing with regulatory politics, knowledge utilization, epistemic communities, and policy learning. Collectively, these bodies of literature suggest five independent variables that are particularly relevant to this analysis:

- ***Leadership preferences***: The notion that decision-making officials have policy design preferences is firmly rooted in the literature on regulatory policy. For instance, numerous qualitative studies of US regulatory agencies determined that agency heads and middle managers were the driving forces behind the deregulation movement of the 1970s and 1980s (Derthick & Quirk, 1985; Cook, 1988). In addition, principal-agent studies posit that when decision-makers delegate to experts they seek to organize expert involvement in ways that create preference congruence between the principal and agent (Majone, 2001; Dunlop, 2010). However, while the importance of leadership preferences is well established, the exact relationship between leadership preferences and expert involvement in policy design is never fully posited. For leadership preferences to serve as an independent variable, *preferences must be formed independent of expert influence*. Therefore, for purposes of this study there must be evidence that leadership preferences were either "strong" or "moderate," or "weak" at the time that policymaking was initiated. Strong preferences imply that the leaders have a strong preference for a specific policy design. Weak preferences indicate that the leader has no design preference and may not even be initiating a discussion of the issue. Moderate preferences indicate that the leader has a clear policy outcome in mind, but no specific design preference. Logically, it follows that strong leadership preferences will coincide with situations where experts play a "technician" role and weak leadership preferences will coincide with situations where experts play "initiators." Moderate leadership preferences are predicted to coincide with the "honest broker" and "formulator" roles.
- ***Tractability*** refers to the degree of faith on the part of decision-makers that expert analysis will help to reduce the uncertainty surrounding a policy problem and its potential solutions. Scholars in both the policy learning (Dunlop & Radaelli, 2013) and knowledge utilization (Schrefler, 2010) traditions posit that when tractability is high, administrators generally feel confident that research and analysis will lead to a clearer understanding of problems and solutions. Conversely, when tractability is low, leaders lack confidence that further analysis will clarify the nature of a problem or the effects of solutions. Therefore, low tractability should lead to reduced reliance on experts to formulate policy, particularly when leader policy preferences are strong (Zarkin, 2021). For this study, tractability is treated as a dichotomous variable with values of low and high.
- ***Analogical Reasoning***: Decision-makers may engage in "analogical reasoning," meaning that they adopt a policy design their organization previously developed to address a different problem (Beach et al., 2021). There are several reasons to believe that the use of analogical reasoning will coincide with a diminished role

for policy experts. First, previous research has shown that policymakers are more likely to turn to analogical reasoning in situations when problem tractability is low, and analogies provide intellectual reassurance that an existing policy design will work (Zarkin, 2008). Second, by its very nature the use of analogies implies that the policy design process may be less involved than in other types of policy-making situations. For these reasons, we should expect that the use of analogical reasoning means less of a role for experts in policy design.

- ***Policy Transfer***: While both analogical reasoning and policy transfer can be categorized as what Rose (1993) refers to as "lesson-drawing," for purposes of this study it is necessary to draw a clear distinction. Policy transfer refers to situations where policymakers adopt policy designs developed in other jurisdictions (i.e., organizations, states, or nations) to address the same or similar problems (Dolowitz & Marsh, 2000). In theory, policy transfer may be undertaken by any number of different actors in the policy process, but in highly complex areas of policy there is reason to believe that analytical experts will play a more involved role. This is so because experts may be connected to an epistemic community or some similar intellectual network united by publications, organizational affiliations, and other mechanisms that connect experts engaged in similar problems and research agendas across time and space (Stone, 1999; Peck, 2011). In addition, adapting lessons to a new context may require technical knowledge. Therefore, we posit that analytical experts are likely to play a more involved role in policy design when policy transfer occurs.
- ***Political Conflict*** refers to the number of interests or viewpoints involved in a policy decision and the intensity of the disagreement between them (Schrefler, 2010). Political conflict interacts with other variables in complex ways. For instance, high political conflict may increase the involvement of experts in analysis or policy design if decision-makers believe that a particular group of experts have the credibility to help resolve conflicts (Dunlop & Radaelli, 2013), or if they believe that additional analysis will provide ammunition to help them defend their preferred policy designs (Weiss, 1979). Lacking either of these conditions, high political conflict could force decision-makers to make political concessions on policy design, particularly if issues prove to be highly salient and legislators get involved on behalf of constituents (Gormley, 1986; Ferejohn & Shipan, 1989). By contrast, low political conflict is predicted to increase the likelihood of expert involvement when tractability is high, but decrease expert involvement when tractability is low. For this study, degree of political conflict is designated as either low or high.

The Empirical Application

The remainder of the paper applies the preceding framework to a brief analysis of the role played by economists in three telecommunications policy decisions made by the US Federal Communications Commission (hereafter FCC) between 1982 and 1989. The three cases constitute an appropriate empirical exploration for several reasons. First, telecommunications regulation is an area of high complexity policymaking:

exactly the kind of context where expert knowledge it typically needed (Gormley, 1986). Second, previous research suggests that 1982–1989 was a period during which US telecommunications policy was undergoing the type of ideational shift that Hall (1993) referred to as a policy "paradigm shift." Such ideational shifts constitute periods when we might expect groups of experts to be heavily involved in the policy design process (Zarkin, 2006). Third, throughout this period the FCC operated under a broad legislative mandate that gave it substantial freedom to select the types of analysis it used and the instruments it deemed appropriate to achieve statutory goals. Finally, all three policies were promulgated during the presidencies of Ronald Reagan and George H.W. Bush, two conservative presidents who supported deregulation to varying degrees. The three FCC Chairman they appointed were also known to be supporters of deregulation, and generally supportive of involving economists in regulatory decision-making (Brock, 1994). Taken together, these factors suggest a very high probability that economists would play a policy formulation role.

Nevertheless, the role played by economists varied substantially across the three cases, with economists playing the formulator role in the first case, the technician role in the second, and the initiator role in the third. In the next section, the three cases are each briefly summarized with an emphasis placed on the independent variables outlined in this section. In the section after that, the three cases are compared with an eye toward assessing the validity of the predictions as well as identifying any additional factors that might need to be considered. No claim is made that this brief empirical analysis is either definitive or sufficient; only that it is a first step toward greater exploration of the theoretical issues raised in this paper.

Telecommunications Policy: Three Cases

By the late 1970s, US telecommunications policy was transitioning from a policy paradigm based in Progressive Era economics and government intervention to one based in neoclassical economics and marketplace competition (Fowler, Halprin, & Schlicting, 1986; Zarkin, 2006). Paradigm change was precipitated by several factors including changes in technology, interest group pressure, and several court decisions that had the effect of moving markets in the direction of competition (Stone, 1989). Nevertheless, paradigm change only became possible when economists gained prominence within the FCC (Webbink, 1981). While economists found homes in various corners of the agency, the most prominent voices were found in the Office of Plans and Policy (OPP): A team of researchers who reported directly to the Commissioners rather than the operating bureaus traditionally charged with implementing policy. OPP economists had the support of several successive FCC Chairman and some senior staff who shared the belief that the nation would benefit from the innovative new products and efficient pricing brought about by competition (Derthick & Quirk, 1985). Competition, however, was not a panacea. Regulators needed to figure out which industry sectors would benefit from competition, and which policy designs would aid the transition to competition without undermining long-held values such as universal access to telecommunications facilities. This was the basic task faced by FCC staff in each of the following cases. In each case, the ultimate policy design was

influenced by economic ideas, but the agency economists were involved to varying degrees.

Case One: Access Charges

Prior to 1984 most Americans received their telephone service from AT&T: a large, vertically integrated corporation that held a monopoly in nearly every facet of the telephone business. Because local telephone service was viewed as a public utility, AT&T worked with regulators to keep the cost of residential rates low. To accomplish this, AT&T subsidized its local service operations with revenue from its long-distance and equipment manufacturing operations, causing the latter two services to be priced well above cost (Henck & Strassburg, 1988). As long-distance service transitioned to competition, however, AT&T could no longer expect to maintain the profit levels that made this arrangement possible. Matters were further complicated in 1982 when the US Department of Justice announced an antitrust settlement that required AT&T to fully divest itself of its local service operations, essentially ending any guaranteed subsidies to local service providers (Temin, 1987). This meant that the newly independent local telephone companies could only maintain their revenues at or close to pre-competitive levels if they either raised residential rates or got the FCC to mandate payments from long-distance providers seeking to interconnect with local networks.

Prior to divestiture, staff in the FCC's Common Carrier Bureau—the principal office responsible for implementing telephone regulation—proposed a scheme that kept local rates low by allocating artificially high costs to long-distance firms (Brock, 1994). OPP economists, however, objected to this scheme because they believed that the cost of providing telephone service increased incrementally with each unit of output, meaning that the most efficient pricing scheme was one that brought prices in line with marginal costs (Cornell et al., 1980). A scheme truly based on marginal cost pricing meant that local rates would likely increase, but it also meant that lower long-distance rates—the great promise made by advocates of competition—would finally be realized. In 1981 when Mark Fowler was appointed FCC Chairman and Gary Epstein became Chief of the Common Carrier Bureau, OPP economists attempted to convince the new leadership to support a plan based around marginal cost pricing (Brock, 1994).

The new plan supported by OPP economists called for residential local service customers to pay a Subscriber Line Charge (SLC) of two dollars per month, and business customers to pay a charge of four dollars per month. The SLC was predicted to raise about 50% of the additional revenue needed by local companies with the rest coming from access charges paid by long-distance companies. After five years, all costs would be shifted to SLCs. The new plan was presented to the public for comment in 1982 alongside the original 1980 plan and two "hybrid" schemes that incorporated elements of both (MTS and WATS, 1982a). Ultimately, Chairman Fowler supported, and the FCC adopted, a scheme that largely reflected the plan preferred by OPP economists (MTS and WATS, 1982b).

Whatever merits might have been associated with the plan supported by FCC leadership and economists, it proved to be politically divisive. Consumer groups, smaller local telephone companies, and state regulators expressed strong opposition

to the plan, fearing that it would have a significant financial impact on rural residents and low-income subscribers (Impact of the FCC's Telephone Access Charge, 1983). Their concerns were noted by a bipartisan group of legislators in Congress who introduced legislation aimed at blocking the proposal. Senator Robert Dole also sent a letter to Chairman Fowler requesting several amendments to the FCC's plan including (1) a prohibition on the imposition of SLCs for a year, (2) a guarantee that rural providers would have the discretion to decide whether or not to impose the charges, and (3) a guarantee that the SLCs would not rise above four dollars per month for either residential or business users before 1990. Recognizing that legislation was imminent if the FCC did not respond to these demands, the access charge plan was finalized in 1984 with the proposed amendments in place (Ferejohn & Shipan, 1989). In the end, these amendments modified, though by no means destroyed, the efforts of FCC economists to move the access charge revenue scheme in the direction of marginal cost pricing.

Case 2: Computer III

As the name implies, *Computer III* was the FCC's third attempt to address the issue of telephone company involvement in the provision of data processing services. *Computer I* and *Computer II*, adopted in the 1960s and early 1980s respectively, both allowed varying amounts of telephone company participation in data processing markets so long as the latter services were provided through some variation of a wholly separate subsidiary (Stone, 1989). The structural separation provided by the separate subsidiary requirement was meant to prevent the telephone companies from using their market power as monopolies to undermine competition from other firms in the data processing markets. However, the subsequent divestiture of the local telephone portion of the business from AT&T made it possible and desirable for the latter to be more actively involved in the provision of data services. Second, technological developments made it possible for AT&T to offer new types of data processing services that could not easily be segregated from traditional telephone operations through a subsidiary. Finally, the newly independent local telephone providers, though generally prohibited from entering data processing markets, sought waivers to pursue limited entry into data processing but believed it would be inefficient for them to do so under a structural separation framework (Zarkin, 2003). Therefore, by the mid 1980s the FCC was seeking a new approach to the regulation of data processing services.

Ultimately, the FCC decided to abandon structural safeguards in favor of an approach called Open Network Architecture (ONA). Under ONA, telephone companies would "unbundle" their telephone networks into a series of "basic service elements" or basic structural components with which data processing service providers could interconnect as needed. The basic service elements needed to be provided to all competitors on equal terms and according to established charges. It was up to each telephone company to develop an ONA plan outlining how they would unbundle their network and provide access to competitors. Once the ONA plan was approved, the FCC would allow telephone companies to provide telephone and data processing services on an integrated basis subject to new cost allocation rules aimed at ensuring fair competition (Third Computer Inquiry, 1986).

An article co-authored by FCC Chairman Fowler and Common Carrier Bureau Chief Albert Halprin in 1986 revealed that agency leaders strongly favored the ONA approach and viewed it as the best way to providing innovative, information age services at lower costs (Fowler, Halprin, & Schlicting, 1986). However, there is no evidence that agency economists played a role in developing the policy design or that multiple approaches were considered. Rather, the ONA concept appears to have arisen out of an analogy drawn from a policy design developed to facilitate competition in long-distance telephone service ten years earlier. As long-distance markets were beginning to transition to competition, the FCC developed an approach that conceptualized AT&T's network as a series of "building blocks" into which competitors could connect with rather than having to build an entirely new network. ONA was essentially an adaptation of the building block approach to a new purpose (Brock, 1994).

The ONA approach received little political opposition, at least during the policy design phase. Congress took little note of the decision, and the telephone companies all seemed ready to sign on to the program, even if they had some questions about the specifics. This may in part be because ONA was such an open-ended policy design that would only really take shape when the telephone companies began submitting their ONA plans for FCC approval (Eby, 1988). Ultimately, the ONA plans proved to be complicated in design and vary widely in their makeup: a problem the FCC had hoped to avoid (Hatfield & Mercer, 1988). Before any of the plans could be implemented, however, the US Court of Appeals struck down parts of the FCC's original ONA order on legal technicalities, limiting the agency's ability to move forward with implementation (Obuchowsky, 1990).

Case III: Price Caps Regulation

When AT&T was an integrated monopoly, rates were regulated using a long-standing framework known as "rate-of-return" regulation. Under this formulation, the monopoly firm's costs of service were calculated, and the company was allowed to charge prices sufficient to earn a specified profit level above the calculated costs (Henck & Strassburg, 1988). Beginning in the 1960s, however, economists raised concerns about the formula, noting that it gave monopoly firms the incentive to exaggerate their costs in an effort to raise the total amount of profits they could earn (Averch & Johnson, 1962). Nevertheless, there was no alternative framework, so the rate-of-return formula persisted as the main rate-setting approach used by the FCC and state regulators. As long-distance service transitioned to competition, however, the phasing out of rate-of-return regulation seemed inevitable, though the timing was difficult to determine. In theory, competition meant that prices should not be artificially determined by regulators. At the same time, however, AT&T's market power remained dominant, and simply abandoning all rate regulation might destroy competition. What was needed was a new regulatory framework that could limit AT&T's market power while helping the industry transition to competition.

Economists in the OPP believed they found the solution in the writings of the British Economist Littlechild (1983), who proposed what came to be known in the US as "price caps" regulation. Littlechild posited that regulators could encourage greater

efficiency if telephone company prices were allowed to rise in annual increments set slightly below the rate of inflation. Although Littlechild developed the scheme with British Telecom in mind, it was a direct response to the criticisms advanced by US economists against rate-of-return regulation. Littlechild believed that the price caps approach would gradually move prices closer to the true costs of service and cause regulated firms to become more efficient since they could keep any costs savings achieved under the "price cap." The logic behind this scheme spoke directly to the policy challenges faced by US regulators and soon became the basis of a policy proposal advanced by OPP economists (Haring & Kwerel, 1987).

Although FCC Chairman Dennis Patrick initially showed no interest in switching rate-setting formulas, he was ultimately persuaded by OPP economists, and the FCC hoped to quickly move forward with implementing the price caps approach (Policy and Rules, 1987). The proposal, however, received strong political pushback from members of Congress, state regulators, and AT&T's competitors, all of whom believed the proposal's impact on telephone rates and quality of service was uncertain at best (FCC Telephone Price Cap Proposal, 1987). The FCC was able to allay some of these concerns by promulgating a more detailed version of the program (Policy and Rules, 1988) and by developing a computer simulation designed to show trends in consumer rates under the price caps plan (FCC Telephone Price Caps, 1989). The plan was eventually amended to include a provision that limited increases in telephone rates to 1% relative to the price cap index and including a "price floor" in the plan to help guarantee that AT&T couldn't engage in predatory pricing against its competitors (Policy and Rules, 1989).

Analysis

Table 1 provides a summary of the three cases with values for each of the variables appropriately indicated. Although the brief case studies appear to provide incomplete treatment of some variables, the discussion below reveals that some relevant details can be deduced from the available evidence. Overall, the cases provide preliminary support for the theoretical assertions made earlier in the paper. At the same time, there are some factors not accounted for by the original set of variables that need to be brought out in this section.

First, the theorized relationship between leadership preferences and expert involvement was largely supported by the three cases. In the access charge case, moderate leadership preferences were indicated because although decision-makers like Chairman Fowler favored competition whenever possible, the issue of access

Table 1 Summary of case study findings

	Access Charge	Computer III	Price Caps
Leader Preferences	Moderate	Strong	Weak
Tractability	Low	High	High
Analogical Reasoning	No	Yes	No
Policy Transfer	No	No	Yes
Conflict	High	Low	High
Expert Role	**Formulator**	**Technician**	**Initiator**

charges was too novel and too complex for him to truly have fixed, a priori preferences concerning the appropriate policy design. In the case of *Computer III* the preferences of agency leaders like Chairman Fowler and Common Carrier Bureau Chief Halprin were strongly in favor of moving toward a non-structural approach to telephone company provision of data processing services. This can be surmised by virtue of Chairman Fowler's established support for marketplace efficiency measures following the Access Charge decision as well as the strong support for the non-structural approach revealed in the two leaders' law review article. In the price caps case, leader preferences were comparatively weak, with Chairman Patrick showing no interest in the rate-setting issue until it was raised by OPP economists. These findings are not surprising given that the theorized relationship between leadership preference and expert involvement was intuitive. Also, while leadership preferences may be strongly related to the involvement of experts in policy design, they may not be the most important causal factor. Rather favorable leadership preferences may be a necessary, though not sufficient, condition for expert involvement in policy design.

Second, the relationship between political conflict and expert involvement in policy design is complicated. While it is true that political conflict was high in the two cases where FCC economists were most involved, in the price caps case the conflict occurred after the policy was developed, and mainly led to cosmetic changes in the ultimate policy design. As such, it is not clear that conflict either directly facilitated or impeded expert involvement. The fact that economists were least involved in the lower conflict case supports Gormley's (1986) contention that low conflict, high complexity situations tend to favor the preferences of interest groups, which may be what ultimately happened in the *Computer III* case. At the same time, however, the lack of involvement by economists is more likely attributable to other factors discussed below. The cases also provide some evidence that political conflict interacts with leadership preferences. In the access charge case, political conflict may have caused FCC leaders to consider a broader range of options, though the evidence is not conclusive. Therefore, based on the limited evidence presented herein the following correlation seems plausible:

H1: As political conflict increases, the involvement of experts in policy design increases.

Once again, though, further work is needed to fully determine the causal mechanisms behind this relationship.

Third, the role of tractability is hard to determine within the context of policy design. For one thing tractability remains difficult to measure (Zarkin, 2021). Nevertheless, there is strong reason to conclude that FCC officials viewed the access charge case as a low tractability situation, and the *Computer III* and price caps cases as high tractability cases. As was previously noted, the exact impact of access charges on telephone rates was difficult to predict, making the case intractable in the eyes of FCC leadership. *Computer III* should probably be categorized as high tractability since FCC leaders had a lot of faith in non-structural safeguards and believed that the telephone company ONA plans would reveal whether the new approach was workable. Finally, price caps was a high tractability issue in the eyes of FCC officials

because it was already in operation in the UK, and they were reassured by expert analysis that consumer rates would go down under the scheme. Ultimately, though, there was no identifiable relationship between tractability and expert involvement in policy design.

Fourth, the cases reveal several considerations that were either not theorized or only implied by the theoretical discussion presented at the outset. One such consideration was the degree of novelty associated with the issue. Access charges was probably the most novel issue because the FCC was called upon to develop a cost allocation scheme—something it had never successfully done before—for large telecommunications firms that did not yet exist in their ultimate form. Price caps was not far behind. The FCC never anticipated developing rate regulation designed to make the transition to a competitive market. Although price caps spoke to issues theorized and studied by economists, as a policy instrument it was unknown within the US system. Access charges and price caps were the policy designs in which FCC economists were most involved. In contrast, *Computer III*—the case in which FCC economists were least involved—was the least novel policymaking situation. Regulation of data processing services had been ongoing for nearly two decades and the ONA policy mechanism was analogized from previous policy contexts. Therefore, although the relationship is far from linear, it seems reasonable to hypothesize the following:

H2: as policy novelty increases, the role of experts in policy design increases.

Clearly, this hypothesis needs further exploration and refinement, but the preliminary evidence suggests it is worth exploring.

Another factor that emerges from the cases is the relevance of the expert's knowledge to a particular policy decision. Specifically, the theories and knowledge generated by economists were directly relevant to policy design in the access charge and price caps cases. The issues raised in those policy decisions—marginal cost pricing and reducing regulatory incentives for inefficiency—grew directly out of economic theory. While the economists' contributions did not go uncontested in either case, their ability to contribute knowledge relevant to policy design seemed clear. By contrast, economic knowledge was less relevant to policy design in *Computer III*. Although FCC leaders viewed ONA as a way to gain the innovation and efficiency associated with increased marketplace competition, the actual design of the policy was quite fluid and would only take shape when telephone companies submitted their ONA plans. It may well be that telephone companies needed the expertise of their own economists when developing these plans, but such advice would have been firm-specific and external to the state apparatus. Therefore, if only on a preliminary basis, it is hypothesized that:

H3: as the relevance of expert knowledge to policy design increases, the likelihood that experts from that field will participate in policy design increases.

Conclusion

This article has endeavored to elaborate a framework capable of explaining the circumstances under which policy experts become directly involved in the design of public policies. As the empirical portion of the paper demonstrates, however, these steps were indeed preliminary, and there is much more work to be done. Scholars interested in picking up where this article has left off might start by attempting to test and refine the hypotheses presented above using cases drawn from a range of regulatory policy domains such as environmental policy, health and safety policy, and banking or securities regulation. Cases should also be selected in ways that extend the research program to include other categories of experts such as natural scientists, accountants, and engineers. Such a research program might well require multiple "small-n" studies carried out by researchers who possess enough knowledge of specific policy domains that they can purposively select appropriate cases to study. Though such an approach might appear cumbersome, it has the potential to deepen our understanding of the role played by experts in policy design.

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Declarations

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