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Regulatory behaviour under threat of court reversal: Theory and evidence from the Swedish electricity market

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ABSTRACT

This paper investigates how regulators influence outcomes in regulated markets when their decisions are subject to the threat of court review. We develop a theoretical model that provides a number of behavioural implications when (*i*) all regulators' dislike having their decisions overturned by courts, (*ii*) inexperienced regulators care more about not having their decisions overturned than experienced regulators, and (*iii*) experienced regulators also care about consumer surplus. The theoretical implications are tested using a database of Swedish regulatory decisions from the electricity distribution sector. We provide empirical evidence that inexperienced regulators are more likely to set higher regulated prices than experienced regulators, and as the complexity of the case increases, there are on average more overturned decisions and higher prices for inexperienced regulators. The links between experience, complexity and regulatory outcomes are both statistically and economically significant. Simulations show that if those decisions that were not appealed had been appealed, then the court would have lowered the prices by 10% on average.

1. Introduction

This article investigates the impact of regulators' behaviour and their characteristics on outcomes in regulated markets.[2] Two recent and general developments warrant the interest in this field. First, many industries that provide essential services (such as electricity, gas, telecommunications and water/sewerage) have been subject to unbundling of the competitive and natural monopoly segments of the industry and the privatisation and corporatisation of publicly owned enterprises. In the pre-reform period, prices were often set in an opaque process controlled by the government/ministers and sometimes by the government-owned institutions providing the service. In the post-reform period, firm prices have been strongly influenced by regulators, making outcomes in these industries increasingly reliant on regulatory decisions (e.g. Jordana et al., 2011).

Second, this development has coincided with a more general trend towards replacing judge-made law with regulators (Shleifer, 2012). A major reason for this change is the unpredictability of judges' decisions. Gennaioli and Shleifer (2008) argue that such unpredictability arises partly from judges' concerns related to the potential damage to their careers from having their decisions overturned by appellate courts. Regulators' decisions, on the other hand, have been claimed to be more predictable and efficient given their relatively high level of expertise (Glaeser and Shleifer, 2003). While greater predictability can provide a rationale for the rise of regulation, it does to some extent ignore the fact that regulators are also subject to their own motivations. For example, while regulators may desire to maximise society's welfare, they also have other aspirations such as to be promoted within the government or to work for the industry in the future.[3]

The ubiquity of regulation in modern economies raises a number of concerns. These include the lack of consistency in regulatory decisions

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[2] The terms "bureaucrat" and "regulator" are often used interchangeably in the economics literature. However, in many jurisdictions regulators are independent from the bureaucracy and are instead established as an Independent Statutory Authority. For this reason we use the term "regulator" throughout this article.

[3] These motivational concerns can be traced back to Niskanen's (1971) notion of public officials being inclined to maximise their budgets and Stigler's (1971) proposition that regulators may become captured by the industry. More recently, Leaver (2009) provides evidence of a causal link between regulators' levels of career concern and the extent to which their decisions are biased. In her sample of electricity rate reviews in the U.S. she finds that the length of office terms for regulators (with longer office terms being associated with less career concern) is negatively related to both the probability of initiating regulatory reviews and regulated prices.

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(across time, industries or jurisdictions), political influence on the regulatory process via the appointment process for regulators and the career concerns of regulators who might favour consumers (with a view to being reappointed) or industry (with a view to securing future jobs). An increasing body of evidence examines regulatory decisions to identify the effects of these various factors. Examples of studies based on U.S. data include Davis and Muehlegger (2010), Leaver (2009), DeFigueiredo and Edwards (2007) and Knittel (2003). With the increasing availability of data elsewhere, there is also a new body of literature evaluating regulatory decisions outside the U.S., including Australia (Breunig and Menezes, 2012; Breunig et al., 2006), Brazil (Silva, 2011) and Sweden (Smyth and Söderberg, 2010).

The aim of this article is to investigate the behaviour of regulators when their decisions are subject to an external review by a court. Whereas regulatory decisions can always be challenged on legal grounds by the courts, the external review of regulatory decisions is a lively policy issue.[4] Importantly, there has been no discussion on the impact of making regulatory decisions subject to external review on the behaviour of regulators. This article aims to fill this gap.

A key premise of this article is that regulators do not like to see their decisions changed. This is because having one's decisions overturned or changed can make it more difficult to be reappointed as a regulator or to secure career progression.[5] Alternatively, this dislike may simply arise from a private wish to avoid mistakes or to avoid being seen as having made a mistake.[6] In particular, in our benchmark model, we assume that regulators only care about not having their decisions changed. These regulators make decisions with the exclusive aim of minimising the likelihood that any mistakes will be exposed by the court. The possibility of regulatory mistakes being explicitly subjected to judicial review is a novel feature of our analysis and follows from the institutional setting we study, where both customers and regulated firms can appeal the regulator's decisions.

We then consider a regulator who cares both about not having her decisions changed by the court and about consumer surplus.[7] We argue that more experienced regulators will have such characteristics. For inexperienced regulators, there is a risk that court reversals will be attributed to limited knowledge or ability, and may have a disproportional impact on their reputation. Reversals of decisions by experienced regulators, on the other hand, can be interpreted as the regulator and court having different views of the law.[8] It is plausible, therefore, that inexperienced regulators have stronger incentives to avoid making "mistakes" and that experienced regulators have greater opportunity to consider additional decision making objectives, such as consumer surplus,[9] with less concern for appeals and the threat of court reversal.

In our model decisions require different amounts of information. We denote a decision that requires much information as a complex decision. As a result, the regulator has to make a decision about how much effort to put into the investigation of a consumer's complaint about the price set by the regulated firm to connect her to the electricity grid. The regulator's decision of how much effort to exert is influenced by a number of parameters such as the cost of effort and the likelihood that the decision might be changed by an appellate court.

The possibility of a regulator making a mistake arises in our model from the existence of asymmetric information; the regulated firm knows its true cost, but the regulator only knows the distribution from which the cost is generated. The regulator can discover the firm's true cost by exerting costly effort. Once the regulator has chosen her level of effort, she decides what price to set. At this stage, both the customer and the firm may appeal to an administrative court under different scenarios. For example, a regulated firm will not appeal when a high price is set, and similarly, a consumer will not appeal when a low price is set, but both *may* appeal otherwise. In our model, the focus is on how the regulators' decisions and their choice of effort are influenced by the possibility of appeal under different regulatory objectives. Finally, we assume that the court uncovers the firm's true cost. This is of course an oversimplification, but our results will remain true in a qualitative sense as long as the court has a sufficiently high probability of uncovering the firm's true cost.

We emphasise that while the model is stylised and a few strong assumptions are made, our primary objective is to identify a number of economic factors from first principles that can guide the specification of a reduced form empirical model. While the nature of the data we collected does not allow us to estimate a structural model, it has informed the development of the theoretical model.

Importantly, this theoretical framework allows us to make a number of testable predictions for different types of regulatory objective. Specifically, when the regulator is only concerned about not having her decision overturned, we show that, under certain conditions, a larger number of decisions will be overturned by the court when cases are more complex (i.e., cases requiring more effort for the regulator to make the "right" decision) than in situations where the cases are less complex.

We also show that when the regulator cares about both not having her decision overturned and consumer surplus, less complex cases will be associated with more appeals by regulated firms, but fewer decisions will be overturned and prices will be lower. As the complexity of the case increases, we predict a switch to more appeals by consumers, more decisions being overturned and higher prices on average.

Moreover, regulators who care about both not having their decisions overturned and consumer surplus will exert less effort when cases become more complex. This emerges as, in equilibrium, parties recognise the link between complexity, choice of effort and outcomes.

We empirically investigate customer complaints about the price set by firms for connecting a residential dwelling to the electricity network. Five regulators, employed as life-long civil servants at the Swedish Energy Markets Inspectorate, have reviewed 293 complaints during the 2003–2009 period and 141 of those were appealed to the Special Administrative Court. A primary empirical challenge is that regulators' experience is endogenous. We construct an instrument by mechanically assigning incoming complaints to the regulator with the lowest workload, and estimate 2SLS models.

Most of our theoretical predictions are confirmed in the empirical investigation. The key conclusion is that regulators' dislike of seeing their decisions overturned has an impact on regulatory decisions that is both statistically and economically significant. Simulations show that if those decisions that were not appealed had been appealed, the court would have lowered the prices by 10% on average. This value can be interpreted as a measure of the deviation from true costs for decisions that are not appealed and which could be reduced in various ways including by the appointment of experienced regulators.

[4] For example, in Australia, until recently regulatory decisions in electricity could be appealed on merit to the Australian Competition Tribunal. This raised concerns that regulated companies can cherry pick particular aspects of a decision. See, for example, Mountain and Littlechild (2010), Gaurnaut (2014) and Simshauser (2014). Limited merit review was abolished by legislation in October 2017.

[5] The premise that regulators' decisions are influenced by self-interest is a dominant feature of the economic theory of regulation, and can be traced back to the seminal contributions of Stigler (1971), Peltzman (1976) and Posner (1974).

[6] Individuals' tendency to dislike making errors (or to avoid regrets more generally) is a common assumption both in neuroscience (Coricelli et al., 2005) and in decision science (Reb and Connolly, 2009).

[7] The regulator's focus on consumer surplus (rather than, for example, total welfare) is motivated by Prendergast's (2007) model of bureaucratic bias. He shows that it is welfare improving for regulators to adopt pro-consumer preferences when customers have relatively higher stakes than firms. Moreover, there has been much debate about consumers' disadvantageous position and the need for the regulator to act as advocate for consumers in the empirical setting that we consider in this article.

[8] Garside et al. (2013) provides strong empirical evidence, in the context of competition cases in the U.K, that more experienced bureaucrats attract more external criticism. This is consistent with the notion that more experienced bureaucrats may care less about having their decisions changed by the courts and, therefore, may make decisions that are different from those made by less experienced bureaucrats.

[9] In Section 3.1 we provide empirical support for a link between experience and the type of objective.