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#### **CHAPTER 3**

# Economic Approaches to Legal Reasoning: An Overview

#### Péter Cserne

Abstract Economic analysis has contributed to a better understanding and a better functioning of law at different levels of generality. As far as legal reasoning is concerned, these contributions fall into two large groups. Economics in legal reasoning concerns arguments about the purposes and consequences of legal rules and principles that are acceptable in court as legally relevant, including (1) predictions of the likely consequences of alternative legal decisions; (2) technical normative arguments about the best means to achieve a legally determined purpose; and (3) welfarist normative arguments about the desirable goals of specific laws. Economics of legal reasoning, in turn, includes (1) explanatory models of legal processes in terms of rational activity of individuals, corporate entities as well as legal officials, and (2) normative proposals concerning the design of legal processes, that is the structure of law as institutional practice.

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#### 3.1 Introduction

Legal reasoning remains the aspect of legal systems least explored by economists. At first blush, economists tend to denigrate legal reasoning as "mere rhetoric": obfuscation at worst and irrelevant noise or *façon de parler* at best. What matters is the outcome of the proceedings (Is the defendant guilty and punished? Is he liable to pay damages?) or, more generally, how expected legal consequences change human behavior. This functionalist stance leaves little room for analyzing legal reasoning in terms of procedures, reasons, rights and duties.<sup>1</sup>

Economics can nonetheless contribute to legal reasoning in two main ways: first, under the terms set by legal practice. Law and economics scholars accept these terms, at least implicitly, when recognizing that the practical impact of their findings is conditional upon certain characteristics of particular political communities or legal systems. As Sect. 3.2 will argue, the shortest way for economics to enter legal reasoning is in the guise of prudential or consequence-based arguments. The efficiency-based recommendations as to how judges should decide cases and interpret or reform rules are relevant *in* legal reasoning to the extent that teleological or consequence-based arguments are relevant for the justification of legal decisions.

Second, economics also draws attention to and sheds light on aspects of legal reasoning that are not readily explicable, perhaps not even visible, from the perspective of legal practitioners. The institutional forms of legal reasoning in adjudication, or dispute resolution more broadly, display regularities as well as unintended systemic consequences that require analysis: identification, measurement and explanation. Legal processes are also subject to evaluation in light of normative criteria external to them. From this perspective, economics provides tools for decision-makers to evaluate possible reforms. External economic analyses *of* legal reasoning are discussed in Sect. 3.3.

<sup>&</sup>lt;sup>1</sup>More recently, decision-theoretical models aiming at integrating preferences and reasons have been put forward (Dietrich and List 2013).

## 3.2 Economics in Legal Reasoning: From Wealth Maximization to Consequence-Based Adjudication

Orthodox law and economics scholars once argued vigorously that the common law displays an economic logic: judges should and in effect tend to decide cases such as to maximize social welfare or "wealth" (measured in terms of willingness to pay). "Wealth maximization" has been famously proposed as a positive and normative theory of common law adjudication by Richard Posner (1983, chapters 3 and 4). His proposal has been discussed extensively in both economic models and jurisprudential critique (Kornhauser 1980, 2018b, pp. 718–723).

In spite of impressive partial analyses (e.g. Posner 1972), wealth maximization is not a plausible *positive* theory of adjudication at the level of judicial reasoning or even judicial behavior. Economic efficiency does not generally find a place among acceptable justifications for judicial decisions. It may have a place in the motivations of judges, for example because of nineteenth-century *laissez-faire* ideologies, but there is no systematic evidence for this across times and jurisdictions. However, the positive theory does not hinge on either of these mechanisms. "The efficiency of legal rules might result from processes other than the reasoning of judges" (Kornhauser 2018b, p. 711). Starting with Rubin (1977) and Priest (1977), economists have suggested a range of explanatory theories that identify mechanisms for the evolution of judge-made law (case selection, incentives to litigate, etc.) and/or identify and measure the macroeconomic effects of common law adjudication.<sup>2</sup>

Wealth maximization as a *normative* theory of adjudication, in its simplest formulation, refers to the idea that judges should decide cases such as to maximize social welfare or efficiency. By Posner's own admission (1990, chapter 12, 2007a, pp. 11–12), the fierce jurisprudential and philosophical criticisms of his proposal (Symposium 1980; Dworkin 1980) led him to refine and confine his argument for wealth maximization.<sup>3</sup> Limited

<sup>&</sup>lt;sup>2</sup>Rubin (2007) provides a representative selection. As these positive theories do not assume that judges are motivated by, let alone argue in terms of, efficiency, and as they are not addressed to judges, they represent an external economic perspective on legal reasoning, to be discussed in Sect. 3.3.

<sup>&</sup>lt;sup>3</sup>Thus, he remarked that the proposal was made in his academic rather than judicial capacity, as "speculation rather than a blueprint for social action" (Posner 1983, p. vi), and acknowledged that "there is more to justice than efficiency" (Posner 2007b, p. 27). For the last 30 years, he has advocated a broader stance of "pragmatic adjudication" (Posner 1990,

versions of efficiency-based theories of adjudication have nonetheless been defended by moral and political philosophers (Coleman 1992; Farber 2000; Kraus 2002). And even if efficiency is not plausible as a norm for individual judges, it may be defensible as a systemic goal: "a requirement that courts announce efficient rules does not entail that judges should adopt an economic logic. Given the structure of adjudication, judges might better achieve efficiency by aiming at something else" (Kornhauser 2018b, p. 711).

The role of economics in legal reasoning goes well beyond wealth maximization. Analytically speaking, all goal-oriented (teleological) legal reasoning follows an economic logic: it is "virtually co-extensive with economic or rational choice reasoning. Teleological reasoning directs the agent, given her ends, to do the best she can. [...] A legal actor engaged in teleological reasoning must first identify her ends, then identify feasible policies that promote those ends, and finally choose the means that best promote those ends" (Kornhauser 2018a, pp. 400, 410). Teleological reasoning appears in law at all levels. Explicitly goal-oriented legislation has been on the rise in many jurisdictions (Westerman 2018). Consequence-based thinking is the bread and butter of cost—benefit analyses supporting administrative agency decisions. The main doctrinal gateway for economic arguments to enter adjudication is consequence-based arguments in legal interpretation.

The rest of this section will focus on consequence-based legal interpretation. It can be roughly characterized thus: if in deciding case C, the decision-maker finds that there is a relevant rule R which has more than one plausible interpretation (X, Y, Z, ...), the decision-maker is said to use a consequence-based argument if she/he justifies her/his decision for rule interpretation X (instead of rule interpretation Y or Z) with the argument that rule interpretation X will bring about consequences which are normatively superior to the consequences brought about by the alternative rule interpretations.

chapter 15) which assigns a limited role to economic arguments. Posner's version of pragmatic adjudication seems capable of encompassing the broadest possible set of considerations, including rule-consequentialist arguments for formalist decision-making in certain areas of law or ranks of the judicial hierarchy. A later round of foundational debates on normative law and economics, initiated by Kaplow and Shavell (2002), had little direct impact on theories of legal reasoning.

<sup>&</sup>lt;sup>4</sup>The rest of this section relies on and updates Cserne (2011).

While a judicial decision is mostly backward-looking in the sense of adjudicating about a set of facts that happened in the past, it is sometimes justified with reference to the future. When judges are authorized to base their decision on consequential considerations, they also have the duty to justify their decision with arguments related to the expected consequences of alternative rulings. As far as legal reasoning is concerned, consequences only matter to the extent that they are explicitly referred to in public justificatory arguments. In various jurisdictions, "prudential arguments" (Craswell 1993, p. 293), policy arguments (Bell 1995) or consequence-based reasoning (Teubner 1995) have been accepted in adjudication (Lieth 2007, Carbonell Bellolio 2011). Whether such reasoning can be recast as arguments from "subjective" legislative intention or from "objective" purpose, or falls under a different category of the canon depends on the acceptability and weight of those kinds of arguments in particular legal cultures, domains and disputes.

The notion of consequences needs to be specified. First, we may distinguish 'juridical' and 'behavioral' consequences (Rudden 1979, p. 194). Juridical consequences are internal to the legal system: the judge examines the logical implications of interpretation X or Y on other rules within the legal system, by inquiring "what sorts of conduct the rule would authorize or proscribe" (MacCormick 1983, p. 239). Behavioral consequences refer to "what human behavior the rule will induce or discourage" outside the legal system, in society at large (MacCormick 1983, p. 239).

We may further distinguish individual and systemic behavioral consequences. The first concern the parties involved in an individual case. For instance, judges often decide about the detention of a criminal suspect based on the likelihood that the suspect will escape or commit further crimes. A higher court may also realize that a broader or narrower construction of the doctrine of causation would have an impact on medical liability throughout the legal system and society, for example it may lead to "defensive medicine" or shortage in medical services (Cane 2000,

<sup>5</sup>While the consequences of a legal decision can be related to the decision in several ways, not all figure consequence-based reasoning. Courts, especially higher or constitutional courts, often take decisions with large-scale social consequences. This does not mean that judges are necessarily aware of these consequences or that, if they are, their decisions will be motivated by what they expect to result from their decision. Even if, as a matter of psychology, they are influenced by the expected consequences, they are not always willing or allowed to publicly refer to them as reasons for their decision.

p. 45). When judges consider the impact of their decision on the rules of civil liability, on similar tort cases in the future, or on the conduct of potential injurers and victims, *and* justify their decision with reference to such considerations, they are said to use general or systemic consequence-based arguments.

When judges refer to behavioral consequences, they make a more or less educated guess about how certain groups of legal subjects would change their behavior in response to a certain decision. In order to do this, they have to imagine and compare hypothetical scenarios under the assumption that individuals will change their behavior in a predictable way, in response to how the law would regulate their dealings. To deal with behavioral consequences, the decision-maker needs, first, information and a behavioral theory as to how the interpretation of the rule will induce behavioral changes, and, second, normative standards to compare states of the world that various decisions are expected to bring about.6 While judges often use nothing more than intuition and introspection in predicting behavioral consequences, there are good reasons for them to rely on systematic data and explicit theories. While not all consequencebased arguments are economic, a judicial argument based on an expected improvement in efficiency or social welfare is an argument based on behavioral consequences. In fact, typical arguments of law and economics are based on such consequences. Economics as a social science plays a role in predicting behavioral consequences. Welfare economics provides normative standards to evaluate those consequences. The so-called efficiency theory of the common law discussed above is par excellence a consequentialist position both in the sense that it requires judges to base their decisions on consequences, namely their effect on social welfare, and in the sense that it is usually backed by a consequentialist moral theory, namely wealth maximization.

Although economists do not carefully distinguish whether they consider contributing to moral or legal discourse, and Posner's theory of law is properly characterized as consequentialist in both senses (White and Patterson 1999, pp. 94–95), one should nonetheless distinguish consequentialism as a moral theory (Pettit 1991) and consequence-based

<sup>&</sup>lt;sup>6</sup>Obviously, evaluating interpretative choices based on juridical consequences also requires normative standards. On how to choose normative standards suggested in economics and/or to identify those implicit in legal reasoning, see Esposito and Tuzet (2019) and Esposito (2020).

arguments in legal reasoning. This distinction emphasizes the relative autonomy of legal reasoning. Logically speaking, consequence-based legal reasoning neither requires nor implies consequentialism as a substantive moral standpoint (Barnett 1989, p. 43). In particular instances, formalistic (backward-looking, rule-based) legal reasoning may lead to (morally or economically) better consequences overall than consequentialist adjudication.

Schematically, a consequence-based judicial decision (a teleological argument) can be represented as a three-step procedure of optimization under uncertainty: first, identify the relevant normative standard(s); second, measure the consequences of each possible decision in the dimensions indicated by the standard(s); third, weight and compare the possible decisions and choose the one with the overall best expected consequences (Table 3.1).

Ideally, a fully informed rational decision-maker can solve the problem of consequence-based decision-making in an optimal way.<sup>7</sup> Real-world judges run into serious difficulties at each step. First, the judge has to identify which consequences of her/his decision are relevant. Some of these effects are easy to identify or even quantify, at least in theory. Others are notoriously difficult to operationalize. For instance, when it comes to economic goals of specific doctrines or areas of law such as efficiency, welfare, cost minimization or market integration, even their identification is controversial.<sup>8</sup>

Second, the judge has to measure the impact of her/his decision in all dimensions identified and operationalized in step one. Here she/he faces severe information imperfections and fundamental uncertainty about

Step	Question to be answered by the decision-maker	Difficulties
1. Identification	Which consequences (effects) matter?	Operationalization
2. Measurement	What is the impact of the decision?	Information
3. Evaluation	Which decision has better consequences overall?	Trade-offs

**Table 3.1** Three steps of consequence-based reasoning

<sup>&</sup>lt;sup>7</sup>Here, we disregard complications of sequential and strategic decision-making—for these, as well as for a formal model of consequential reasoning, see Kornhauser (2018a).

<sup>&</sup>lt;sup>8</sup>On the identification of the goal of particular laws, with special reference to different conceptions of social welfare, see Esposito (2020).

certain relevant variables, including both facts and the causal mechanisms leading to facts. The unpredictability of potential consequences is a standard criticism of consequentialism as an ethical theory. Mutatis mutandis, it applies to legal reasoning as well. To apply this standard literally in a judicial choice between alternative rule interpretations would make the role impossible to fulfill. Even a perfectly conscientious Herculean judge, with unconstrained time and the best expertise, would have to face limits of information and foresight, at least because of the inherent uncertainty of the future. In most real-world settings, judges have a predominantly legal training and have limited access to expertise to undertake complex probability calculations or full-blown statistical analyses. The information required or admitted is limited by rules of evidence. Epistemic considerations compete with other criteria: "the law" as a practice cannot be suspended until the best theoretical solutions are found or all the relevant consequences of a decision are carefully examined. Hence, even available information may not be processed in a systematic and theoretically sound way.9

Third, when choosing between alternatives, the judge has to evaluate the overall consequences of possible decisions in light of relevant normative standards. If those consequences cannot be easily reduced to or measured in a single dimension, the assessment involves trade-offs. The expected consequences have to be evaluated and, whether or not this is called "balancing", value-laden trade-offs have to be made (Petersen 2017). This means that consequence-based decisions are not merely technical, neutral or "objective" in the sense of being merely factual.

As Kornhauser argued:

One common attack on teleological reasoning in law rests on its extreme difficulty. Determination of the consequences of a policy is extremely difficult. [...] One might circumvent the difficulty of predicting distant and complex consequences by adopting a different set of criteria against which to assess institutions or policies. One might, for example, adopt more procedural criteria against which to assess the policy or the institution. Or one might adopt criteria with shorter time horizons. [...] The challenges of teleological reasoning by legal agents do not argue for its abandonment. Legislation enacted without contemplation or concern for the consequences it engenders would be foolish indeed. (Kornhauser 2018a, pp. 409, 408, 410)

Let us briefly consider judicial decision-making in empirical terms. What is likely to happen if a real-world judge has a duty to assess the

<sup>&</sup>lt;sup>9</sup> Some of these issues are discussed in Hubková (2020).

general social consequences of their decision? Research suggests that in case of (radically) insufficient information, time and technical expertise, judicial decisions may still be teleological, and thus consequence-based. Instead of solving a full-blown stochastic optimization problem, decision-makers tend to rely on heuristics and "rules of thumb" (Gigerenzer and Engel 2006). Just as in nonjudicial contexts where "intuitive experts" make millions of complex decisions every day with tolerable results, judges adopt simple decision procedures and routines, and reduce complex decision-making problems into simple ones. For instance, when deciding on detention of criminal suspects (a context which seems to require at least some consequence-based thinking but limits the information and time available for such decisions), judges seem to consider a limited number of variables, and weight these in a simple, predictable way (Dhami 2003).

Most of these mechanisms operate subconsciously (billiard players do not solve complex equations to calculate what to do); thus agents cannot account for their role in their decisions. Yet knowing these heuristics allows observers to predict the decisions. Arguably, in those domains of life where agents are free to decide in unaccountable ways, this is unproblematic. In legal contexts, intuitive or heuristically driven decisions need to be justified with reasonable public arguments: adjudication remains in the domain of discursive rationality (as required by political and moral principles such as the rule of law). As such, the fact that judges tend to rely on heuristics does not relieve them from their role-based duty of justification. Importantly, empirical research also suggests that the duty of justification may improve decision quality in substantive terms (Engel 2004). In brief, representation norms matter.

Closer to our problem, if human decision-makers are authorized to base their reasoning on consequences but lack information and expertise, such a mandate could backfire. An across-the-board mandate for consequence-based reasoning is likely to bring about intuitive, speculative or subjective decisions, eventually disguised as objective and well-founded. Instead of calculative optimization, judges may enter into speculations about the behavioral consequences of their decisions without any serious reliance on empirical evidence. In view of this danger, one might reject consequence-based adjudication altogether and want judges to turn back to non-consequential criteria or "simple rules" (Epstein 1997). 10

<sup>&</sup>lt;sup>10</sup> As Cane (2000, p. 43) put it, "to the extent that sound empirical support is lacking for arguments about the likely impact of legal rules on human behaviour (i.e. we are ignorant

In fact, based on a combination of epistemic, prudential and moral considerations, economists, mainly in the Austrian and constitutional political economy traditions, argue for a (more) formalist adjudication. They emphasize the benefits of judicial restraint and rule-following in terms of certainty, predictability and, indirectly, economic prosperity; and in other formulations, as a mechanism to enforce individual rights grounded in autonomy (Buchanan 1974; Schwartzstein 1994; Portuese et al. 2018). Thus, epistemic considerations, intertwined with questions of transparency and legitimacy, suggest a limited role for consequentialism in adjudication and provide support for doctrines of judicial restraint. Yet even judges who are expected to reason formalistically are likely to rely on heuristics and fall prey to biases.

This section was concerned with how economics can contribute to legal reasoning from the internal perspective of a lawyer or judge. In order to be intelligible as legal, specifically judicial argument, economic analysis needs to be couched in the form that is acceptable as legally relevant. Whether economically informed adjudication is feasible and desirable in particular contexts will depend on both (1) the psychology of judicial decision-making (Klein and Mitchell 2010) and (2) the incentive effects of formal and informal rules that govern the legal process. The next section will discuss aspects of these incentive effects.

### 3.3 ECONOMICS OF LEGAL REASONING: EXPLAINING AND DESIGNING LEGAL PROCESSES

While the previous section looked at legal reasoning from a doctrinal perspective, the rules and customs governing legal reasoning can also be analyzed economically, either (1) as instruments for a notional benevolent designer to maximize certain goals (policy perspective) or (2) as variables that change as a result of interest group politics (political economy perspective) (Kornhauser 2017, section 1.3).

Adopting the policy perspective, law and economics scholars provide hypothetical/prudential normative arguments about the best means to achieve certain goals concerning the internal structure of law as institutional practice. Usually they do not question all layers and levels of this complex institutional practice in one step. Most economic analyses of the

about the likely behavioural consequences of legal rules), we need to develop criteria of good decision-making which do not depend upon knowledge of likely consequences".

legal process are partial in the sense that they take most features of the legal process as exogenously given and analyze the effect of changes in a few specific variables as explananda or policy targets. Step by step, the focus of the analysis may broaden, to explore more elements of the institutional context of adjudication. When a mechanism provides partial improvement in one respect, it may carry costs in others as an unintended consequence. Methodologically speaking, the most important contribution of economic analysis to legal reasoning is a systematic exploration of the trade-offs and unintended consequences of planned or actual reforms of procedural rules (Bix 2018, 2019). The analysis is either theoretical, in the form of analytical models, or increasingly empirical using the entire range of quantitative and qualitative methods. This section merely gives a flavor of the general approach and indicates a few themes in this increasingly specialized area.

In what has become the basic economic model of legal procedures, Posner (2007b, pp. 599–600) suggested that the objective of legal process is to minimize the sum of error costs and administrative costs. This simple model provides heuristic rationales for certain features of the legal system as well as generates a number of testable hypotheses.

Assume, for instance, that the expected cost of an accident is \$100; the potential injurer can prevent the accident at the cost of \$90 (the victim cannot prevent the accident); thus it is efficient to hold the injurer liable (we save \$10 of social cost of accidents). If the legal system makes an error in assigning liability in 15% of the cases, 11 then the potential injurer only faces \$85 of expected liability. This is less than his/her cost of avoidance; hence if the injurer is a rational cost-minimizer the accident will not be prevented. Assume, further, that we could reduce the error rate of the legal procedure from 15% to 10% at the cost of \$20 per accident. This would not be a cost-justified intervention as it would eliminate the error cost (10\$) at the expense of \$20.

What is the benefit of such a simple model for understanding the legal process? Even if most of these variables cannot be quantified, they allow qualitative comparisons of the expected benefits and costs of various procedural rules. These considerations also matter for institutional design: rationalization, criticism or reform. For instance, Posner (2007b, p. 600) suggests that it is cost-justified to notify the owner and hold a hearing

<sup>&</sup>lt;sup>11</sup> In this simple example, error means "false negatives", that is mistakenly not finding the injurer liable.

before towing and destroying an apparently abandoned car: the potential error cost is much higher than the cost of a hearing. In contrast, a "predeprivation hearing" is not efficient when towing away an illegally parked car: the potential loss is much lower (the car is not destroyed) and the notification would eliminate the deterrent effect of the threat of towing.

Explanatory analyses concerning the incentive effects of legal processes start with the following question. Assuming they cannot recur to brute force, why do rational individual or collective agents litigate and recur to legal processes? For instance, how does the victim of a breach of contract decide whether to sue the other party, settle the dispute or swallow the losses and continue to cooperate? And how do various rules of the legal process impact on this decision? If both parties can predict the court's decision, settling the case by bargaining in the shadow of the law allows them to save the costs of litigation. Yet, if parties have different perceptions of their chance to win (either because one or both are overoptimistic or have private information), this may reduce their willingness to settle. There may be further strategic considerations at play, for example the incentive to build a reputation of toughness and insistence on strict legal rights. Parties may also have preferences that do not coincide with their narrow self-interest or may not calculate rationally. Crucially, the litigation/settlement decision will depend on how the legal process, including the rules governing legal reasoning, is designed: who bears the costs of the process; what kind of evidence is allowed and how it is evaluated; what role are juries, experts (Posner 1999) and advocates (Dewatripont and Tirole 1999) allowed to play. These other actors are expected or "designed" to fulfill specific functions in the legal process while they also pursue their private interests within formal and informal constraints.

These and virtually all aspects of the legal process have been analyzed extensively in the law and economics literature. The literature is also rich in domain-specific analyses that focus on legal reasoning in areas such as constitutional reasoning (Posner 1987; Cooter and Gilbert 2019); statutory interpretation (Ferejohn and Weingast 1992; Cooter and Ginsburg 1996); precedents (Landes and Posner 1976); and contracts (Katz 2004; Posner 2005). As the "point", "purpose" or "function" of these areas differs, there are reasons to share the competence for forward-looking decisions between legislation (rule-setting) and adjudication (rule application) differently and

<sup>&</sup>lt;sup>12</sup> Starting with seminal articles by Landes (1971), Gould (1973) and Posner (1973). For a classic overview, see Cooter and Rubinfeld (1989); see also Tullock (1980).

thus the optimal balance between formalist and pragmatic or consequentialist adjudication is likely to depend on the particular context.

Fundamentally, economists raise questions about the rationale of courts—not in a metaphysical but in a functional sense of their contribution to social welfare. At the microeconomic level this concerns the rationale for public rather than private adjudication (Cooter 1983). At the macroeconomic level, courts are seen among the mechanisms for adopting society's institutional framework to welfare-relevant changes (Hadfield 2008; La Porta et al. 2008). This suggests an impact of courts following different conventions of legal reasoning on social welfare (or its dynamic proxies such as growth or innovation). One may ask, for instance, whether the adaptation occurs differently in legal cultures which give judges discretion to consider social consequences in a forward-looking manner and adapt legal norms or in those where the canon of acceptable arguments binds judges more closely to rule-based reasoning.

#### 3.4 Conclusion

Judicial reasoning is the paradigmatic case of legal reasoning and its jurisprudential analyses focus almost exclusively on adjudication. This overview followed suit and focused on economic considerations in and analyses of judicial interpretation of precedents and statutes.

As a sophisticated version of teleological reasoning, economics is a serious candidate to play a role *in* legal reasoning, providing (1) information about the likely consequences of alternative legal decisions, (2) instrumental arguments about the best means to achieve set goals, and (3) identifying desirable policy goals as background justifications for particular legal provisions, as part of purposive interpretation. This typically happens in contexts where statutes or legal precedents require or allow for "economic considerations" to motivate the decision or when standards of reasonableness require balancing competing principles and/or interests in broadly consequential terms.

Economic analyses of legal reasoning look at legal reasoning from an external perspective and either make explanatory contributions, for example by analyzing legal reasoning in public choice terms as a form of rational activity by legal officials, or address questions of institutional design of the following sort: what are the tasks that judges should be assigned to do, considering what they are able to do, given their motivations and systemand domain-specific constraints?

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