
Empirical arguments in public law doctrine: Should empirical legal studies make a “doctrinal turn”?

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While empirical arguments are potential game changers in American law, they only slowly gain traction in Germany. In this article, I wish to show the role empirical methods (can) play in public law scholarship. Specifically, I will discuss an underexposed area in the field of empirical legal studies, namely the interplay between empirics and doctrine, and the power of such arguments in the public law discourse. In the second part of the article, I will exemplify the merits, and the caveats, of “empiricizing” public law in such way, in a specific case (gambling law), showing how it can be used to prove wrong basic assumptions that are at the heart of long-standing doctrine. I suggest that empirical scholarship geared towards public law doctrine (as opposed to public policy), as it is currently emerging in Germany, can be a potentially influential addition to the menu of legal arguments, even beyond the German legal discourse.

1. Prevailing arguments in public law

It is a well-established fact that German legal scholarship typically focuses on *coherent meaning*, and thus on the *lex lata*, while American legal scholarship tends to zero in on the *good decision*, thereby being drawn to the *lex ferenda*.¹ This is even reflected

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¹ Kristoffel Grechenig & Martin Gelter, *The Transatlantic Divergence in Legal Thought: American Law and Economics vs. German Doctrinalism*, 31 HASTINGS INT'L & COMP. L. REV. 253 (2008). See also the rich exchange between Armin von Bogdandy, *The Past and Promise of Doctrinal Constructivism: A Strategy for Responding to the Challenges Facing Constitutional Scholarship in Europe*, 7 INT'L J. CONST. L. 364 (2009), Alexander Somek, *The Indelible Science of Law*, 7 INT'L J. CONST. L. 424, 435 (2009), and Robert C. Post, *Constitutional Scholarship in the United States*, 7 INT'L J. CONST. L. 416 (2009). Finally, cf. Or Bassok, *Showing Germans the Light*, INT'L J. CONST. L. BLOG (May 22, 2013), <http://www.iconnectblog.com/2013/05/showing-germans-the-light>.

in a divergent usage of the word “normative.” While German lawyers, in following the (somewhat descriptive) Latin undertone, simply use it to refer to prevailing legal norms, for Americans it evokes the notion of (somewhat prospective) value judgments, in line with the ubiquitous English meaning.² The methods for the scholarly interest in the construction of a coherent, smooth-running system of legal norms are to be found in the hermeneutics toolbox,³ while the behavioral perspectives of economics and psychology are apt to study decisions and their impact. Attentiveness to doctrine guides the former, interest in policy the latter. This also explains why certain of the *Grundlagenfächer* (literally “basic disciplines”)—such as philosophy and history—feature more prominently and more permanently in the German legal discourse (and, for that matter, in law school curricula, perpetuating such disciplinary focus) than others—such as economics or sociology: Philosophy is kindred in method, and history can make for a powerful argument in the interpretation of norms. Moreover, in the German tradition, law is not a professional qualification, but a self-sufficient academic discipline; students, practitioners, and scholars rarely hold a degree in another field. Their exposure to and propensity for other disciplines is usually marginal.

From a public lawyer’s perspective, there is a certain irony in this allocation of arguments to legal systems, in that there is a mismatch between the scholarship produced and its reception by the highest courts.⁴ While US academia provides distinctive legal scholarship deeply informed by social sciences, the Supreme Court—being rather reserved *vis-à-vis* scientific evidence more generally since *Daubert*—holds such scholarship to be of limited value for its work, claiming it was too far away from practice. Moreover, public law and constitutional doctrine seems to be understood as more of a political exercise that should engage the people, rather than a legal exercise that lawyers should be entrusted with.⁵ It is also claimed that the “interpretative community” creating the disciplinary constraints, was partly destroyed particularly in constitutional law by legal realism, and that the Supreme Court lost interest in the scrutiny of its professional community.⁶ The German Federal Constitutional Court, on the contrary, has been open towards legal scholarship generally, and towards scholarship informed by social sciences more particularly. In fact, the court time and again talked about the necessity of such more interdisciplinary scholarship, while the German legal academy is rather reluctant to follow up on this lead.⁷ However, the legal scholarship produced can also be seen as a reaction to where it is well received. The US courts traditionally do not have a high propensity to adopt arguments from academia, so

² This observation was voiced by Joseph Weiler during a 2012 *Hauser Colloquium* session at NYU. Interestingly, German economists use it with the meaning of the Anglo-American tradition.

³ Indeed, if you look into the classical textbooks on “legal methods,” all they talk about are hermeneutic methods and, at best, comparative legal studies; cf. KARL ENGISCH & THOMAS WÜRTEMBERGER, *EINFÜHRUNG IN DAS JURISTISCHE DENKEN* (9th ed. 1997); KARL LARENZ & CLAUD-WILHELM CANARIS, *METHODENLEHRE DER RECHTSWISSENSCHAFT* (3d ed. 1995).

⁴ I am grateful to Samuel Issacharoff for pointing out this irony to me.

⁵ Post, *supra* note 1.

⁶ For these statements and further details, see Bassok, *supra* note 1.

⁷ Cf. Bogdandy, *supra* note 1, 376 *et seq.*

scholarship turns to the legislature to exert its influence there; thus its focus on policy. Moreover, the restrictions on the design of public policy seem fewer, and it allows for broader, more fundamental institutional changes: if you devise a system, you do not need to fit your argument into an existing order. In Germany, starting with legal education being oriented towards training judges, courts and academia are close neighbors: academics, in focusing on hermeneutics and doctrine, work in a similar fashion as do judges, and the arguments they produce are readily received by courts.⁸ Legal scholarship-induced developments in doctrine can have substantial impact even if the screws turned seem small; and it is easier to convince a “colleague” to sanction a change in the legal doctrine with the subset of legal arguments than to move scores of members of Parliament drawing on a broader range of reasons to adapt the law.

At any rate, it seems quite natural that, under such different circumstances on the two shores of the Atlantic Ocean, the legal scholarship that emerges is quite different. This, of course, impacts the type of arguments that are prevalent in the different legal discourses.

2. Empirical arguments and public law

Traditionally, insights from social sciences—and especially from economics—have first been absorbed in private law. Law and economics (to which empirical legal studies have strong ties) had its early great moments in contracts and torts, and in explaining and justifying common law concepts; public law regulation in proximity of private lawyers (antitrust, corporate finance) was soon to follow.⁹ As Cooter and Ulen so wittily put it: “Like the rabbit in Australia, economics found a vacant niche in the ‘intellectual ecology’ of the law and rapidly filled it.”¹⁰ But social science arguments since also gained traction in the public law discourse. Public law is, to a large extent, about regulating norm addressees’ behavior. Thus, knowledge about human behavior is key to proper regulation. Public lawyers need to be experts for behavioral regulation through law. This is true for theory—and accounts for the success of law and economics, because its concept of *rational choice* provides a theoretically conclusive model of human behavior, and of its derivations such as public choice theory which can provide important specific insights for public law. Primarily theoretic models of the social sciences (mostly economics) were introduced to expand the set of (policy) arguments in public law. The “law of democracy”¹¹ and with it constitutional law¹²

⁸ *Id.* at 391.

⁹ Susan Rose-Ackerman, *The Economic Analysis of Public Law*, 1 EUR. J. L. & ECON. 53 (1994).

¹⁰ ROBERT COOTER & THOMAS ULEN, *LAW AND ECONOMICS* 3 (2012). Cf. Richard A. Posner, *The Present Situation in Legal Scholarship*, 90 YALE L.J. 1113 (1981).

¹¹ SAMUEL ISSACHAROFF ET AL., *THE LAW OF DEMOCRACY. LEGAL STRUCTURE OF THE POLITICAL PROCESS* (2012).

¹² Robert D. Cooter & Neil Siegel, *Collective Action Federalism: A General Theory of Article I, Section 8*, 63 STAN. L. REV. 115 (2010); Daryl J. Levinson & Richard H. Pildes, *Separation of Parties, Not Powers*, 119 HARV. L. REV. 2311 (2006); Richard H. Pildes & Elizabeth S. Anderson, *Slinging Arrows at Democracy: Social Choice Theory, Value Pluralism, and Democratic Politics*, 90 COLUM. L. REV. 2121 (1990).

and the political process¹³ were seen through this lens, as were environmental law¹⁴, administrative law,¹⁵ and public international law,¹⁶ to name just a few examples.

With theoretical models of the social sciences being used to make behaviorally sound public law arguments, the emergence of empirical arguments was just a matter of time. The predictions the theoretical models generate can be tested empirically, and with the law focusing on the decision of hard cases and real-life public policy have led to behavioral extensions of the model, drawing on insights from cognitive and social psychology. At the same time, the social sciences saw a surge of (quantitative) empirical scholarship that ultimately led to extensions of the classical behavioral model of the *homo oeconomicus*. These extensions—summarized under the broad umbrella term of “behavioral law and economics”—also opened up space for new models of legal regulation, most commonly referred to as “nudges.”¹⁷

2.1. Empirical arguments for policy design

In the US, with doctrinal constructivism being a tool “that self-respecting professors [in elite American law schools] would not waste much time with,”¹⁸ empirical arguments focus on policy. The prevalent approach in empirical legal studies,¹⁹ emanating from the US, therefore employs empirical methods chiefly to identify (social, psychological) distortions that the law should act upon,²⁰ prominently by “nudging”²¹ individuals; to use key findings from behavioral scholarship for institutional reform;²² to

¹³ Samuel Issacharoff & Richard H. Pildes, *Politics As Markets: Partisan Lockups of the Democratic Process*, 50 STAN. L. REV. 643 (1998); Samuel Issacharoff, *Democracy and Collective Decision Making*, 6 INT’L J. CONST. L. 231 (2008); Geoffrey P. Miller, *Public Choice at the Dawn of the Special Interest State: The Story of Butter and Margarine*, 77 CAL. L. REV. 83 (1989); Thomas Stratmann, *Can Special Interests Buy Congressional Votes? Evidence from Financial Services Legislation*, 45 J. L. & ECON. 345 (2002).

¹⁴ Richard L. Revesz, *Environmental Regulation, Cost-Benefit Analysis, and the Discounting of Human Lives*, 99 COLUM. L. REV. 941 (1999).

¹⁵ Susan Rose-Ackerman, *Progressive Law and Economics—And the New Administrative Law*, 98 YALE L.J. 341 (1988).

¹⁶ ANDREW T. GUZMÁN, *HOW INTERNATIONAL LAW WORKS. A RATIONAL CHOICE THEORY* (2008); Jack L. Goldsmith & Eric A. Posner, *A Theory of Customary International Law*, 66 U. CHI. L. REV. 1113 (1999); Niels Petersen, *How Rational is International Law?*, 20(4) EUR. J. INT’L L. 1247 (2009).

¹⁷ RICHARD H. THALER & CASS R. SUNSTEIN, *NUDGE. IMPROVING DECISIONS ABOUT HEALTH, WEALTH, AND HAPPINESS* (2008); Christine Jolls et al., *A Behavioral Approach to Law and Economics*, 50 STAN. L. REV. 1471 (1998).

¹⁸ Mattias Kumm, *On the Past and Future of European Constitutional Scholarship*, 7 INT’L J. CONST. L. 401, 410 (2009).

¹⁹ Christoph Engel, *Behavioral Law and Economics: Empirical Methods* (2013), Max Planck Institute for Research on Collective Goods, Preprint 2013/1, <http://ssrn.com/abstract=2207921>.

In the following footnotes, I will just give prototypical examples, without any specific selection criteria for any of the papers cited. There are notable exceptions (*cf.* Theodore Eisenberg, *Empirical Methods and the Law*, 95 J. AM. STATISTICAL ASS’N 665 (2000)), but by and large this classification holds.

²⁰ Jolls et al., *supra* note 17; Cass R. Sunstein & Richard H. Thaler, *Libertarian Paternalism Is Not an Oxymoron*, 70 U. CHI. L. REV. 1159 (2003); *cf.* Eric J. Johnson & Daniel Goldstein, *Do Defaults Save Lives?*, 302 SCIENCE 1338 (2003); Wolfgang Leininger, *The Fatal Vote: Berlin versus Bonn*, 50 FINANZARCHIV 1 (1993).

²¹ *Cf.* THALER & SUNSTEIN, *supra* note 17.

²² Birte Englich & Thomas Mussweiler, *Sentencing Under Uncertainty: Anchoring Effects in the Courtroom*, 31 J. APPLIED SOC. PSYCHOL. 1535 (2001); Jeffrey J. Rachlinski et al., *The Hidden “Judiciary”: An Empirical Examination of Executive Branch Justice*, 58 DUKE L.J. 1477 (2009); Marilyn Young et al., *The Political*

measure and evaluate the impact of legal norms, often with a view to alternatives;²³ and to understand and adequately describe legal developments and law (or norm addressees, lawyers, judges²⁴) as a social phenomenon.²⁵ In fact, if you go through the schedule of the 2012 Conference on Empirical Legal Studies, the overwhelming majority of papers presented follow one of the aforementioned agendas. To synopsise, empirical legal studies today concentrates on *how the law should be* (given the effects current law or the lack of regulation has), and to a lesser extent on *why it is the way it is*. Empirical legal studies thus follow the general prevalence of policy arguments in the US legal discourse, mainly addressing policy arguments to the lawmaker.

2.2. Empirical arguments for doctrine

By contrast, Empirical legal studies are a relatively recent phenomenon in German legal scholarship.²⁶ The reason why the legal academy here adopts empirical legal studies (and other social science methods) hesitantly is straightforward, given what we have seen regarding the focus of traditional German legal scholarship. It is a consequence of its emphasis on the coherence of the law, on doctrine, rather than on policy, while at the same time current empirical scholarship has a strong policy-orientation.²⁷

To put it differently, policy arguments traditionally are not worth a whole lot in Germany (and, for that matter, in many Roman law oriented civil law jurisdictions).²⁸ They are often suspected of arbitrariness and concealed subjective ideology—which is one of the reasons for the strong urge for empirical foundations of these arguments

Economy of the IRS, 13 *ECON. & POL.* 201 (2001); Bruno S. Frey & Felix Oberholzer-Gee, *Fair Siting Procedures: An Empirical Analysis of Their Importance and Characteristics*, 15 *J. POL'Y ANALYSIS & MGMT* 353 (1996).

²³ Jennifer Arlen, *Contracting over Liability: Medical Malpractice and the Cost of Choice*, 158 *U. PA. L. REV.* 957 (2010); Christoph Engel & Michael Kurschilgen, *Fairness Ex Ante and Ex Post: Experimentally Testing Ex Post Judicial Intervention into Blockbuster Deals*, 8 *J. EMPIRICAL LEGAL STUD.* 682 (2011); Adam Forest & Steven M. Sheffrin, *Complexity and Compliance: An Empirical Investigation*, 55 *NAT. TAX J.* 75 (2002).

²⁴ Andreas Glöckner et al., *Development of Legal Expertise*, 41(6) *INSTR. SCI.* 989 (2013); Chris Guthrie et al., *Blinking on the Bench: How Judges Decide Cases*, 93 *CORNELL L. REV.* 1 (2007); Christoph Hönnige, *The Electoral Connection. How the Pivotal Judge Affects Oppositional Success at European Constitutional Courts*, 32 *W. EUR. POL.* 963 (2009); JÖRN LÜDEMANN, *EDUKATORISCHES STAATSHANDELN. STEUERUNGSTHEORIE UND VERFASSUNGSRECHT AM BEISPIEL DER STAATLICHEN FÖRDERUNG VON ABFALLMORAL* (2004); RICHARD A. POSNER, *HOW JUDGES THINK* (2008); Jeffrey J. Rachlinski et al., *Does Unconscious Racial Bias Affect Trial Judges?*, 84 *N.D. L. REV.* 1195 (2009); Emanuel V. Towfigh, *Komplexität und Normenklarheit—oder: Gesetze sind für Juristen gemacht*, 48 *STAAT* 29 (2009).

²⁵ Christoph Engel, *Learning the Law*, 4 *J. INST. ECON.* 275 (2008); Martin Beckenkamp et al., *Beware of Broken Windows! First Impressions in Public-Good Experiment* (2009), Max Planck Institute for Research on Collective Goods, Preprint 2009/21, <http://ssrn.com/abstract=1432393>.

²⁶ There are notable exceptions, namely in three niches in which legal scholars are active: In criminology, public administration, and *Rechtstatsachenforschung* (a special flavor of socio-legal studies), there is a long-standing tradition of empirical scholarship even in Germany. For details, cf. ANNE VAN AAKEN, "RATIONAL CHOICE" IN DER RECHTSWISSENSCHAFT. ZUM STELLENWERT DER ÖKONOMISCHEN THEORIE IM RECHT 125 (2003).

²⁷ Cf. Grechenig & Gelter, *The Transatlantic Divergence in Legal Thought: American Law and Economics vs. German Doctrinalism*, 31 *HASTINGS INT'L & COMP. L. REV.* 253 (2008); Bogdandy, *supra* note 1.

²⁸ Cf. HORST EIDENMÜLLER, *EFFIZIENZ ALS RECHTSPRINZIP. MÖGLICHKEITEN UND GRENZEN DER ÖKONOMISCHEN ANALYSE DES RECHTS* 438 *et seq.* (Mohr Siebeck, 3d ed. 2005); see also Somek, *supra* note 1.

in the American discourse. The German discourse requires you to establish the relevance of your findings for mainstream legal arguments, i.e., primarily for doctrine. Doctrinal arguments are addressed to, and used by, the courts, administration, and attorneys.²⁹ The question asked is: *What is the law?* Given this paramount question, why should the expertise of other disciplines matter? In the *application* of the law, for factual questions, we may require expert opinions. And while we can understand that an economist can devise a good regulatory cap-and-trade policy to reduce carbon dioxide emissions, or that psychological research may bring valuable insight on an appropriate consumer protection framework to the table, why should any of these have a say in the *interpretation* of the applicable law? What is more, would we not come close to falling victim to the naturalistic fallacy if we incorporated insights from social sciences, from the realm of reality, in the law, seated in the realm of ideas?³⁰ Because of this understanding of the law, the framework for input from other disciplines is a matter of avid and serious academic attention, particularly in public law.³¹ A number of dissertations specifically discuss this question,³² and the German textbook on economic methods in law begins with a description of the place of social sciences in legal scholarship.³³

The argument that doctrine is self-sufficient and cannot be open to empirical insight does not hold, for a number of reasons. Legal concepts are inherently ill-defined,³⁴ which makes law, by definition, an exercise in hermeneutics (as every doctrinally working lawyer will agree). There is always an insurmountable ambiguity in the law. To disambiguate law, to choose a proper interpretation of the law, we have to employ reason guided by rigorous method, so that it is generally (i.e., inter-subjectively) acceptable. Of course, the boundaries of “acceptable” arguments and methods are set by the scholarly discourse in the epistemic community of lawyers. But if the produced arguments speak to the law, answer questions of legal scholarship, in a methodologically rigorous manner, then that discourse cannot shun an empirical argument. Moreover, the normative models used in law—unlike mathematical models—are not exclusively ideal constructs, they are, on the contrary, contingent on factual assumptions about reality. We accept this readily in the *application* of the law (e.g., when we

²⁹ Cf. Bogdandy, *supra* note 1, and Somek, *supra* note 1.

³⁰ Cf. Niels Petersen, *Avoiding the Common-Wisdom Fallacy: The Role of Social Sciences in Constitutional Adjudication*, 11 INT’L J. CONST. L. 294, 296 (2013).

³¹ Armin von Bogdandy, *National Legal Scholarship in the European Legal Area—A Manifesto*, 10 INT’L J. CONST. L. 614 (2012); CHRISTOPH ENGEL, *LEGAL EXPERIMENTS: MISSION IMPOSSIBLE?* (2013); Gregor Kirchhof & Stefan Magen, *Dogmatik: Rechtliche Notwendigkeit und Grundlage fächerübergreifenden Dialogs—eine systematisierende Übersicht*, in *WAS WEISS DOGMATIK?* 151 (Gregor Kirchhof et al. eds., 2012); Oliver Lepsius, *Sozialwissenschaften im Verfassungsrecht—Amerika als Vorbild?*, 60 JURISTENZEITUNG 1 (2005); Oliver Lepsius, *Kritik der Dogmatik*, in *WAS WEISS DOGMATIK?*, 39.

³² VAN AAKEN, *supra* note 26; GUNNAR JANSON, *ÖKONOMISCHE THEORIE IM RECHT. ANWENDBARKEIT UND ERKENNTNISWERT IM ALLGEMEINEN UND AM BEISPIEL DES ARBEITSRECHTS* (2004); KLAUS MATHIS, *EFFICIENCY INSTEAD OF JUSTICE? SEARCHING FOR THE PHILOSOPHICAL FOUNDATIONS OF THE ECONOMIC ANALYSIS OF LAW* (2009).

³³ Niels Petersen & Emanuel V. Towfigh, *Ökonomik in der Rechtswissenschaft*, in *ÖKONOMISCHE METHODEN IM RECHT* (Emanuel V. Towfigh & Niels Petersen eds., 2010).

³⁴ It is interesting to note the different conclusions German and US lawyers have typically drawn from the indeterminacy of law. *see* Bassock, *supra* note 1.

hear expert witnesses about legal *prerequisites*), but even statutes are based on (often implicit) factual assumptions. This is especially true when the law has a clear regulatory goal, and its interpretation is supposed to help apply the law in such way that the regulatory goal is best achieved. In these cases, having an empirical understanding of human behavior can be of benefit for the impact of the law.

Against this backdrop, there appear to be three major ways for public law doctrine to receive and absorb injections of empirical knowledge. First, empirical insights can be used to (in)validate normative concepts based on (factual, often behavioral) assumptions. Second, when the hermeneutic exercise leaves us with an indeterminate concept, empirical knowledge may provide arguments to help offer a proper interpretation. Third, we may use empirical analyses of legal writing to actually *determine* what doctrine is. We will briefly go through these three modes of making use of empirical scholarship for public law doctrine.

(a) *Empirically validating normative concepts*

Empirics can be conceptualized as tests for the normative models employed by the law, much in the way the “behavioral” approach in economics scrutinizes economic models of behavior. An example may best illustrate this point, so let me briefly anticipate one aspect of the gambling study that will be presented in greater detail later on. Gambling is regulated (i.e., largely prohibited) by law because of certain dangers the legislature associates with this pastime. But what constitutes a gamble? Legal doctrine had to develop an interpretation of this concept. It came up with the distinction between “games of chance” and “games of skill” (that is common in US federal and state law as it is in German law and in many other jurisdictions), thus excluding skill games from the definition of gambling, effectively permitting such games. As gambling regulation aims at preventing certain kinds of “danger,” this distinction ultimately hinges on the factual assumption that games of skill are less dangerous (in this specific sense of danger) than games of chance. Now while *defining* “dangerous” includes a normative valuation, actually determining that something *is* dangerous (games of chance) or *is not* dangerous (games of skill) in the sense of the legal conceptualization is an empirical statement. But it is not an *individual* factual statement subsumed in a specific case in court; it is an *abstract* factual statement, generalized and “normalized” for a large number of cases: It is doctrine based on an empirical assumption. This assumption can be tested. The result of the test can suggest modifying doctrine.

(b) *Determining indeterminate legal concepts*

Moreover, there is ample space for empirics in doctrine when hermeneutic methods cannot sufficiently determine the meaning of the law.³⁵ Of course, empirical insight will not be able to fully determine indeterminate concepts either, but on the

³⁵ Petersen, *supra* note 30, 304 *et seq.* If you deem comparative law a law-specific addition to hermeneutics, this even adds additional room; see Peter Häberle, *Grundrechtsgeltung und Grundrechtsinterpretation im Verfassungsstaat. Zugleich zur Rechtsvergleichung als “fünfter” Auslegungsmethode*, 44 JURISTENZEITUNG 913, 916 *et seq.* (1989).

“determinate \Leftrightarrow indeterminate” continuum it may help us move towards a better, more determinate understanding. It has been shown that instances of such situations can be observed when we engage in teleological interpretation, when balancing in constitutional law (and I would contend: not only in constitutional law), or when (judicially) concretizing margins of appreciation (for here the effects of the decision are of special importance).³⁶ One may add resembling concepts such as comprehensive clauses, equitable discretion of courts or administration, and the principle of proportionality. You get the idea: whenever the law opens space for some sort of discretion or expediency, whenever it refers to knowledge it cannot itself provide, whenever hermeneutics cannot convincingly guide the law’s proper interpretation, a social science argument cognizant of the structure of the law can provide an intersubjectively acceptable judgment, i.e., give more sound reason than subjective ideology.

(c) *Pinpointing doctrine*

Finally, we may want to determine what actually is prevailing doctrine. Legal commentaries and textbooks may claim that a certain interpretation of the law is prevailing, or they may systematize court cases and come up with categories that explain the application of a norm in different situations. These assessments are usually based on the author’s experience and knowledge of the field, on a careful selection and reading of (the important) cases. In some cases, however, we may find that such approach is insufficient, for example if there is no established doctrine that has developed and solidified over an extended period of time. In such situations, an empirical evaluation of all court cases decided regarding a specific legal question can add insight and help clarify what at least the majority of courts and judges hold to be doctrine, as revealed by the decisions they hand down.³⁷

2.3. Linking empirics and public law doctrine

How do we respond to the necessity of empirical knowledge in the aforementioned situations? Customarily, lawyers tend to make implicit or explicit assumptions about reality themselves, without recourse to scrutinized empirical methods.³⁸ This is due to the fact that most lawyers do not have a formal statistical or econometrical training. Therefore, we contend ourselves with checking the “plausibility.” Sometimes we tend to refer to anecdotal evidence, failing to recognize, as the saying goes, that the plural of

³⁶ Niels Petersen, *Braucht die Rechtswissenschaft eine empirische Wende?*, 49 STAAT 435 (2010); see also Christoph Engel, *Verhaltenswissenschaftliche Analyse: eine Gebrauchsanweisung für Juristen*, in RECHT UND VERHALTEN 363, 379 *et seq.* (Christoph Engel et al. eds., 2007).

³⁷ See, e.g., Eisenberg, *supra* note 19, 667 *et seq.*; Theodore Eisenberg et al., *When Courts Determine Fees in a System With a Loser Pays Norm: Fee Award Denials to Winning Plaintiffs and Defendants*, Cornell Law School Legal Studies Research Paper Series, Jan. 30, 2013, <http://ssrn.com/abstract=2205765>; Christoph Engel, *Aufgaben*, in LEITGEDANKEN DES RECHTS. PAUL KIRCHHOF ZUM 70. GEBURTSTAG 57 (Hanno Kube et al. eds., 2013).

³⁸ HANJO HAMANN, EVIDENZBASIERTE JURISPRUDENZ. METHODEN EMPIRISCHER FORSCHUNG UND IHR ERKENNTNISWERT FÜR DAS RECHT AM BEISPIEL DES GESELLSCHAFTSRECHTS §§ 1.A.II, 2.A.I.1 (forthcoming Aug. 2014), however, shows that under certain circumstances there may even be merit in experience based on anecdotal evidence.

anecdote is not data. Such lowbrow clumsiness threatens the validity of our findings. It “sounds plausible” to assume that I have control in a game depending on my individual skill, while a mere gamble activates irrational behavioral patterns that can be “dangerous” in terms of addiction. But it also sounds plausible to assume that games of chance are not dangerous at all because, after all, I know it only depends on luck, a factor beyond my control. When you read about the empirical results of our study, you are likely to say: “I’ve known it all along, that’s obvious!”—an effect called “hindsight bias” in psychology and “common wisdom fallacy”³⁹ in the legal literature, and brilliantly described in a recent book titled “Everything is obvious—once you know the answer.”⁴⁰ But this does not discharge us from either importing from other disciplines or generating the empirical evidence that is needed to make our doctrine sound and solid. “Doctrine” is the expert knowledge lawyers generate. It may depend on empirical facts. To be able to integrate empirical knowledge into such legal expertise, forming a distinctively legal perspective,⁴¹ empirical evidence must satisfy three conditions: (1) the definition of the measured variables and their operationalization must follow the normative decision of the law;⁴² (2) the results have to be valid in the sense that they must be generalizable to the legal context. The definition and operationalization requirements affect the formulation of the research question; therefore (3) the specific research design, methods and statistics employed to generate the empirical results have to stand the tests of validity.

(a) *Definition of legal concepts*

First, we have to make sure that the adopted empirical results rely on the definition of the relevant concept as mandated by the law. This can be intricate, as oftentimes the social sciences and even the methods applied have implicit normative assumptions that need to be in line with the law’s normative assumptions. If “dangerous” in gambling law is meant to capture whether a game is addictive, an empirical study based on the risk of cardiac failure due to the stress induced by the game cannot be introduced into doctrine.⁴³ Austrian legal scholarship speaks of “watergate terms” (*Schleusenbegriffe*⁴⁴) that necessitate empirical imports but ultimately remain legal

³⁹ Petersen, *supra* note 30, 307 *et seq.*

⁴⁰ DUNCAN J. WATTS, *EVERYTHING IS OBVIOUS—ONCE YOU KNOW THE ANSWER. HOW COMMON SENSE FAILS US* (2012); Paul F. Lazarsfeld, *The American Solidier—An Expository Review*, 13 *PUB. OPINION Q.* 377, 380 (1949): “Obviously something is wrong with the entire argument of ‘obviousness’.”

⁴¹ Kumm, *supra* note 18, 408 *et seq.*

⁴² For details on dealing with “hidden” normative assumptions, see Engel, *supra* note 36, 387 *et seq.*

⁴³ If cardiac failures were indeed significantly higher among gamblers, this might give rise to an argument calling for regulation not for the “original” teleological reason (addiction) but for this new one. In the terms employed in this article, we would label this a “policy” argument. However, the lines between policy and doctrine, admittedly, are often blurred, and it seems conceivable that such argument would be used by courts in determining the proper “interpretation” of the law, thereby replacing its original *telós*. Whether this is admissible is not only a matter of theory and method, it also depends on the design of the legal order and on context (such as the explicitness of the lawmaker in formulating the legislative goal).

⁴⁴ I am grateful to Claudia Fuchs for pointing out this fitting Austrian notion to me.

concepts; the “social science argument does not trump the legal norm.”⁴⁵ In other words, the definitions of the concepts to be empirically measured must come from the law and follow normative value judgments. In this limited sense, and without devaluating the other disciplines,⁴⁶ there is a hierarchy between the law (in the form it has found through doctrine) and social science methods.

(b) Operationalization of legal concepts

Second, we have to validate the operationalization of this concept. How do we measure addictiveness? Often, we cannot directly measure the concept, and the operationalization—both of the dependent and of independent variables—is contingent on judgments calls, too; these valuations again have to be guided by the law.⁴⁷ The operationalization may, in turn, impact the methods we (can) use. Especially quantitative empirical methods (statistics) often have strict assumptions that need to be met in order to produce valid results. If the law conceptualizes a term in a particular way, this may require a certain way of operationalizing the variable. This can make the empirical measurement of the variable more difficult, and it may prevent the application of certain statistical tests. However, it is precisely this “prerogative of the law” that renders empirical studies into empirical *legal* studies.

(c) Validity of empirical results for legal concepts

Third, the empirical results have to be valid for the specific legal and doctrinal context. This poses some caveats to the use of empirical scholarship in doctrine, both on the side of doctrine and on the side of empirics. Doctrine structures and prepares decisions, while the social sciences help us describe, understand, and explain effects. When deciding, at times you will have to deal with arguments even if you cannot fully determine their empirical validity because the underlying processes are not (yet) well understood. Empirical evidence may also be inconclusive, and still lawyers have to decide cases to the best of their knowledge.⁴⁸ Moreover, once an empirical argument is introduced into doctrine, it tends to assume an independent existence and lose its connection to the methods that helped to make it in the first place; as mentioned earlier, it is important always to bear in mind the (again, often implicit) normative assumptions of the social sciences when dealing with empirical findings in the law. Lawyers must also ward the temptation to consider empirical “knowledge” as axiomatic (or incontrovertible).

On the empirical side of the aisle, we have to ascertain the validity of the results *vis-à-vis* our legal research question. Once we have measured our empirical effect, we can derive practical implications and draw conclusions from them; these conclusions,

⁴⁵ Petersen, *supra* note 30, 298.

⁴⁶ Cf. Kumm, *supra* note 18, 410.

⁴⁷ Petersen, *supra* note 36, offers the example of “democracy”: First, we have to define what we require to qualify a system of governance as “democratic” (human rights, free speech, freedom of press?); second, we have to decide how to measure each criterion.

⁴⁸ For strategies constitutional courts may apply when empirical evidence is inconclusive, *cf. id.* at 311.

however, have limits—limits we refer to as “validity.” Our conclusions are valid if we can argue that the effect found in the collected data follows some sort of general regularity. Traditionally, validity is assessed in three categories: internally, statistically, and externally.

Internal validity refers to the coherence of our empirical result; it lacks if we have not applied strict methodological scrutiny. For example, this may be the case if there is noise in the data that is correlated with both the dependent and the independent variable, without further statistical control, or if the sample was not drawn randomly from the population.⁴⁹ Problems of internal validity can occur due to a flawed empirical design or due to practical problems (e.g., it may be impossible to observe or measure certain factors of systematical noise). Basically, a lack of internal validity voids the empirical results. Statistical validity is established if we can assume with a sufficiently high probability that our results are not based on chance, but that they are rather driven by a general regularity in the data. If the observed effect is statistically significant, we also assume that the results are statistically valid. To ascertain the validity of our empirical results before implementing important changes in policy or doctrine, it seems advisable to replicate the data in another setup.⁵⁰ Even if the statistical probability is low by definition, we do not want to risk implementing changes based on arbitrary empirical findings. Internal and statistical validity are common requirements in any empirical endeavor, and in my view there are no aspects specific to the law that would add weight to these types of validity.

This is different when we talk about external validity. External validity refers to the generalizability of the results beyond the situation in which the data was collected. Does the general regularity we have observed in the data extend to other contexts? It will often be limited to special contexts, situations or groups of people. For example, a sample can only render externally valid results for the population it was drawn from. An experiment with male German blue-collar workers can (only) be generalized to this group (if a sufficiently large sample was drawn randomly from that population), and probably not to female Chinese entrepreneurs.⁵¹ In law, many of the effects we see actually depend on context, for example, on a certain framing of the situation; stripping it off too radically to generate a testable hypothesis may actually suppress what really matters. In other words, when empirics and doctrine meet, external validity is even more intricate. In the legal context we have to ask ourselves whether our research design features all important characteristics of the situation relevant under the law. There is also a strong connection

⁴⁹ Therefore, internal validity is one of the strong reasons to actually conduct experiments as opposed to field studies.

⁵⁰ Replications and meta-analyses are important contributions to assure robust results. This even more so as it is established that there is a “publication bias” which means that journals systematically prefer the publication of contributions reporting observed effects over research that leads to null-results. Using a conventional significance level of 95%, this could lead to the one out of 20 papers being published where the effect can be shown but is actually a random effect that will occur with a probability of 5% (1:20). Cf. seminal P. J. Easterbrook et al., *Publication Bias in Clinical Research*, 337 LANCET 867 (1991).

⁵¹ Unless it is a general human factor we are observing, which we can show by replicating the results with samples drawn from different populations.

between the proper definition of concepts (and variables) and their operationalization within the boundaries set by the law and the external validity of our results. Obviously, external validity is the main argument to contest empirical data in the law, and so a focus has to be laid on assuring the generalizability of empirical findings.

2.4. Interdisciplinarity and the comparative advantage of lawyers in this exercise

This superstructure thus clears the view for a strand of empirical legal studies that has thus far been largely neglected: empirics geared at public law doctrine may form a promising additional pillar of empirical legal research.⁵² But an important question remains: Is this a disciplinary or an interdisciplinary endeavor, or to put it more bluntly—who should embark on such journey? Should we lawyers simply adopt findings from other disciplines (e.g., economics or social psychology), should we outsource the generation of replies to empirical questions in the law to social scientists, or should we rather engage in such cumbersome endeavors ourselves?⁵³

It seems to me that generating empirical evidence for use in public law doctrine is both a disciplinary and an interdisciplinary exercise. It is disciplinary, for we ask questions that are relevant for the law, and we speak to (and wish to convince) lawyers—whether they reside in wood-paneled courtrooms, in stately old piles of administration, in the venerable halls of legislature or in awe-inspiring academic libraries. Only for them a doctrinal argument is meaningful. If we focus on the research question, we thus clearly find to be involved in a disciplinary endeavor. At the same time, it is an interdisciplinary exercise to the extent that the methods employed are (currently) relatively new to lawyers, and only few are capable of actually handling empirical methods on a level that is comparable to the general level achieved in the more advanced neighboring disciplines. With view to the methods that we import and use we will thus have to concede that they are interdisciplinary.⁵⁴

This view gives us leeway to answer the “who?”-question pragmatically. Of course we can adopt non-law scholarship, provided that we can assure that the implicit normative assumptions and valuations that underlie the research are in line with the valuations of the law. There are three law specific elements (definition, operationalization, and validity) that the design of an empirical study must satisfy so that we can employ it in responding to questions of legal scholarship; and this applies to any empirical research, whether conducted by researchers of other disciplines or from

⁵² Cf. HAMANN, *SUPRA* NOTE 38, §§ 1.D.I, 3.B.I, and 4.E.II.

⁵³ With view to different strategies of courts in dealing with social science evidence, see Petersen, *supra* note 30.

⁵⁴ Reading Kumm, *supra* note 18, to prepare this text, I came to wonder whether this does not in some sense represent a very European approach in that it is “an attempt to integrate the formal/conceptual with the empirical and moral in some way so as to define a distinctly legal perspective” (*id.* at 408). At any rate, this description superbly summarizes the program I wish to advocate in this contribution. See also *id.* at 410 *et seq.* for the great value of seeing law as the subject matter of other disciplines.

I would disagree with Bassok, *supra* note 1, if his contribution is meant to claim that *only* doctrine can be considered a legal method (*id.* last paragraph).

the legal academy. If these are satisfied, then we can incorporate this research into a doctrinal argument. The thinner the normative valuations by the law, the greater the scope of possible empirical arguments.

There are, however, two reasons why (at least some) lawyers working on doctrine should equip themselves with the appropriate methods to be able to produce methodologically strictly scrutinized responses to fundamentally legal, empirical quests. First, even to import non-law empirical scholarship we need to understand the questions, designs, methods and results of empirical social sciences. We at least have to understand enough to be able to tell whether the three aforementioned criteria are satisfied so that we can utilize and benefit from empirical findings of other disciplines. Second, my observation is that other disciplines rarely provide the precise empirical information lawyers need in doctrine, and for good reasons: they follow a different set of research questions, and they lack the intimate knowledge of the law.⁵⁵ Lawyers in this respect have a comparative advantage on their home turf. Some phenomena may even require an advancement of methods, a specific modification to suit legal scholarship's needs. But this seems like a worthwhile endeavor, as doctrine is a distillate of abstractions from specific decisions, so we can assume that we are indeed examining a relevant phenomenon, that its parameters and robustness are established.

In the specific example that will follow now to illustrate the points I have made thus far, the “law experiment” was conducted collaboratively by a (German) public law lawyer and a cognitive psychologist. We wrote the results up in two distinct publications: one addressed at the legal community and going into the details of doctrine, focusing on a discussion of the consequences of the law;⁵⁶ and a (more technical) companion paper mainly addressing the community of psychologists, focusing on establishing the cognitive effect in a special context.⁵⁷

3. Empirically challenging gambling law doctrine

In this section, I will give an example for an empirical analysis of legal norms in such a way that long-standing legal doctrine can be evaluated (and ultimately rejected), with high external validity, while maintaining strict methodological scrutiny. I thus propose

⁵⁵ Cf. Engel, *supra* note 36.

⁵⁶ Andreas Glöckner & Emanuel V. Towfigh, *Geschicktes Glücksspiel. Die Sportwette als Grenzfall des Glücksspielrechts*, 65 JURISTENZEITUNG 1027 (2010). In this paper we report the design and the empirical findings verbally, giving a synoptic view of the statistics, and referring to the more technical, “psychological” paper for further details. It is this paper that was quoted by the Austrian Constitutional Court in a recent decision (VfGH 26/2013 of June 27, 2013, at 25, ¶ 54), not the more technical companion paper. See Emanuel V. Towfigh et al., *Dangerous Games. The Psychological Case for Regulating Gambling*, 8(1) CHARLESTON L. REV. 147 (2013) (joint with Rene M. Reid, a US-trained lawyer who incorporated our findings into US doctrine).

⁵⁷ Emanuel V. Towfigh & Andreas Glöckner, *Game Over. Empirical Support for Soccer Bets Regulation*, 17 PSYCHOL. PUB. POL'Y & L. 475 (2011). In this paper we give a detailed overview over the literature regarding the behavioral effects we study. We describe in great detail the design and experimental setup and discuss the statistics employed. As the journal is also interested in public policy and legal matters, the article also includes some remarks on the legal implications of our results.

introducing a methodology that may be called “law experiment” in a narrow sense, and that can be distinguished from experiments in the fields of economics or psychology.⁵⁸ At the same time, psychological benchmarks are used where the law makes factual assumptions that are beyond its own (normative) scope. I propose that this type of design may provide a good paradigm for experimental (and, more generally, empirical) research in law.⁵⁹

3.1. Reasons for regulation: teleology

Gambling law is currently a much-debated topic in Germany. New regulatory models are being discussed, not least because the Court of Justice of the European Union (CJEU) declared the sports betting monopoly of the federal *Länder* as unlawful with regard to EU law. The Federal Constitutional Court (BVerfG) has, time and again, voiced serious reservations, too.

German gambling law has two main purposes, among a few others:⁶⁰

- the fight against pathological gambling⁶¹ (i.e., protection against addiction),
- and, in a somewhat paternalistic vein reminiscent of consumer protection,⁶² the protection from game organizers exploiting cognitive effects that may lead to irrational behavior.⁶³

⁵⁸ We had the privilege of presenting an earlier version of this experiment to the late *Elinor Ostrom*; in the discussion, she strongly emphasized that this was a “new type” of experiment, and she coined the phrase “law experiment.” See also ENGEL, *supra* note 31.

⁵⁹ This section uses material from Towfigh & Glöckner, *supra* note 57. For more detail and statistical tests, see that publication. For a German version, with more detail on doctrine and ample references to the German discourse, see Glöckner & Towfigh, *supra* note 56.

⁶⁰ Further goals of regulation are the protection of players and of juveniles, as well as the creation of extensive and intensive information, control, and reaction mechanisms in order to optimize the prevention of the dangers to the public and the players caused by public gambling; cf. BVerfG NJW 2006, 1261 *passim*.

Aside from these reasons, there are obviously also fiscal interests: around half of all adult Germans are said to take part in some form of gambling on a regular basis. The total German gambling market, with a volume of around €28 billion in 2005 (which corresponds to about 1.25% of that year’s gross domestic product) and total proceeds of €8.8 billion, is something the *Länder* directly profit from, with earnings from profits and taxes worth about €4.25 billion. The market for sports betting is still relatively small, generating around €2 billion, though it still secures profits of €500 million for the *Länder*. Private organizers of gambling activities are therefore anxious to enter a market that is considered underdeveloped, compared to the international level, while the *Länder* attempt to maintain the gambling monopoly. According to the jurisprudence of the BVerfG and the CJEU, meanwhile, such fiscal motivations must not be taken into account in the regulatory processes of gambling.

⁶¹ See the Federal Constitutional Court [BVerfG] in NJW 2006, 1261, 1263 (margin nos. 99 *et seq.*).

⁶² *Id.* at 1263 (margin no. 103).

⁶³ *Id.* at 1264 (margin no. 110). The BVerfG clarifies that limiting the exploitation of the ludic drive can be a legitimate purpose under Art. 12(I) of the Constitution, if such limitation is not only in place to restrict exploitation for *private profit*, but also binds state actors.

Behavioral patterns that are based on a miscalculation of probabilities (cf. Amos Tversky & Daniel Kahnemann, *Judgment under Uncertainty: Heuristics and Biases*, 185(4157) SCIENCE, NEW SERIES 1124 (1974); see also William J. Corney & William Theodore Cummings, *Gambling Behavior and Information Processing Biases*, 1(2) J. GAMBLING BEHAVIOR 111 (1985)) or taking into account sunk cost (cf. Howard Garland, *Throwing Good Money After Bad: The Effect of Sunk Costs on the Decision to Escalate Commitment to an Ongoing Project*, 75(6) J. APPLIED PSYCH. 728 (1990)) are considered exploitable.

The severe restrictions of the freedom of occupation and free movement of services that are imposed by gambling law are only justified if such legitimate purposes are pursued. Therefore, the law has to exempt games from regulation that do not pose the threats the law seeks to control. To differentiate, thus, between “dangerous” and “harmless” games, gambling law doctrine resorts to a series of gambling terms, at the center of which lies the distinction between “games of chance” (*ludus fortunæ*) and “games of skill” (*ludus artis*), very similar to the “predominant factor test” applied in US law (for the ease of reference in this text, I will refer to the distinction of games of chance and skill games using this American terminology). Both games of chance and skill games are games in which an option to win must be bought with a substantial monetary investment that may be lost if the player loses; stated more obviously, the way a game of chance ends will depend (for the most part) on happenstance, while a skill game principally depends on the players’ talents. Legal doctrine subjects a game to severe restrictions if chance, rather than skill, is its predominant trait. For the implementation of gambling law, doctrine thus transforms the question, “is this a dangerous game?” to the question, “is this a game of chance?”

3.2. Research question: are games of chance more “dangerous” than games of skill?

Therefore the question emerges whether distinguishing between dangerous and harmless games by differentiating between games of chance and games of skill is empirically vindicated,⁶⁴ or to use the previous section’s terminology: we want to empirically validate a normative concept.

(a) Definition

Implicitly, this view is based on the assumption that a lack of influence on the game makes that game more dangerous (an argument that seems seductively reasonable but, as we shall show, is wrong nonetheless). The assumption that games of skill are typically less dangerous than games of chance can be empirically tested. The validity of this assumption, however, cannot ultimately be tested without normative valuations.⁶⁵ If we are engaging with doctrine, we are not free in our research question. In defining “dangerous,” we are bound to the stated purposes of the law. Games are only considered “harmful” if they are addictive and evoke irrational behavior that can be exploited. In this narrow sense, we can empirically test doctrine.

⁶⁴ For the purposes of this article, I exemplify a definition and operationalization of “dangerous” in accordance with the law. Admittedly, the same exercise has to be accomplished for the term “skill.” This is an intricate problem for the game examined (sports bets): Does “skill” relate to betting or to sports? How do you determine skill in a zero-sum game where, by design, skill *on average* does not have an effect? Therefore, I confine myself to the term “dangerous” and refer you to the publication of our results for everything else.

⁶⁵ ANDREAS VOSSKUHL & CHRISTIAN BUMKE, RECHTSFRAGEN DER SPORTWETTE 24 (2002).

(b) Operationalization

Furthermore, we are not free in how we operationalize the concepts we test. How do we turn “dangerous,” in the sense of our definition, into a measurable variable?⁶⁶ In the case at hand, in referring to “addictiveness” and “exploitable cognitive patterns,” the law uses psychological concepts, so it seems valid to use operationalizations that are acceptable in that discipline. Neither the addictive power of a behavior nor the exploitability of behavioral patterns by vendors can be measured directly. What can be measured are factors that increase the addictive power and exploitability. In clinical psychological research, one of the most prominent cognitive factors that mediate addiction is *illusion of control*;⁶⁷ one of the cognitive biases that could easily be exploited by vendors is *overconfidence*.⁶⁸ We chose to use these two established behavioral patterns as an operationalization of “dangerousness” in the sense of the law. In Section 3.3, I will explain how we empirically measured these concepts.

3.3. Research design and method

To answer this research question (among a few others), we conducted an online survey with 214 participants.⁶⁹ The participants were questioned in three test groups (treatment #1: 95 participants; treatment #2: 74 participants; treatment #3: 45 participants).⁷⁰ The survey asked the participants to predict the results of real soccer matches to be held in the near future. Those participants whose predictions turned out to be correct could win €5. For each bet they placed, we asked test persons to state on a scale to what degree they thought the correct prediction depended on chance or on skill, and how certain they felt in their prediction. If we compare these results with our insights on whether skill has influence on a bettor’s success, then we can draw conclusions on whether illusion of control and overconfidence are at play.

To ascertain how the dangerousness of sports betting acts in relation to games of chance, we also asked the subjects to place bets on the first or last two digits in a popular German lottery (*Spiel 77*), with participants stating here also to what degree they thought correctly predicting the lottery outcome depended on skill or chance, and how certain they felt in their prediction. The same experimental subjects were, as a

⁶⁶ Again, I concede that the operationalization of the term “skill” is more complicated, see BVerfG NJW 2006, 1261, 1263 (margin nos. 99 *et seq.*).

⁶⁷ *Illusion of control* describes the excessive belief in the own capacity to determine the result of an uncertain event; see seminal Ellen J. Langer, *The Illusion of Control*, 32 J. PERSONALITY & SOC. PSYCHOL. 311 (1975).

⁶⁸ *Overconfidence* describes the finding that subjects are overly convinced of the accuracy of their own judgments or decisions, see seminal David Dunning et al., *The Overconfidence Effect in Social Prediction*, 58 J. PERSONALITY & SOC. PSYCHOL. 568 (1990).

⁶⁹ For a more detailed description of the experimental setup, including the instructions, and more in-depth statistical analysis, see Towfigh & Glöckner, *supra* note 57.

⁷⁰ To avoid that a single exceptional match day distorts the results, the groups of participants were spread over different match days. The first group was asked to predict outcomes of the 26th match day, late in the 2008/2009 season (April 2009); the second group was polled on the 12th match day in the 2009/2010 season (November 2009); and the third group placed their bets on the games played on the 13th and 16th match day of the 2009/2010 season (November and December 2009).

further comparative measure, also asked to place bets predicting the development of blue chip stocks in a fashion similar to futures trading.

The questionnaire ended by testing the “skill” of participants in two ways: first, they were asked to self-assess their soccer-related knowledge, and then they had to answer a sports quiz consisting of 20 questions; self-assessment and the results from the sports quiz were highly correlated, i.e., participants properly assessed their skill level.⁷¹

(a) *Illusion of control*

To measure the degree of the illusion of control in test participants in this study, the participants were asked to what extent they thought the correct prediction of the particular soccer match depended on their personal skill. If the participants were realistic in their self-assessment, then their answers would closely reflect the actual results. That is, as the participants’ skill increased, the importance they attributed to their skill to predict the outcome accurately should also increase, albeit only to the level that skill actually does influence predicting accuracy. If we look at the individual level, this is probably an exaggerated aspiration, but the data of all test persons and all games should, on aggregate, give a balanced account of over- and underestimation of the influence of one’s own skill on the betting result, if we are really dealing with random rather than systematic effects.

(b) *Overconfidence*

A similar approach was chosen for measuring self-confidence in the case of the current bet. Self-confidence was tested simply by asking participants how certain they felt in their predictions. If participants are able to measure their skill accurately, their self-confidence should be strongly positively correlated to their ability to correctly predict soccer match results. That is, the dependent variable “self-confidence” should be explained by the independent variable “correct predictions.” The subjects of the third group were also asked to state how many of their predictions they thought would turn out to be true. This figure was compared with the actual number of correct predictions to determine the presence or absence of (excessive) overconfidence. These conclusions can be used to determine whether sports betting is dangerous.

3.4. Results

(a) *Illusion of control*

Our data show that participants with higher skill assume that the result of the bets depends *more* on their skill: in other words, the more skill a participant displays, the

⁷¹ The experimental design was improved after the first set of participants by adding, in addition to the (subjective) self-assessed skill level, a sports quiz as a(n) (objective) control of the self-assessment for the second and third set of participants in the experiment. The correlation of both measures was high ($r = 0.60$, $p < 0.001$). In reporting the results of the study, we will rely on the self-assessment as a measure of skill because of its more fine-grained scale; however, all results hold in principle if we use the scores of the sports quiz (limiting the analysis to the second and third set of participants).

For the definition and operationalization of “skill,” see also BVerfG NJW 2006, 1261, 1263 (margin nos. 99 *et seq.*) and comment *supra* note 63.

stronger she estimates the influence of skill to be on the result. We can, however, only reckon with an illusion of control if the higher estimation of the influence on the result is not justified by betting results that are in fact better. The question can be answered statistically by controlling for the correctness of bets. In other words, we need to check whether the illusion of control effect stays, even when one includes in the statistics the increased number of correct betting results, where the increase can be explained with higher skill. Even with this statistical control, however, the effect remains.⁷² We can thus conclude that we observe an illusion of control in people who give themselves a high skill-related self-assessment. If we compare the illusion of control to which test persons are subjected in sports betting with that present in normal lotteries, we can furthermore see that, on aggregate and throughout all test groups, illusion of control is more prominent in the context of sports betting, though not reaching conventional significance levels.⁷³

(b) Overconfidence

The ability to make correct predictions is only weakly correlated with self-confidence.⁷⁴ Instead, we found that participants’ self-assessed skill level was strongly correlated to their self-confidence.⁷⁵ In other words, perceived skill had a strong influence on self-confidence, while self-confidence was only weakly correlated to the ability to correctly predict results. Taken together, one can conclude that how excessive a participant’s overconfidence is correlates strongly with how skilled the participant thinks he is. That is, highly skilled people demonstrate excessive overconfidence when it comes to predicting results. The comparison with lottery bets also leads to the conclusion that excessive overconfidence levels are higher in sports betting.

⁷² We regressed perceived control on subjective skill for all soccer bets, controlling for accuracy, effort, and task differences using a linear regression model. The analysis shows a strong effect of subjective skill on perceived control ($b = 0.69$, $t = 8.70$, $p < 0.001$), indicating illusion of control. The effect prevailed if the objective skill measure was used instead of the subjective one ($b = 6.63$, $t = 4.54$, $p < 0.001$). In a linear regression, the coefficient indicates how many units of increase we observe in the dependent variable if the independent variable increases by one unit (controlling for influences of all other factors). Participants indicated to which degree the correctness of their bet depends on chance versus their skill on the scale of -100 (100% chance) to $+100$ (100% skill). After making predictions for all bets, participants were asked to indicate their skill and knowledge level in the respective domain on a scale from 0 (no skill) to 100 (expert), the effort in placing the bets 0 (no effort) to 4 (extensive information search). Our result therefore suggests that with any additional point on the skill scale (0–100) there is an increase of 0.69 points on the scale of perceived influence on skill (scale 100–100).

⁷³ The respective interaction was not significant ($b = -0.13$, $t = 0.91$, $p = 0.365$).

⁷⁴ The respective coefficient for correctness of prediction in the regression on confidence reported in the next footnote was far from significant, $b = 0.511$, $t = 0.98$, n.s.

⁷⁵ Again, we analyzed the experimental data with a linear regression analysis. In the overall analysis of confidence in soccer bets, we find a strong effect of subjective skill even after controlling for accuracy, effort and task differences (i.e., dummies for each task), $b = 0.22$, $t = 12.83$, $p < 0.001$, indicating overconfidence particularly for people with high self-assessment of skills. Further analyses revealed that the effect is not only driven by overestimating one’s own skills, because it remains when using the objective skill measure from the quiz, $b = 1.95$, $t = 5.44$, $p < 0.001$. The overconfidence effect is stronger for soccer compared to the lottery as indicated by a significant interaction ($p = 0.033$). Confidence in each bet was rated in percent on a scale from 50% (guessing) to 100% (certain). For an explanation of coefficients, see Towfigh & Glöckner, *supra* note 57.

To analyze more concretely whether excessive self-confidence is actually present, we directly asked the participants in treatment group #3 how many of their soccer bets they believed would win. This allows a direct comparison between bets that were perceived to be correct and bets that were actually correct. If we subtract the latter from the former, placing the result in relation to skill level, then we find that those players with little skill only slightly over-estimate themselves, while self-overestimation grows disproportionately with increased skill.⁷⁶ If we divide people at the median according to their skill level, we get an over-estimation of only 0.33 of nine matches (3.7%) for test persons with the lowest levels of skill, but an over-estimation in people with high skill levels of one of nine matches (11.1%).

(c) *Validity of the results*

In terms of internal validity, we do not see any possible objections to our research design. From a statistical point of view, the sample size is large enough to draw a statistically valid conclusion.

External validity, too, seems to be high. Participants⁷⁷ were recruited using the *DecisionLab* of the Max Planck Institute for Research on Collective Goods. Soccer expertise covered the entire spectrum. All test persons can therefore be seen as potential participants in sports betting, or as a target audience for such betting games.⁷⁸ Roughly one in ten of the participants had gambled commercially; we have also checked whether there are significant statistical differences between experimental subjects who had previously participated in sports bets or who were supporters of a soccer club and the rest of the sample; this was not the case. Conducting the experiment as an online study also allowed the test persons to use all the possibilities of a search for information that would also be at their disposal if they placed bets in regular circumstances; there were no time restrictions either, apart from the closure of the study prior to the event.⁷⁹ The study was hence conducted in a natural environment; doing so gives the study additional external validity, i.e., the results can be transferred and generalized beyond the test scenario. Also, as shown above, definitions and

⁷⁶ One can consider whether the observed effect might be endogenous, i.e., whether experimental subjects who self-assess their skill more highly, also tend to have a higher level of confidence, thus overestimating themselves on both scales. However, we have to consider that even an overestimation on both scales would not limit the external validity of these results, as we would observe the same pattern of overconfidence in real life: after all, players place their bets based on their self-assessed skill. Moreover, the reported results hold and stay significant even when only considering the second and the third treatment group and using the results of the sports quiz instead of the self-assessment.

⁷⁷ On average, the participants were 24 years old, 42% of participants were male and 86% were students; 11% had previously placed bets on sport events, and 28.45% were fans of a soccer club.

⁷⁸ The experimental subjects do not constitute a representative sample of the actual population of gamblers. However, as they were randomly drawn and as there are no indications for a sample of the described composition to distort the empirical results, statistical tests suggest that our results are robust. Particularly, it has been shown that student samples only significantly differ from more general samples in very limited areas, none of which apply in our research.

⁷⁹ At the same time we inquired which sources the experimental subjects had used, and how much effort they exerted in forming their predictions.

operationalizations of the tested concepts were derived from the law, considering its normative valuations. We are thus confident that the results are robust. However, to actually base doctrinal changes on this research, one may consider replicating the results in another lab, and maybe with more carefully selected samples of experimental subjects.

3.5. Implications for legal doctrine

Empirical insights *per se* have no direct consequence on the (interpretation of) law as it is. But in legally evaluating concrete cases, the law has to assess facts empirically outside of the legal arena to determine the factual basis for the application of the law. The findings have to be translated (back) into normative statements within the framework of legal hermeneutics. Such statements are close to reality and can be infused as doctrinal or systematic arguments into the legal discourse. Empirical insights about whether games of chance can be considered more dangerous than skill games can be related to the principle of proportionality.⁸⁰ Whether state intervention, as effected by gambling law, is justified, is not an entirely normative question; rather, it can only be determined in an encounter between legal constructs and social reality. Even if the lawmaker is entitled to an assessment prerogative when designing policy and hence is given leeway for its evaluation and prognosis,⁸¹ this does not discharge from the obligation to base decisions on empirical facts. If we cannot establish a difference in harmfulness between games of chance and skill games, using this very division to distinguish dangerous and harmless games is arbitrary. Therefore, our empirical insights will need to be considered in doctrine.

In this context, the results of the empirical analysis have consequences for gambling law in general. For they prove that differentiating between games of chance and skill games does not solve the problem of separating dangerous from harmless games. On the contrary, if no skill was necessary and the result of the game merely depended on chance, then there would be no space for an illusion of control. One could even go so far as to say that gambling becomes dangerous precisely *because* of the skill that is necessary for playing. Skill being an element of a given game may cause participants to fall victim to an illusion of control; furthermore, because it seems plausible for a certain measure of skill to have a positive effect on the gamble, more skilled players are over-confident. On the other hand, every lottery player knows that his or her success depends on chance alone—hence, apart from the skill to “pick the right numbers,” there is not much room for illusion of control or overconfidence. It follows that distinguishing between games of chance and skill games to justify a limitation of the freedom to choose an occupation, or fundamental freedoms of private gambling

⁸⁰ Cf. BVerfG NJW 2006, 1261, 1263 (margin nos. 94, 97 *et seq.*). See also JONAS FISCHER, DAS RECHT DER GLÜCKSSPIELE IM SPANNUNGSFELD ZWISCHEN STAATLICHER GEFAHRENABWEHR UND PRIVATWIRTSCHAFTLICHER BETÄTIGUNGSFREIHEIT 165 *et seq.*, 174 *et seq.* (2009).

⁸¹ BVerfG NJW 2006, 1261 (margin no. 115); cf. Tilman Becker & Armin Dittmann, *Gefährdungspotentiale von Glücksspielen und regulatorischer Spielraum des Gesetzgebers*, in AKTUELLE PROBLEME DES RECHTS DER GLÜCKSSPIELE: VIER RECHTSGUTACHTEN 113, 139 *et seq.* (Jörg Ennuschat & Peter Badura eds., 2008).

operators is not an appropriate means (and thus not justifiable under the principle of proportionality) for achieving the two regulatory purposes. We are dealing with an arbitrary demarcation of limits, because the empirical assumptions underlying the ‘predominant factor test’ are inapplicable.

This leaves us with two possible solutions. Either we liberalize gambling altogether (through a change of statutes—a policy change, if you will), or we modify legal doctrine. If the legislature does not change the law to liberalize the gambling market, it is necessary and imminent to adapt legal doctrine, taking the consequences drawn from our empirical results into account. The “predominant factor test” should therefore be done away with altogether. Ultimately, it does not seem possible to make a general distinction between hazardous and harmless games, using only a single criterion. This brings us back to square one. The administration will have to take the trouble of assessing the danger potential of each game and its variants, on the basis of independent empirical findings, deciding the question for each game on its own merits. These empirical findings need to be evaluated in light of the purpose of the law. In this contribution, we have not engaged in evaluating whether our findings suggest categorizing sports betting as a “dangerous game”; we have merely shown that they seem to be more dangerous than other games (lotteries, futures trading) which are subject to strict regulation.

3.6. Limitations

The argument put forward here itself purports to be a single contribution to the eminently complex discussion on regulating gambling in Germany and elsewhere. We wish to place more emphasis on the legally relevant empirical aspects of gambling. However, we only concentrate on two of the regulatory goals in gambling legislation (albeit weighty ones)—curbing gambling addiction and preventing the exploitation of the human passion for games. Moreover, we focus on a specific kind of sports betting; there may be other types of games, other rules, that impact how harmful in the legal sense a game is. Also, we have a particular way of defining and operationalizing legal concepts such as “danger” and, more precarious, “skill.” One may always argue that there are better ways of staying true to the law when defining and operationalizing skill. Moreover, there may be further steps taken to ensure (external) validity and replicability of the results (e.g., different samples, different lab/online environment).

4. Conclusion

To conclude, I think I have shown how empirical studies can be a worthwhile exercise to enrich public law doctrine. There are a number of precautionary measures to be taken when designing empirical studies to suit doctrinal needs. Caution is also commendable when adopting empirical scholarship from neighboring disciplines, as their research questions are often not aligned to the normative judgments of the law. Empirical legal scholarship for doctrinal purposes is thus more restricted in its scope than its counterpart geared at generating policy suggestions. But it can have a great

impact on the law by creating arguments administrations and courts have to submit to, even without reaching the ear of the lawmaker to adopt new statutory law reflective of empirically backed policy advice.

These thoughts, admittedly, are a somewhat rough sketch of empirical approaches to the law. The differences between the German and American legal tradition are probably not as stark as I have drawn them above, especially when it comes to empirical legal studies. Moreover, the difference between orientation towards “doctrine” and towards “policy” is less pronounced than implied. At the end of the day, every legal scholar wants to advance the law, and therefore ultimately aims at refinements or changes of policy—be it through an adaptation of statute, common law or interpretation.⁸²

As legal scholarship is showing signs of convergence globally, so are the methods applied. Having a strong focus on doctrine has been, in the history of law, one of the major contributions of German jurisprudence to the international legal discourse; maybe it can also play a role in empirical legal studies. The connection of doctrine and empirics may serve as a bridge to a more explicit and method-driven policy orientation in German law.⁸³ It may, moreover, provide another avenue of scrutinizing the normative models underlying doctrine, an important function of legal scholarship. And grounding empirics in the *lex lata* may add arguments, and lend higher impact, to policy suggestions elsewhere.

To respond to the question in the subtitle of this contribution, does this require a “doctrinal turn” in empirical legal studies? I do not think so, as the image induced by the term “turn” suggests that everyone should follow the same path. But there is great merit in methodological diversity. The prevalent approaches in empirical legal studies have indisputably produced groundbreaking insights, and they have advanced legal scholarship in that they have convincingly added an empirical “option.” However, I do want to argue that refining the empirical research program by adding a doctrinal “option,” connecting empirics and doctrine, adds value—especially in public law. American lawyers typically are not overly interested in doctrine, and therefore they may have different priorities and employ somewhat different methods. Their German colleagues, because of the structure of the discipline in Germany, have to stay closer to doctrine. In empirical legal studies, this may not only be a challenge, but also a virtue.

⁸² Cf. Ronald Dworkin’s perspective on “law as interpretation”: Ronald Dworkin, *Law as Interpretation*, 9(1) CRITICAL INQUIRY (SPECIAL ISSUE: “THE POLITICS OF INTERPRETATION”) 179 (1982).

⁸³ Cf. Kumm, *supra* note 18.