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RIGHTS IN ACTION

with a Focus on Judge Behavior in Switzerland

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Rights in Action: with a Focus on Judge Behavior in Switzerland
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Für mis Muetti

ABSTRACT

The dissertation empirically investigates the behavior of specific actors in the legal system in light of particular fundamental rights of the individual. To this end, I collect and analyze novel quantitative data, exploiting a natural experiment and conducting a series of laboratory experiments. The dissertation is structured into two main parts. The first main part studies the behavior of Swiss federal administrative judges, how it affects the fundamental rights to an independent judge and to equal treatment before the law, and its potential legal, institutional, and political determinants. The second main part studies the behavior of individuals and their intrinsic motivation to respect the property rights of other individuals.

Judges at most European courts are granted life tenure or long, non-renewable tenure and are appointed by judicial councils. In Switzerland, by contrast, federal judges are elected by parliament for a short, renewable tenure. Further, they are required in practice to join a political party and to pay an annual levy to their party. The combination of these rules and practices is likely a globally unique institutional bundle and subject to an ongoing policy-making debate. Critics worry that Swiss judges are heavily guided by political ideology and reach inconsistent verdicts. To investigate this, I analyze largely novel data on 12,847 verdicts by the Swiss Federal Administrative Court. The Court's institutional setting allows credibly identifying judicial preferences: I exploit a natural experiment with quasi-randomly assigned judges and the fact that federal administrative judges have a known political party affiliation. Further, the data include social security, immigration, and asylum law cases. This dissertation is the first study to quantitatively measure the behavior of Swiss judges across several legal areas.

The results demonstrate substantial variation in how often judges decide in favor of the appellant in social security and asylum law, but not in immigration law. Only in asylum law is that variation robustly correlated with the political party membership of the judges. Although the causal mechanisms for the observed differences in judicial behavior by legal area cannot be pinned down, the dissertation provides suggestive evidence. By focusing on the respective years just before and

after judges are up for re-election, I show that re-election incentives are an unlikely mechanism. Instead, it appears likely that self-selection of judges (parties) to ideologically aligned parties (judges) contributes to the results. Further, I argue that uncertain case facts, the absence of the threat of reversal by a higher court, high caseload, and difficulties with court-internal coordination tend to increase variation in judicial preferences. I present two policy-making interventions which may increase the consistency of adjudication: sequential case assignment and party-balanced panels. Both interventions intensify the oversight over the chair judge provided by his or her colleagues in circular panel decisions, and can be implemented by Swiss courts via internal regulations.

The second main part studies respect for property rights (based on the working paper Bechtold, Gertsch, and Schonger 2019). Relative to infringement of physical property, infringement of intellectual property rights seems to be much more common. This may be due to the differing nature of the goods that are legally protected. While intellectual property rights protect goods that are non-rival in consumption, physical property rights protect rival goods. Non-rivalry in consumption implies that the owner suffers no direct harm if his or her property is infringed upon. To test whether individuals are less inclined to respect property rights in non-rival goods for this reason, we isolate this dimension in an incentivized experiment. We develop a theft game that offers plausible deniability to study participants and is designed to minimize experimenter demand for theft. Surprisingly, we do not find evidence, neither in behavior nor in social norms, that suggests that participants' respect for non-rival goods is lower than for rival goods. This suggests that widespread infringement of intellectual property cannot be explained by its non-rival nature.

ZUSAMMENFASSUNG

Die Dissertation untersucht empirisch das Verhalten spezifischer Akteure im Rechtssystem angesichts bestimmter Grundrechte. Hierzu werden quantitative Daten erhoben und analysiert, sowohl anhand eines natürlichen Experiments sowie anhand von Laborexperimenten. Die Dissertation ist in zwei Hauptteile gegliedert. Der erste Hauptteil untersucht das Verhalten von Schweizer Bundesverwaltungsrichtern im Lichte des Grundrechts auf ein unabhängiges Gericht, der Rechtsgleichheit sowie weiterer rechtlicher, institutioneller und politischer Rahmenbedingungen. Der zweite Hauptteil untersucht das Verhalten individueller Menschen und deren intrinsische Motivation, Eigentumsrechte Dritter zu respektieren.

An den meisten europäischen Gerichten geniessen Richter und Richterinnen lebenslange oder lange, einmalige Amtszeiten und werden von Justizräten ernannt. Im Gegensatz dazu werden Richter und Richterinnen auf Schweizer Bundesebene vom Parlament gewählt und müssen alle sechs Jahre zur Wiederwahl antreten. Zudem ist die Mitgliedschaft in einer politischen Partei faktisch eine Wahlvoraussetzung und amtierende Richter und Richterinnen müssen ihrer Partei eine Mandatssteuer entrichten. Diese Kombination von Regeln und Praktiken ist wohl weltweit einzigartig und Gegenstand einer politischen Debatte. Kritiker befürchten, Schweizer Gerichte entscheiden regelmässig nach politischen Gesichtspunkten und fällen inkonsistente Urteile. Der Autor analysiert dies anhand weitgehend neu gesammelter Daten zu 12,847 Entscheiden des Bundesverwaltungsgerichts. Um die richterlichen Präferenzen verlässlich zu schätzen, wird ein natürliches Experiment mit quasi-zufällig gebildeten Spruchkörpern genutzt und die politische Ideologie der Richter und Richterinnen durch deren Parteizugehörigkeit approximiert. Die Daten umfassen Entscheide im Sozialversicherungs-, Ausländer- sowie Asylrecht. Als erste Studie misst die Dissertation das Verhalten Schweizer Richter und Richterinnen quantitativ über mehrere Rechtsgebiete hinweg.

Die Resultate zeigen, dass die Häufigkeit, mit welcher Beschwerden gutgeheissen werden, im Sozialversicherungs- sowie im Asylrecht substanziell zwischen einzelnen Richtern und Richterinnen abweicht. Im Ausländerrecht ist das nicht der Fall.

Einzig im Asylrecht besteht ferner ein robuster Zusammenhang zwischen richterlichen Präferenzen und politischer Parteizugehörigkeit. Die Gründe für diese Unterschiede zwischen den Rechtsgebieten können nicht kausal identifiziert werden; der Autor präsentiert jedoch suggestive Evidenz. Anreize aufgrund der Wiederwahl können die Resultate vermutlich nicht erklären. Umso wahrscheinlicher erscheint es, dass die Parteien (Richter und Richterinnen) im Asylrecht stärker bestrebt sind, weltanschaulich passende Richter und Richterinnen (Parteien) auszuwählen. Weitere Faktoren, welche die Konsistenz der Rechtsprechung vermutlich verringern, sind Schwierigkeiten bei der Sachverhaltsfeststellung, fehlende höchstrichterliche Kontrolle letztinstanzlicher Entscheide, hohe Geschäftslast sowie erschwerte gerichtsinterne Koordination. Der Autor präsentiert zwei Massnahmen, welche die Konsistenz der Rechtsprechung potenziell erhöhen können: gestaffelte Spruchkörperbildung sowie parteimässig durchmischte Spruchkörper. Beide Massnahmen führen dazu, dass der Instruktionsrichter oder die Instruktionsrichterin stärker durch den restlichen Spruchkörper beaufsichtigt wird, und können von Gerichten in der Schweiz in vielen Fällen ohne formelle Gesetzesänderung eingeführt werden.

Der zweite Hauptteil der Dissertation untersucht die intrinsische Motivation von Menschen, Eigentumsrechte Dritter zu respektieren (basierend auf Bechtold, Gertsch und Schonger 2019). Immaterialgüterrechte scheinen deutlich häufiger verletzt zu werden als Eigentumsrechte an physischen Gütern. Während Immaterialgüterrechte typischerweise nicht rivalisierende Güter schützen, sind physische Güter typischerweise rivalisierend. Nicht rivalisierende Güter können von Dritten konsumiert werden, ohne dass der Konsum des Eigentümers oder der Eigentümerin dadurch eingeschränkt wird. Um zu untersuchen, ob Menschen Eigentumsrechte in nicht rivalisierenden Gütern aus diesem Grund eher verletzen, isolieren die Autoren diese Dimension in einem Anreiz-kompatiblen Experiment. Es wird ein Diebstahlsspiel entwickelt, in welchem Diebe ihr Verhalten plausibel bestreiten können und Versuchsleitererwartungseffekte minimiert werden. Überraschenderweise bieten weder die Beobachtungen zum Verhalten noch zu den sozialen Normen Evidenz dafür, dass die Studienteilnehmer weniger motiviert sind, Eigentumsrechte in nicht-rivalisierenden als in rivalisierenden Gütern zu respektieren. Dies deutet darauf hin, dass die regelmässige Verletzung von Immaterialgüterrechten nicht auf deren nicht-rivalisierende Natur zurückzuführen ist.

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Iudex non calculat – or, "lawyers cannot calculate." Although the old Romans intended quite a different meaning, this was certainly true for me when I embarked on the journey that resulted in this dissertation. Predictably, conducting quantitative research brought with it continuous challenges. Countless colleagues and friends helped me along the way, and I am deeply grateful for their support.

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Part II, the first main part of this dissertation, studies judicial behavior in Switzerland, using a newly created data set of verdicts by the Swiss Federal Administrative Court. Aspects of this part, primarily chapters 4 to 6, have been used for the preparation of a German-language publication which presents key results to the Swiss legal discourse (Gertsch 2021).

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Part III, the second main part of this dissertation, studies respect for property rights, using new data collected in laboratory experiments. This part is based on a working paper (Bechtold, Gertsch, and Schonger 2019) which is co-authored with Stefan Bechtold (ETH Zurich) and Martin Schonger (Lucerne University of Applied Sciences and Arts). The specific contributions of the authors are discussed at the outset of this part.

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Part I

PROLOGUE

1

INTRODUCTION

Thou shalt not wrest judgment; thou shalt not respect persons, neither take a gift: for a gift doth blind the eyes of the wise, and pervert the words of the righteous.

— Deuteronomy 16:19

If any one break a hole into a house, he shall be put to death before that hole and be buried.

— Code of Hammurabi, 21st Law

Rights in action – the title hints at two central themes of this dissertation. One theme concerns the substance, the other concerns the methodology. Substantially, the dissertation studies legal institutions which far predate modern legal orders but which, from a current-day perspective, can be conceptualized as fundamental *rights* of the individual. The explored research questions ask whether the behavior of different actors in the legal system respects these rights. In other words, the dissertation asks not how these rights ought to be normatively understood but whether they are respected empirically – fundamental rights *in action*.[1] Thus, from a methodological point of view, an empirical approach to the law is required. To this end, the dissertation collects and analyzes novel quantitative data, exploiting both a natural experiment and conducting a series of laboratory experiments.

In terms of structure, the dissertation is divided into two main parts. The first main part, *part II*, studies the behavior of Swiss judges. The second main part, *part III*, studies respect for property rights. This introductory chapter juxtaposes the two

1 As opposed to the law in the books. Regarding the origin of this distinction, see subsection 1.1.3.

main parts, pointing out commonalities and differences, both substantial and methodological. Since *part II* forms the core of this dissertation, I first discuss judicial behavior as an object of research, the quantitative approach to studying judicial behavior, and some of the methodological trade-offs that are inherent to that approach. In a second step, I introduce the research object of *part III*, property rights, and the methodological approach chosen for that part. By necessity, the discussion in the present introduction remains at a rather general level.[2]

1.1 JUDGES AND QUANTITATIVE RESEARCH ON THEIR BEHAVIOR

1.1.1 *Independent, Impartial, and Equal Treatment*

"Thou shalt not respect persons,"[3] Moses pronounced in a farewell sermon to the Isralites. Judges, in other words, should not favor, or "respect," any particular party in a dispute.[4] This demonstrates the archaic nature of the principle that to resolve a dispute one needs a neutral arbiter. Verdicts by partial arbiters, be it a king, village elder, or judge, are perceived as an injustice. This idea can be traced back even further than Moses to the oldest known legal code in human history, the Babylonian Code of Hammurabi (1754 B.C.E.). In order to guarantee an impartial judiciary, the Code requires that corrupt judges step down.[5] Further, it introduces progressive justice or "eye for an eye" punishment – a principle, in other words, that judges ought to apply equally across cases.[6] A more explicit early definition

2 In the introductory chapter, I limit the discussion to fundamental aspects of the methodological approach and do not yet specify the precise research questions and study designs.

3 See the full quotation from the King James Bible on the previous page.

4 Similar commands are found, for example, in the Quran (Sura 5 Verse 8) or in the Indian Arthashastra (4.9.17 f.). See Ishay (2008), p. 29.

5 Code of Hammurabi, 5^{th} Law: "If a judge has judged a judgement, decided a decision, granted a sealed sentence, and afterwards has altered his judgement, that judge, for the alteration of the judgement that he judged, one shall put him to account, and he shall pay twelvefold the penalty which was in the said judgement, and in the assembly one shall expel him from his judgement seat, and he shall not return, and with the judges at a judgement he shall not take his seat" (cited in Johns 1926, p. 2). See Driver and Miles (1952), p. 54 and 78.

6 Certainly, the notion that every person, independent of their status, be treated equally is foreign to the Code. Rather, it differentiates between men, women, freemen, slaves, etc. Crucially, however, the Code requires that judges apply its rules equally and impartially within those categories, that is,

of equality before the law is found in the Code of Justinian, the 6^{th} century codification of Roman law. Stating that justice is "the constant and perpetual will to render each his due," it requires the invariant and non-arbitrary application of general rules across disputes.[7]

These ancient norms capture two important aspects of an ideal judge: namely, that the judge ought to be impartial and apply the law equally across the cases he or she adjudicates. In the modern era, another layer was added. "If the power of judging is not separated from the legislative and executive," Montesquieu (1748, book XI, chapter 6) famously stated, "there is no liberty." Increasingly, the judiciary developed into a separate arm of government with a protected institutional standing in a system of checks and balances vis-à-vis the other powers.[8] Owing to this development, today the ideal of the independent judiciary has two primary legal dimensions: an institutional dimension and an individual rights dimension. As an aspect of the separation of powers, the institutional dimension of judicial independence demands that judges have a certain independent legal status that prevents undue influence from the executive and legislative powers. To this end, constitutions and international treaties contain provisions regarding, for example, the selection, tenure, and removal of judges and the administrative and financial autonomy of courts.[9] This institutional dimension has an individual rights counterpart. In particular, judicial independence has close ties to two fundamental rights of the individual: the right to an independent and impartial judge and the right to equal treatment before the law.

independently of the specific case (see Ishay 2008, p. 47 f.). In other words, the Code does not provide equality of rights but a rudimentary form of equal treatment (regarding this distinction, see Altwicker 2011, p. 34 ff.).

7 The second part is influenced by Aristotle's famous dictum that "like cases [be treated] as like" (Gosepath 2011).

8 See Vile (1967), p. 23 ff.; Mikuli (2018).

9 For an overview of the provisions in national constitutions, see Swart (2019). Regarding the institutional dimension, the Federal Constitution of the Swiss Confederation of 18 April 1999 (in the following "Swiss Constitution") guarantees that courts be "independent in their exercise of their judicial powers and only bound by the law" (art. 191*c*). On the international level, the Council of Europe, as well as two of its sub-organizations, the Venice Commission and the Group of States Against Corruption (GRECO), issue influential guidelines (see the discussion in section 2.2). Outside of the European context, see the United Nations Basic Principles on the Independence of the Judiciary (endorsed by the General Assembly in 1985) and the Bangalore Principles of Judicial Conduct (endorsed by the United Nations Commission on Human Rights in 2003).

First, judicial independence is not only an abstract principle of the separation of powers but, under some circumstances, an enforceable procedural right of the individual. Where such a right exists it typically requires that judges, on the one hand, have a certain measure of institutional independence and, on the other hand, do not appear partial, for example due to a real or perceived affiliation with one of the parties.[10] Second, judicial independence is closely linked to equality before the law, since one cannot expect dependent or partial judges to reach equal verdicts. The idea that like be treated alike in the eyes of the law is a characteristic feature of the rule of law in liberal democracies. Today, a fundamental right to equal treatment before the law is almost universally guaranteed in constitutions and international treaties.[11]

10 The Swiss Constitution guarantees the right of "any person whose case falls to be judicially decided [...] to have their case heard by a legally constituted, competent, independent and impartial court" (art. 30 para. 1). A similar individual right, which is also enforceable in Switzerland, is afforded by the right to a fair trial under art. 6 para. 1 of the European Convention for the Protection of Human Rights and Fundamental Freedoms of 4 November 1950 (in the following "European Convention on Human Rights"). For the jurisprudence of the European Court of Human Rights regarding this provision, see Trechsel (2006), chapter 3; Müller (2015), p. 21 ff. Similar guarantees are found in art. 14 para. 1 of the International Covenant on Civil and Political Rights of 16 December 1966 (in the following "Covenant on Civil and Political Rights") and in art. 8 para. 1 of the American Convention on Human Rights of 22 November 1969.

11 For an overview over equality guarantees in national constitutions, see Baer (2012), p. 983 f. The Swiss Constitution includes general equal treatment clauses, stipulating that every person "is equal before the law" (art. 8 para. 1) and "has the right to equal and fair treatment in judicial and administrative proceedings" (art. 29 para. 1), as well as a non-discrimination clause, requiring that "no person may be discriminated against, in particular on grounds of origin, race, gender, age, language, social position, way of life, religious, ideological, or political convictions, or because of a physical, mental or psychological disability" (art. 8 para. 2, see further para. 3 and 4). In human rights law, one can also distinguish between equal protection clauses and non-discrimination clauses (see Altwicker 2011, p. 49 ff.). A non-discrimination clause that is enforceable in Switzerland is provided by art. 14 of the European Convention on Human Rights and an equal protection clause by art. 14 para. 1 and art. 26 of the Covenant on Civil and Political Rights. See also art. 7 and 10 of the United Nations Universal Declaration of Human Rights of 10 December 1948 (in the following "Universal Declaration of Human Rights") and art. 20, 21, and 47 of the Charter of Fundamental Rights of the European Union of 26 October 2012.

1.1.2 *Two Approaches to Studying Judicial Behavior*

The ancient legal and religious sources as well as the modern fundamental rights require a certain *behavior* from judges. Namely, they demand that judges apply the law equally, independently, and impartially. Further, the modern separation of powers principle requires that judges have a certain institutional *status* that makes such behavior more likely, namely a status of independence from other governmental powers. Traditionally, the aim of legal research regarding judging is to define these requirements normatively. That is, typical legal dissertations employ the doctrinal method whereby all existing legal sources and scholarship on a certain aspect of these requirements are systemized and interpreted. This helps to clarify the normative requirements for the behavior and status of judges. For example, such research might investigate whether, under art. 6 para. 1 of the European Convention on Human Rights, a judge is considered partial if he or she publicly voices an opinion about a party in a dispute which he or she adjudicates.[12]

The present dissertation, too, concerns itself with the behavior and status of judges. However, it does not aspire to answer normative questions about how judges ought to behave and how their status ought to be defined. Rather, it asks: *given* a certain institutional status (that is, the one afforded by Swiss law), how do judges actually behave? Do they, in fact, reach equal and independent verdicts? Inherently, these questions can only be addressed with empirical evidence rather than through legal interpretation and deduction. Of course, legal research has always, in the broadest sense of the term, empirically described the behavior of judges by providing in-depth analyses of real-world court opinions and verdicts. Such analyses have the advantage that the legal, linguistic, and factual complexities of the studied cases can be fully appreciated.

Quantitative evidence, by contrast, deliberately sheds such nuance. Typically, each case is reduced to a single data point described by a limited number of categorical variables. While this comes at the cost of a significant simplification, the quantitative approach to describing judicial behavior also has important advantages. First, it allows the researcher to include a larger set of cases in the analysis. This may help uncover patterns that are not detectable in a smaller sample. Second, coding cases according to a pre-established set of criteria may help reduce

12 The answer, as always: it depends (see Müller 2015, p. 114 ff.).

bias or subjectivity in the researcher's judgment. In principle, this also enables researchers to verify each others' work by replicating previous findings. Finally, and perhaps most importantly, transforming cases into data allows for the use of statistical methods to quantify the degree of uncertainty pertaining to the results. In other words, the researcher can say, probabilistically: given a certain hypothesis about the behavior of judges, how likely is it that we would observe the particular cases in the data?

The present dissertation employs such a quantitative approach to studying the behavior of judges. This choice does not imply that I believe quantitative methods to be inherently superior to a doctrinal or a qualitative, interview-based approach. Indeed, the dissertation does, where it seems promising, analyze specific cases to address targeted sub-questions. As discussed, the quantitative approach has weaknesses and strengths. Since methodological choices inherently require trade-offs, every empirical study has its unique set of advantages and limitations. For that reason, it is important that research questions are explored from different angles. So far, however, quantitative evidence on judicial behavior in Switzerland is almost non-existent. While countless legal studies conducting in-depth analyses of specific court cases are published every year and about ten studies have used interviews and surveys with judges to study judicial behavior, only two previous studies measure the behavior of judges quantitatively.[13] From a scientific perspective of convergent validity,[14] the need for additional quantitative evidence seems particularly pronounced.

1.1.3 *Origins of the Quantitative Approach*

In using a decidedly empirical approach, this dissertation may be an outlier within Switzerland but is rooted in a long tradition of such legal scholarship in the United States, originating in the legal realist school of thought. Two important fore-runners at the dawn of the 20^{th} century were Oliver Wendell Holmes Jr. and Roscoe Pound. The then-dominant legal theory in the United States, legal formalism, held that, descriptively, judges decide cases by mechanically applying a set of legal principles to the case facts. Legal realists objected, claiming that judges, beyond pure logic, are also influenced by their political and

13 See the review in section 2.4.

14 See Lawless, Robbennolt, and Ulen (2016), p. 41 ff.

moral views.[15] The law, Holmes (1897, p. 461) stated, is "nothing more pretentious" than "the prophecies of what the courts will do in fact." Under his legal theory, a crucial goal of legal research is to empirically investigate the behavior of judges. This call for empiricism was echoed by Pound (1910, p. 24). In an essay on the law's ability to adapt to social change, he demanded the study of the *law in action*, that is, examining the sociological reality rather than narrowly focusing on the letter of the law or the *law in the books*.

Since then, several streams of literature indeed emerged that document the influence of various extra-legal factors on the behavior of judges, in particular within the context of United States federal courts. Several competing theoretical models of judicial behavior have been put forward in these literatures. A particularly influential model in political science, the so-called attitudinal model, posits that judges decide cases based on their political views.[16] In a competing self-utility model, judges are modeled as having preferences regarding, for example, policy, career, reputation, and leisure which they seek to maximize strategically given a certain institutional context.[17] In addition, a continuous stream of studies has documented the role of more narrowly-defined factors that may, under certain conditions, influence judges, in particular their biographical characteristics as well as behavioral factors, such as decision-making dynamics in panels and intuitive reasoning.[18] In Europe, literature of a similar breadth has not so far emerged[19] although a sharp increase in quantitative studies can be observed in recent years. In particular, studies show that judges at various European international, constitutional, and supreme courts tend to adjudicate in line with the preferences of the government or party coalition that appointed or elected them.[20]

15 See Mastronardi (2009), p. 144 ff.; Leiter (2010).

16 See, in particular, the seminal works of Segal and Spaeth (1993) and Segal and Spaeth (2002). See also Sunstein et al. (2006), chapter 2. For an overview, see Harris and Sen (2019), p. 245 f.

17 What do judges maximize?, asks Posner (1993), and answers: "The same thing everybody else does." See, in particular, Epstein, Landes, and Posner (2013), p. 25-63; Epstein and Knight (2013).

18 For an overview, see Rachlinski and Wistrich (2017) and Harris and Sen (2019).

19 For the potential reasons for this divergence, see Frankenreiter (2016), p. 3 ff. and 12 ff., with further references.

20 For a discussion of this literature, see subsection 2.6.2.

1.1.4 *The Quantitative Approach using Observational Data in Particular*

The quantitative approach to studying judicial behavior allows for a wide range of different methods and data types. Broadly, one can distinguish between observational data (or field data), vignette and survey studies, and laboratory and field experiments. In principle, all can provide credible evidence on judicial behavior.[21] Which data type is most suitable depends on the particular research question. The studies on judicial behavior presented in the first part of the dissertation opt for collecting novel observational data. Observational data can be characterized as data that is not generated through a process that is controlled by the researcher. This choice brings with it important trade-offs between external and internal validity.[22]

The key advantage to using observational data is that it typically yields results with relatively high external validity. External validity requires a good match between the data and the social phenomenon that the study intends to explain. When using observational data, this is typically the case since the researcher directly studies the real-world judicial behavior that he or she aims to explain. However, since observational data is context-specific, this also means that it may be difficult to credibly generalize the empirical findings beyond the particular institutional context that is observed. In other words, judges at other courts, hearing other cases, and facing other institutional incentives may behave differently.

A notoriously challenging aspect of studies using observational data is internal validity. This concept describes whether a study can establish a credible causal relationship between a treatment and an outcome. In other words, the difficulty lies in ruling out alternative explanations other than the treatment that may explain the outcome. To illustrate this, imagine a hypothetical criminal court with two judges, judge A and judge B, who decide cases as single-judges. At this court, all defendants are assigned by the court administration to either judge A or B. It is not known which criteria the court administration uses to allocate the cases. Imagine that a researcher is interested in whether the two judges convict defendants at similar rates, that is, whether the two judges are similarly strict. Under this research question, the treatment is the judges, the outcome

21 For examples in each category, see Engel (2014).
22 See Lawless, Robbennolt, and Ulen (2016), p. 30 ff.

of interest is the likelihood that a defendant is acquitted, and each case can be considered a study participant. The researcher collects observational data on how frequently the two judges convict or acquit defendants. She finds that judge A acquits 60 % of all defendants, while judge B acquits 40 % of all defendants. Can the researcher conclude that judge B is more strict than judge A? No, since important alternative explanations cannot be ruled out in this set-up. For example, it is possible that the court administration considers judge A a specialist for "difficult" cases with weak evidence against the defendant. The difference in the acquittal rates would then not be explained by the judges being differentially strict but by selection into the treatment groups. That is, it may be that the judges simply hear non-comparable case sets.

This key threat to internal validity, selection, can be addressed by assigning the treatment to study participants randomly. In medical studies, for example, participants are randomly allocated into a treatment or control group. In studies using observational data this is not possible since the researcher only observes, but does not control, the data-generating process. The researcher can, however, try to exploit an institutional setting where exogenous variation in how the treatment is assigned occurs "naturally," that is, due to processes that are not under her control. Such research designs are called "natural experiments."[23] To illustrate, let us return to our hypothetical criminal court, with only one modification to the example: Imagine that the court administration switches to allocating cases to the two judges randomly. In this new setting, if the researcher still observes substantial differences between the two judges in how frequently they acquit defendants then this cannot be explained by selection. That is, the random process ensures that, on average and across a large number of cases, both judges hear cases with similar merits.

In the studies presented in the first part of this dissertation, the institutional setting is, to some degree, similar to our hypothetical criminal court. I am interested in the effect of the judge or the political ideology of the judge (the treatment) on the likelihood that the court decides in favor of a particular party (the outcome) in a given case (the study participant, that is,

23 See Lawless, Robbennolt, and Ulen (2016), p. 102 ff. A pioneer example concerns the Cholera outbreak in London of 1854. John Snow, a doctor, used the chaotic, quasi-random grid of the sewage system to show that the outbreak had been caused by unclean water (see Freedman 1991, p. 294 ff.).

observation). Similar to the modified setting in the hypothetical example, I exploit a natural experiment where the judges are assigned to cases quasi-randomly. This allows for obtaining credible estimates regarding the explored parameters of judicial behavior using observational data.

1.2 AN EXPERIMENTAL APPROACH TO PROPERTY RIGHTS

The second main part of the dissertation studies respect for property rights. Similar to the ideal of an independent, impartial arbiter, legally protected property has ancient roots. The idea that you must not take what is not yours can be traced far into the prehistoric mists. For the period since 10,000 B.C.E., archaeological and ethnographic evidence documents such property relationships as inheritance, trade, and land property held by village communities.[24] It is no surprise, therefore, that property features prominently in ancient legal codes. The Code of Hammurabi imposes draconian punishment for stealing: Breaking in to steal, looting property during a fire, or holding stolen goods carries a death sentence.[25] Religious duties to this effect – "thou shalt not steal"[26] – also imply a right to property.[27] Much more sophisticated property rights were later established by Roman law. Some of its rules on, inter alia, the acquisition, loss, recovery and transfer of property and possession live on in the property laws of civil law countries today.[28]

A second similarity to the ideal of an independent judge making equal judgment is that some of these ancient property institutions are today codified as fundamental rights of the individual. Constitutions and international treaties around the globe impose limits on state authority over private property by recognizing a right to property.[29] These guarantees primarily

24 Earle (2017), p. 7 ff. Since survival is so closely linked to acquiring food and shelter, physical property may have deep evolutionary roots in the human brain (Stake 2004).

25 Code of Hammurabi, 21^{th}, 25^{th}, and 6^{th} Law, respectively. Further, the Code guarantees a right to judicial restitution of stolen property (see, for example, the 30^{th} Law of the Code).

26 Exodus 20:13.

27 See Ishay (2008), p. 19 and 27 f., with further references.

28 See Plessis (2015).

29 See Walt and Walsh (2017). The Swiss Constitution states that "the right to own property is guaranteed" and that "the compulsory purchase of property and any restriction on ownership that is equivalent to compulsory purchase shall be compensated in full" (art. 26 para. 1 and 2). In international human rights law, a fundamental right to property is set up by, for example, art. 1 of

restrict expropriation by the government. In addition to this vertical dimension, the fundamental right to property possesses a horizontal dimension. Under this second dimension, the state aims to ensure that the right to property is also guaranteed in the relationships between individual citizens. In law, whether and to which degree fundamental rights apply to the relationships between individuals is subject to an ongoing debate.[30] Abstracting from this doctrinal question, however, national legal orders universally aim to protect private property from horizontal infringement by enacting criminal codes which penalize behaviors such as theft, shoplifting, or arson.[31]

These horizontal and vertical relationships are governed by a multitude of legal areas, including constitutional law, property law, and criminal law. Further, intellectual property laws give rise to patents, copyrights, trademarks, designs, and trade secrets – a type of property that began to emerge about 500 years ago.[32] Typically, legal research in these areas employs a doctrinal approach where legal sources are examined in order to determine the correct interpretation of the norms that govern property relationships. However, the development towards studying research questions that are empirical in nature, which I previously described using the example of judicial behavior, has also captured the study of property rights. While "property" is too broad a marker to comprehensively survey this development, a few important mark posts in the study of property rights *in action* deserve mention.

In a foundational text of law and economics concerned with the efficient allocation of goods in the presence of externalities, Coase (1960) understood property broadly as a list of permitted and prohibited uses of a good. Subsequent studies in law and economics theoretically considered the economic incentives established by the particular types of property that are recognized

protocol no. 1 to the European Convention on Human Rights and art. 17 of the Universal Declaration of Human Rights. See also the Fifth Amendment to the United States Constitution of 25 September 1789.

30 See Egli (2002), p. 13 ff., on the debate in Germany, in the United States, and in Switzerland, and Frantziou (2015) on the debate in European Union countries. The Swiss Constitution expressly requires that "fundamental rights must be upheld throughout the legal system" and that "the authorities shall ensure that fundamental rights, where appropriate, apply to relationships among private persons" (art. 35 para. 1 and 3).

31 See the contributions in Heller and Dubber (2011).

32 See Seville (2018).

by the legal order.[33] These early studies helped spark empirical literature on the economic and social causes and effects of property rights. Patents, due to their close link to innovation, have received particular attention. A burgeoning recent literature, using primarily observational data, studies the effect of patent rights on innovation incentives.[34] Finally, the previous research that is most relevant to this part of the dissertation comes from literature in behavioral and experimental law and economics. Primarily using laboratory experiments and vignette studies, these research streams explore, for example, the causes and effects of intellectual property rights,[35] the conditions under which people infringe on property rights[36] and, relatedly, limits to the enforceability of property rights due to social norms.[37]

The second main part of this dissertation is rooted in this research tradition. It studies whether people's respect for property rights depends on the rival versus non-rival nature of the protected good. In other words, the research question asks how, from a descriptive rather than normative point of view, the nature of the protected good affects human behavior towards property rights. This question cannot be answered using the doctrinal approach. Thus, as in the first main part of the dissertation, an empirical, quantitative approach is chosen. Regarding the specific choice of the method and research design, however, important differences between the two main parts do exist.

In particular, the second main part aims to identify a narrowly defined causal effect, the effect of the rival versus non-rival nature of goods on adherence to property rights. Identifying causal effects from observational data is notoriously difficult – a challenge that is further exacerbated in the present context: Observational data on theft and intellectual property infringement frequently suffer from detection biases.[38] Further, the aim is to identify the described causal effect while abstracting from other factors that may influence respect for property rights, such

33 For overviews, see Merrill and Smith (2001); Posner (2011), p. 39 ff.; Smith (2017).

34 For overviews, see Hall and Harhoff (2012); H. L. Williams (2017); Moser (2019). The effects on innovation and creativity have also been studied for other intellectual property rights, in particular copyright and trademarks (for overviews, see Posner 2005; Bechtold 2013; Bechtold 2015, p. 81 ff.; Sprigman 2017).

35 For an overview, see Buccafusco and Sprigman (2019).

36 See the literature using stealing games discussed in footnotes 331 f.

37 For an overview, see Depoorter (2019), p. 414 f. See also the references in footnote 361.

38 See the references in footnote 328.

as deterrence and punishment. To control these parameters, the second main part conducts a laboratory experiment.[39] If well-designed, randomized experiments yield high internal validity and allow the researcher to make causal inferences. This advantage, however, comes at the cost of low external validity.

To illustrate this, consider the contrast between the fundamental methodological choices that are made in the two main parts of the dissertation. Both main parts employ a quantitative approach and collect novel data. In the case of the first main part, the data is observed, meaning it is generated directly by the real-world phenomenon under study. This process is outside of the researcher's control and a multitude of frequently unobserved factors may affect the result. To address concerns of statistical selection, the first main part exploits a natural experiment with quasi-randomly assigned judges. In contrast, the second main part collects data in a controlled laboratory experiment. In principle, this allows for all parameters but the treatment of interest to be kept constant and for making causal inferences. It also means, however, that the data come from a highly artificial setting. Although the experimental design does intend to model the crucial aspect of the tested treatment, the rival versus non-rival nature of goods, the findings are subject to important limitations. In particular, the researcher can never be entirely certain that the observed behavior would replicate in a real-world setting. Since the design isolates one particular causal effect, it is difficult to predict how this effect would interact with the multitude of other factors that may affect behavior outside of the laboratory.[40]

1.3 SOME LIMITATIONS

The methodological approaches chosen for the two main parts of this dissertation – observational data from a natural experiment in one part versus a laboratory experiment in the other – each come with particular limitations. As discussed in the previous sections, the fundamental trade-off is primarily one of internal versus external validity. Further limitations that stem from the particular empirical strategies that are developed in the

39 For a more detailed discussion of this methodological choice, see subsection 8.1.3. In keeping with the typical design characteristics of experiments in experimental economics (see Engel 2014), we use monetary incentives, the game is interactive, highly abstract and uses little context, and the design does not involve participant deception.

40 See, for example, Levitt and List (2007).

two main parts, from the properties of the particular data that I collect, or simply from statistical uncertainty, are discussed throughout the dissertation. On a fundamental level, conducting empirical social science research brings with it limitations as to the normative conclusions that can be drawn from a set of results. A few of these limitations are worth discussing here briefly.

The dissertation provides a series of quantitative studies addressing relatively narrowly-defined research questions. Individual studies of this type do not allow for drawing final normative or policy-making conclusions, for several reasons. First, normative conclusions ultimately require making value-judgments about what *ought* to be done. Conceptually, such value judgments cannot be deduced directly from empirical research which is concerned with what *is*. Second, the primary tool employed here to answer research questions, frequentist statistical inference, relies on probabilistic statements to reject hypotheses. Thus, as a matter of principle, it can never be excluded that an alternative hypothesis that is rejected by the statistical test is not in fact correct. Third, based on only one study it is almost impossible to assess whether the empirical findings are externally valid, that is, whether they generalize to other contexts than the particular data-generating process used in the study.[41]

For these reasons, policy-making recommendations should not rely on one single quantitative study. Ideally, instead, a large number of researchers would tackle the same research question using different methods. In such a first-best world, one could conduct systematic reviews of the existing evidence, thereby mitigating the risk of false positives guiding policy. Such meta-analyses can then form the basis of a policy-making discourse that expressly makes normative judgments about the ideal policy to pursue. Unfortunately, however, previous empirical evidence related to the research questions of this dissertation is scarce. This applies both to judicial behavior in Switzerland and to the effect of (non-)rivalry on respect for property rights. Thus, the primary contribution of this dissertation lies in collecting and analyzing novel observational and experimental data.

This focus has some implications. First, it is not the primary goal of the dissertation to provide an exhaustive discussion of potential policy-making interventions and to provide a final assessment on the best policy. Nevertheless, since the first-best

41 See Lawless, Robbennolt, and Ulen (2016), p. 14 ff. and 39 ff.

world described in the previous paragraph may never materialize, I do relax this principle somewhat. In particular, the first main part of the dissertation briefly discusses two policy-making interventions that, in my view, hold particular promise. Further, I do offer concluding remarks on the fundamental normative implications of my findings for Swiss law, while noting that these considerations are somewhat subjective and do not "objectively" follow from the data. In contrast, the second main part concerns a research question that abstracts from any particular legal order. The normative discussion, therefore, necessarily remains at a relatively abstract level and primarily points out remaining gaps in the literature that should be addressed in order to inch towards actionable policy-making conclusions.

Second, since the focus lies on providing fresh empirical evidence, the dissertation cannot at the same time engage in a full-fledged discussion of the doctrinal issues that surround the research questions. In the first main part of the dissertation, in particular, I do embed the empirical research into a particular institutional context, namely that of the applicable Swiss public law, likely more so than may be the norm in the empirical literature. However, this primarily serves to familiarize the reader with the data-generating processes and to flesh out the dissertation's contributions to the literature. In other words, the dissertation does not aspire to provide an exhaustive treatment of the applicable legal sources and previous studies as is the norm in legal dissertations. This restriction does not imply that providing such a comprehensive review would have no academic merit. Rather, the choice reflects that doing so would have required diverting scarce resources away from empirical methods training, data collection, and analysis.

Part II

JUDICIAL INDEPENDENCE & EQUAL TREATMENT

2 INTRODUCTION

2.1 JUDICIAL SELECTION, JUDICIAL INDEPENDENCE, AND EQUALITY BEFORE THE LAW

Almost universally, the ideal conception of courts is characterized by their independence.[42] Removing courts from the political process entirely, however, may decrease their accountability and democratic legitimacy. How these objectives are balanced is much less universal. By way of example, consider institutions for judicial selection. On one end of a spectrum of possible institutions, judges may be elected by the people for a short, renewable tenure.[43] Such institutional design emphasizes democratic legitimacy. As a result, however, judges might be more observant of public opinion than of the law. On the other end of the spectrum, judges may be appointed for life tenure by judicial bodies.[44] This emphasizes formal judicial independence, though at the risk that, in the view of the public, judges lack the democratic legitimacy to settle contested societal debates.

Internationally, the trend is towards the latter end of the spectrum. Over the course of the second half of the 20^{th} century, the selection, promotion, and removal of judges has increasingly been separated from the political process in large parts of the world. With the aim of strengthening judicial independence, in many countries these functions are now exercised by professional bodies with a strong representation of the judiciary. Judicial councils are part of the standard rule of law reform program of the World Bank and other development banks and are propagated by numerous international organizations.[45] The

42 See Shapiro (1981), p. 1 ff. This ideal is not only geographically widespread, bus has ancient origins (see subsection 1.1.1).

43 For example the first-instance courts in most Swiss cantons (Kiener 2001, p. 256 f.) and in many states of the United States (for example Texas, Arizona, Georgia, and Mississippi; see the respective state profiles on Ballotpedia, The Encyclopedia of American Politics, https://ballotpedia.org/Judicial_selection_in_Texas).

44 For example, the selection of Italian judges was fully in the hands of the judiciary from 1958 onward until the representation of parliament in judicial councils was strengthened in 2002. Similar models are used in France, Spain, and Portugal (Garoupa and Ginsburg 2009, p. 106 ff.).

45 See Garoupa and Ginsburg (2009), p. 109.

Council of Europe, for example, recommends that the body electing judges be independent from the legislator, that at least half of it consist of judges, and that judges receive guaranteed tenure until retirement in all its member states.[46]

Beyond the separation of powers lens, judicial independence is also of critical importance when viewed through a fundamental rights lens. Judicial independence is a necessary condition for, in particular, the right to equality before the law since dependent judges are unlikely to reach impartial verdicts. As a fundamental right, equality before the law is today almost universally guaranteed in constitutions and international treaties.[47] Equal treatment constitutes a key feature in theories of justice as a guarantee of fair treatment in the legal process,[48] and is instrumental to the legitimacy of the judiciary and the predictability of court decisions.[49] While equality before the law is one end of judicial independence, there is also a certain tension between these two principles: If judges vary in their normative views and emotional responses, as humans tend to, and at the same time make independent decisions, then it is a priori likely that they will not always reach the same conclusion when considering cases of similar merit. Such inconsistency in judicial decisions, however, may violate equal treatment before the law.

2.2 SWISS INSTITUTIONS IN THE BOOKS

In marked contrast to the international developments, Swiss institutions for judicial selection do not emphasize formal judicial independence. The Swiss Constitution does guarantee the fundamental right to an "independent and impartial court" and requires that courts be "independent in the exercise of their judicial powers and only bound by the law."[50] At the same time, however, the process through which judges are selected has pronounced democratic elements. First, federal judges are elected

46 Council of Europe (2010), Recommendations 11 and 44-49. See also the recommendations by the Council's advisory board, the so-called Venice Commission (European Commission for Democracy through Law 2010).

47 See the overview in footnote 11. See, in particular, art. 8 and art. 29 para. 1 of the Swiss Constitution.

48 See Marmor (2007), p. 183 ff.

49 Kornhauser and Sager (1986), p. 102 ff.

50 Art. 30 para. 1 and, respectively, art. 191*c* of the Swiss Constitution. See also footnotes 9 and 10 for guarantees of the institutional and fundamental rights aspects of judicial independence in international law.

by the parliament, the Federal Assembly (*Bundesversammlung*). Second, the length of tenure is only six years and there is no limit on how many terms judges can seek in office except that they must retire at the end of the year in which they reach the age of 68.[51] Third, although not required by law, in practice parliament fills federal court seats in proportion to each political party's national vote share. As a result, federal judges are de facto required to join a political party in order to be nominated for office.[52] Finally, federal judges are required to pay an annual levy to their party.[53]

This combination of rules and practices governing judicial selection may well be a globally unique institutional bundle. Beyond Switzerland, the only European countries where professional judges do not enjoy a non-renewable tenure until retirement are two microstates, Andorra and Liechtenstein.[54] Participation of the legislature and of political parties in judicial selection is of course not unusual per se. Judges at various European constitutional courts are fully or partially elected by parliament,[55] and United States federal judges are nominated by the President with confirmation by the Senate.[56] While in both of these cases judges have informal ties to the majority party or

51 This applies to all Swiss federal courts, that is, the Federal Supreme Court (art. 145 and art. 168 para. 1 of the Swiss Constitution, art. 5 and 9 of the Federal Act on the Federal Supreme Court of 17 June 2005, in the following "Federal Supreme Court Act"), the Federal Administrative Court (art. 5 and 9 of the Federal Act on the Federal Administrative Court of 17 June 2005, in the following "FAC Act"), the Federal Criminal Court (art. 42 and 48 of the Federal Act on the Federal Criminal Authorities of 19 March 2010), and the Federal Patent Court (art. 8 and 13 of the Federal Act on the Federal Patent Court of 20 March 2000).

52 For a more detailed discussion, see subsection 3.1.2.

53 Depending on the party, the levy ranges from 1,500 to 8,850 Swiss francs annually at the Federal Administrative Court and from 3,000 to 20,000 at the Federal Supreme Court (Racioppi 2017, p. 23). Note that, like the requirement to join a political party, the requirement to pay an annual levy is not a written rule of federal law but rather an unwritten practice. For present purposes, however, I count these practices as law "in the books" since the dissertation is interested in judicial behavior, that is, law in action, *given* the institutional setting (which includes written and unwritten norms).

54 Council of Europe (2018), p. 119. Short, renewable tenure is also common in states of the United States (see footnote 43). On the federal level of the United States, however, judges enjoy life tenure (see Klerman 1999, p. 455, who calls life tenure "probably the most important guardian of judicial independence").

55 For example in Austria, Belgium, Germany, Italy, Portugal, and Spain (for an overview, see Hönnige 2009, p. 596).

56 Art. IV, § 3, of the United States Constitution of 21 June 1788.

parties at the time of their election or appointment,[57] they are not formally party members as in the Swiss case. Finally, and perhaps most idiosyncratic, the requirement that sitting judges pay an annual levy to their party is likely unique worldwide.[58]

As discussed in the previous section, the dominant view among European governments is that judicial councils should play a decisive role in judicial selection and that non-renewable tenure until retirement age is "without doubt the best way of ensuring judges' independence."[59] As a result, the Council of Europe and its Group of States Fighting Corruption have repeatedly criticized the Swiss institutions and practices as incompatible with the rule of law and judicial independence.[60] Note, however, that these recommendations and compliance assessments are not legally binding for Switzerland, in contrast to the rulings of the Council of Europe's court, the European Court of Human Rights, concerning the right to an independent judge under the European Convention of Human Rights. While these rulings are legally binding, they do not, so far, indicate that the Swiss institutions on judicial elections violate the Convention.[61]

57 See footnotes 87 f. for studies showing that the majority party at the time of election or appointment can be used as a proxy for a judge's political views.

58 Racioppi (2017), p. 3 and 30.

59 Council of Europe (2018), p. 119. See also European Commission (2020), p. 9: "Efforts [...] at strengthening judicial independence [...] include setting up or strengthening an independent national council for the judiciary. [...] A number of Member States have envisaged or adopted reforms aimed at strengthening the involvement of the judiciary in the procedure [of judicial selection]."

60 Council of Europe (2017), p. 18 and 25; GRECO (2019), p. 9 ff. See also footnote 46 with references to the recommendations of the Council of Europe and its Venice Commission.

61 In its jurisprudence to art. 6 para. 1 of the European Convention on Human Rights, the European Court of Human Rights takes into account the manner in which the judges are elected or appointed, the length of their tenure, de jure guarantees of judicial independence, and judges' exterior appearance of independence. Selecting judges in parliamentary elections does not violate the Convention and, in principle, the Court also allows elections by the people. The Court requires that judges have a fixed tenure during which they cannot be removed but does not require life tenure (see Frowein and Peukert 2009, art. 6, note 204 ff.; Peters and Altwicker 2012, p. 146 f.; Schabas 2015, p. 294 f.; for an in-depth treatment, see Müller 2015, p. 40-74). Note that in two cases the European Court of Human Rights did not consider a tenure of three years a violation of the Convention if the judges' independence is guaranteed considering all other factors (*Sramek v. Austria*, no. 8790/79, 22 October 1984, note 26 and 38; *Campbell and Fell v. The United Kingdom*, no. 7819/77, 28 June 1984, note 80). Note that the denied re-election of a judge by the competent authority is not considered by the Court to be a violation of the European Convention on Human Rights (Grabenwarter and Pabel 2016,

These critiques on the international level are also echoed within the country. Numerous legal scholars[62] and judges[63] view the short tenure in combination with the option for re-election as inherently in conflict with the independence of the judiciary. In the political sphere, the recent contested re-election of a judge at the Federal Supreme Court (*Bundesgericht*) has caused widespread worry among politicians and journalists that Swiss judges are partial and provoked calls for reform.[64] Voicing similar concerns, a group of citizens has successfully collected the necessary signatures for a constitutional referendum, demanding that Federal Supreme Court judges be chosen at random from a group of pre-selected candidates for a fixed term until five years after the regular retirement age.[65]

2.3 RESEARCH QUESTIONS

In the discourse described in the previous section, in particular at the European level, judicial independence is often equated

p. 489). It is important to note, however, that the jurisprudence of the Court evolves over time and that it may impose stricter requirements in the future.

62 For example, Kiener (2001), p. 285 ff., in particular footnote 245 with further references; Raselli (2011), p. 6 ff.; Amoos Piguet (2013), p. 4 ff.; Mahon and Schaller (2013), p. 10 ff. These views have been put forward in the legal literature practically since the creation of the Swiss Confederation (see Luminati and Contarini 2019, p. 276, footnote 401).

63 See, for example, Steiner (2009) interviewing Federal Supreme Court judge Thomas Stadelmann; Burger (2020), p. 57; Guidon (2020), writing on behalf of the Swiss association of judges; Neue Zürcher Zeitung of 7 September 2020, Interview with Marianne Ryter (President of the Federal Administrative Court), www.nzz.ch/schweiz/marianne-ryter-warnt-vor-verlust-der-unabhaengigkeit-der-justiz-ld.1573365.

64 Leading up to the re-election of 23 September 2020, the Swiss People's Party publicly renounced support for Yves Donzallaz, a party member and Federal Supreme Court judge, expressing disagreement with specific verdicts and arguing that the judge's values are not in line anymore with those of the party. Winning most of the votes of the other parties in the Swiss parliament, Donzallaz retained his seat, nevertheless (Official Bulletin 2020 V, p. 1977). See the opinion piece published in the Berner Zeitung, Basler Zeitung, Tages-Anzeiger and other major Swiss newspapers calling for judges to be elected for a tenure of fixed length without the option of re-election (Berner Zeitung of 23 September 2020, Eine Justizreform ist unumgänglich, https://www.bernerzeitung.ch/eine-justizreform-ist-unumgaenglich-719347149933).

65 The pre-selection would be done by a commission appointed by the government using only "objective criteria" of professional and personal ability (see Glaser 2018, p. 1255 ff.). A date for the referendum vote has not been set yet; the Swiss government opposes the proposal (Federal Gazette 2020, p. 6821 ff.).

with implementing legal rules that separate the judiciary from the legislative and executive powers.[66] However, the question of whether de jure protections of judicial independence contribute to de facto independence has not been answered conclusively in the empirical literature. While an initial cross-country study by Hayo and Voigt (2007) finds that de jure strongly predicts de facto independence, Rios-Figueroa and Staton (2012) and Melton and Ginsburg (2014) fail to find a robust relationship, and a more recent study by Hayo and Voigt (2019) finds that the link only holds for non-OECD countries.[67] Difficulties with measuring de facto independence, and with causal inference in cross-country studies, likely contribute to these conflicting findings.

Given the current state of knowledge, assessing the state of the rule of law based on the law *in the books* is not sufficient. Rather, empirical evidence on the real-world behavior of judges and the behavior of the other relevant institutional actors is necessary – in other words, investigating the law *in action*.[68] Thus, the present dissertation takes a more narrow focus, investigating the empirical reality in one particular country. Switzerland has a unique institutional bundle for such a study, with a combination of short, renewable tenure, judicial elections that stress democratic legitimacy and proportional representation, and close, formal ties between the major political parties and the judiciary. This provides an opportunity to measure and assess judicial behavior in the context of relatively politicized institutions for judicial selection. Against this institutional background, this part of the dissertation empirically studies the behavior of Swiss federal judges, how it affects the fundamental rights to an independent judge and to equal treatment before the law, and its potential legal, institutional, and political determinants. In particular, the dissertation addresses three research questions, where each question is studied comparatively across several areas of Swiss law.

(*i*) The first research question concerns the equal application of the law. On the individual level, two cases that share the same case facts and applied law ought to receive the same verdict by

66 See footnote 59.

67 Further, Voigt, Gutmann, and Feld (2015) find that de facto independence predicts economic growth but de jure independence does not. In an older index constructed by Feld and Voigt (2003), Switzerland ranks in the lowest quintile regarding de jure protections but but in the highest quintile regarding de facto independence.

68 The distinction was introduced by Pound (1910) (see section 1.1.3).

independent and impartial judges. To test whether courts fulfill this promise, the dissertation quantifies the degree to which Swiss judges make consistent decisions.

(*ii*) The second research question concerns judicial independence. Though the international law stipulates litigable minimum requirements, European legislators have considerable leeway in shaping the principle that judges be independent from other state powers. In Switzerland, due to its procedure for judicial elections, the link between parties and judges is crucial. Using judges' party membership as a proxy for their political views, the dissertation investigates the influence of political ideology on judicial decisions.

(*iii*) The third research question concerns the potential mechanisms that contribute to the empirical findings as well as their policy-making implications. Since the first two research questions are analyzed separately across several legal areas, the dissertation explores legal and institutional factors that may help explain any observed differences between the legal areas under study. Further, the dissertation presents policy interventions which may help extenuate such differences.

2.4 PREVIOUS EVIDENCE

Previous empirical, and in particular quantitative, evidence on judicial behavior and the judicial system in Switzerland is relatively scarce. In two early qualitative studies, Reichel (1919) and Morrison (1967) describe the informal election procedure for Federal Supreme Court judges, based on written testimony in the former case and on interviews with members of parliament in the latter. A series of more recent studies, primarily based on interviews, describe the practice of judicial elections, election criteria and typical judicial biographies.[69] Vatter and Ackermann (2014) quantitatively document the historical composition of the Federal Supreme Court in terms of political party membership.[70] Most recently, Luminati and Contarini (2021) descriptively analyze re-election results for Federal Supreme Court judges, documenting the frequency of contested or tight election outcomes.[71] In a correlational study, Schwenkel (2016) explains

69 For example, Livschitz (2002) on the canton of Zurich, Tippenhauer (2010) on the Federal Administrative Court, and Grünstäudl (2018), p. 292 ff., on the Federal Supreme Court. For further studies in this vein, see the references in Luminati and Contarini (2019), p. 277 f.

70 Luminati and Contarini (2021) criticize this study (see footnote 127).

71 See footnote 139.

the public's trust in the judicial system, as measured by surveys, by the varying cantonal procedures for judicial selection. Beyond these studies, additional streams of literature investigate behavioral aspects of judicial decision-making,[72] document the caseload and types of appeals faced by Swiss courts,[73] and study court organization and workflow.[74]

The only quantitative evidence available on the research questions studied here is provided by two recent working papers, Hangartner, Lauderdale, and Spirig (2020) and Spirig (2020). The two papers focus on one particular area of Swiss law, which is asylum law. In the former paper, the authors scale the preferences of asylum judges and test for the influence of political ideology on judicial behavior. They document substantial inconsistency in how often judges decide in favor of asylum-seekers who are appealing against an administrative decision ordering their deportation. Using all asylum cases adjudicated in the period from 2007 to 2015, they find that, on average, judges from the most conservative party prefer to grant about 5 % of all appeals, while judges from the most liberal party prefer to grant about 20 %. As a result, in about 6 % of all asylum cases the appeal is decided differently than if judges made entirely consistent decisions. These results provide an important indication of the degree to which adjudication by Swiss judges is consistent and determined by political ideology.

It is important to note, however, that asylum law has a number of idiosyncratic political and legal features compared to other legal areas. For one, asylum law is subject to exceptionally high public and political scrutiny. Spirig (2020) shows that the same asylum judges temporarily decide against asylum-seekers more often when asylum is a particularly salient topic in Swiss newspapers.[75] More broadly, research on the United States Su-

72 Using vignette studies, Schweizer (2005) studies the propensity of behavioral biases in judge decision-making and Ludewig, LaLlave, and Gross-De Matteis (2015) study the influence of prejudice and other non-legal factors in the decisions of prosecutors. Schweizer (2015) develops a Bayesian method of assessing evidence.

73 For example Tanquerel et al. (2011). For further studies in this vein, see the references in Rothmayr Allison and Varone (2017), p. 231 ff.

74 For example, Taal (2016) studies informal knowledge sharing among judges using surveys, Lienhard and Kettiger (2009) describe systems for caseload management and case-weighing employed at Swiss courts, and Lienhard, Kettiger, and Uster (2015) develop a novel case-weighing method. For an overview over this literature, see Winkler (2020).

75 An effect of temporary swings in issue salience has also been documented in other contexts. For example, Shayo and Zussman (2011) find that ethnic judicial bias in Isreali judges is exacerbated by nearby terrorist attacks. Lim,

preme Court indicates that issue salience tends to increase the influence of political ideology on judicial outcomes.[76] Thus, it is far from clear that the findings of Hangartner, Lauderdale, and Spirig (2020) can be generalized beyond the particular institutional context of asylum law. A number of additional reasons underscore this.

First, to accelerate the asylum process, the Swiss legislature reduced the average panel size in asylum cases from 2008 onward. As a result, a significant fraction of asylum appeals is decided by a single judge with the approval of a second judge.[77] Theory suggests that small panels tend to increase the influence of individual judges (and their particular ideologies) on case outcomes.[78] Second, asylum cases regularly lack conclusive evidence since the relevant facts occur abroad, often in war-torn countries, and the asylum-seekers usually do not have written evidence proving their need for protection.[79] This characteristic factual uncertainty may reduce the law's ability to guide judicial decisions.[80] Finally, asylum decisions are final and cannot be appealed within the Swiss judicial system, while in other legal areas court decisions can typically be appealed to the Federal Supreme Court or cantonal supreme courts. Previous studies document that judges are averse to being overruled, and are thus more free to follow their own preferences if no appeal is possible.[81]

Snyder, and Stromberg (2015) find that state court judges in the United States hand out longer sentences when their case is covered in the media. Philippe and Ouss (2018) find that this is also true for French jurors, but not professional judges. Epstein, Ho, et al. (2005) show that the United States Supreme Court is more likely to curtail civil rights during national security crises and war but, perplexingly, the effect only holds for cases unrelated to the war.

76 See, in particular, Unah and Hancock (2006); Sunstein et al. (2006), p. 87 ff. Further, Spaeth and Segal (1999), p. 309, find that Supreme Court judges are less likely to observe precedent they disagree with in salient cases and Spriggs, Maltzman, and Wahlbeck (1999) find that they try harder to influence the majority opinion in salient cases. McAtee and McGuire (2007) find that the experience of the attorney only affects Supreme Court decisions in non-salient cases and Casillas, Enns, and Wohlfarth (2011) find that they are less influenced by public opinion in salient cases.

77 See footnote 150.

78 See footnote 148.

79 See the references in footnote 234.

80 See subsection 6.1.2.

81 See subsection 6.1.4.

2.5 APPROACH

The quantitative evidence available on the behavior of Swiss judges so far is limited to one area of law. For the reasons given in the previous section, these results may not apply to the Swiss judicial system more broadly. To address the research questions studied here in a comparative way across several legal areas, I collect and analyze a novel data set. The data covers 11,004 verdicts by the Swiss Federal Administrative Court (FAC, *Bundesverwaltungsgericht*) in social security and immigration law. In operation since 2007, the FAC is Switzerland's largest court, hearing appeals against the decisions of Swiss federal administrative agencies. The bulk of its decisions concern asylum, social security, and immigration law, while the remainder fall into a wide array of further administrative law areas. FAC decisions can be appealed to the Federal Supreme Court, with the exception of asylum law, where decisions are final.[82] The data set covers the universe of social security cases (primarily disability benefits and old-age insurance) and immigration cases (primarily entry into the country and naturalization) for the period from 2007 to 2019. To allow for a better comparison to the previous research, the data further include the 1,843 asylum cases submitted to the FAC in 2007.

Several institutional features make the FAC a uniquely suitable setting for my research questions. First, cases are assigned to judges quasi-randomly at the FAC, providing a natural experiment where case merits are not systematically correlated with the panel composition.[83] Without such random assignment, it is nearly impossible to causally infer the effect of the judges and their ideology on case outcomes since it would then be unclear whether an empirically strict judge prefers to be strict or often hears unsubstantiated cases. Whereas in the United States all federal courts of appeal use quasi-random assignment,[84] this practice is almost non-existent in Europe. To my knowledge, the only two exceptions beyond the FAC are Danish judges[85] and Swedish lay judges at migration courts.[86]

Second, this dissertation exploits the fact that nearly all federal judges have a known political party affiliation. This practice, too, is idiosyncratic in Europe and provides a straightforward, credi-

82 See footnote 120.
83 See subsection 3.3.2.
84 See, however, Chilton and Levy (2015).
85 See Fabri and Langbroek (2007), p. 13.
86 See Martén (2015), p. 6.

ble proxy for the political ideology of the judges. In the absence of formal party membership, previous studies have proxied judges' political ideology by the majority party at the time of their election[87] or, respectively, by the party of the appointing president at the time of their appointment.[88] This approach, however, does not translate to the context of Switzerland's consensual government style and fractured party system.[89]

Third, the FAC has exclusive first instance jurisdiction for all appeals against administrative decisions by Swiss federal agencies concerning an individual.[90] In addition, cases arise from a very limited set of federal authorities acting as first-instance decision-makers.[91] In combination, these two features prevent self-selection of appellants into specific jurisdictions. Where such so-called "forum shopping" cannot be excluded, it is a possible identification threat when estimating judicial preferences and constitutes a frequent limitation in studies on equality before the law.[92]

Fourth, FAC judges are highly specialized, such that each individual judge only adjudicates cases in one particular area of law. As a result, the case-set per legal area contains a sufficient number of observations and is relatively homogeneous, that is, the cases have a similar legal structure. These features make it credible to model the preferences of judges on a unidimensional space, an assumption that is commonly invoked in the judicial politics literature. At less specialized courts, in contrast, judges may have varying preferences depending on the area of law.[93]

Finally, the setting allows for a comparison of the results across several legal areas. As discussed in the previous section, important political and legal differences between the legal areas under study do exist. For that reason, observed differences in judicial behavior by legal area cannot be explained causally in this study. Nevertheless, several important factors are kept constant across legal areas. In particular, all judges are elected under the same procedure and serve on the same court, all

87 For example, Amaral-Garcia, Garoupa, and Grembi (2009); Hanretty (2012).
88 This approach has been used both in the context of the United States federal judiciary (see Sunstein et al. 2006, p. 3 ff.; Epstein, Landes, and Posner 2013, p. 71 ff.) and in the context of international courts (for example, Voeten 2007; Malecki 2012).
89 See subsection 3.1.2.
90 See subsection 3.1.1.
91 See subsection 3.3.1.
92 For example in studies using United States asylum appeals data such as Ramji-Nogales, Schoenholtz, and Schrag (2007).
93 See subsection 4.1.1.

cases are decided by three-judge panels following virtually the same court-internal procedures for case-to-judge assignment and panel decision-making and, finally, almost all appellants in the data used here, including those in social security law,[94] are foreign citizens. Against this background, this dissertation provides suggestive evidence on potential mechanisms that may be driving the differences by legal area and which deserve further attention in future research.[95]

2.6 CONTRIBUTIONS

2.6.1 *Judicial Behavior in Switzerland*

This part of the dissertation makes contributions to several literatures in law, political science, and law and economics on judicial behavior, the consistency of adjudication, and the conditions for judicial independence. First, the dissertation provides data-based evidence on judicial consistency and the role of political ideology in verdicts by Swiss federal judges. As discussed previously in this chapter, there is an ongoing, heated debate in Swiss politics, the judiciary, and among legal scholars about the strengths and weaknesses of Switzerland's institutions for judicial selection. So far, this debate is largely based on assumptions about how legal provisions or political practices affect judicial behavior and independence. The only quantitative evidence available, while very important, is limited to one, in many ways atypical, area of Swiss law.[96] By collecting and analyzing original data, this dissertation is the first study to provide quantitative evidence on its research questions across several areas of Swiss law. As such, it has the potential to inform the ongoing policy-making debate in Switzerland about reforms to the federal judiciary.

2.6.2 *Political Ideology and Judicial Independence*

While the previous quantitative evidence on judicial behavior in Switzerland is scarce, an extensive judicial politics literature exists in the United States. In the influential "attitudinal model" of judicial-decision making, judges decide cases based on their

94 See subsection 3.3.1.
95 See the discussion in subsection 6.1.1.
96 See the overview over the empirical literature on the Swiss judicial system in section 2.4.

political views.[97] This notion has since been challenged by an extensive stream of studies documenting that other biographical characteristics of judges also affect their behavior,[98] for example gender,[99] religion,[100] and race or ethnicity.[101] However, the accumulated evidence shows that political attitudes predict the behavior of federal judges in the United States more strongly and more consistently than other judicial characteristics.[102] The external validity of this finding, however, may be geographically limited. Due to the more central role of the judge in a common versus civil law system, differing judicial career paths and selection mechanisms as well as political and cultural differences the insight provided by this literature may not hold on both sides of the Atlantic.

For this reason, it is valuable that the role of political ideology in judicial behavior is increasingly studied using data from European countries as well. A particular characteristic of the European context is the important role of international courts. In studies on the European Court of Justice, for example, a dominating research question is whether the behavior of judges reflects the policy preferences of their appointing government regarding European integration. Malecki (2012) and Frankenreiter (2018) find that this is indeed the case.[103] Similarly, on the European Court of Human Rights, Voeten (2007) shows that aspiring European Union member states appoint more activist judges. Judicial behavior also to varying degrees reflects the preferences of the body that elects or appoints judges to national courts. For example, Amaral-Garcia, Garoupa, and Grembi (2009), Hanretty (2012), and Garoupa, Gomez-Pomar, and Grembi (2013) find such a link for the Portuguese and Spanish constitutional courts, Garoupa, Gili, and Gomez-Pomar (2012) for the Spanish supreme court, and Hönnige (2009) for the German and French

97 See the references in footnote 16.

98 For an overview, see Epstein, Landes, and Posner (2013), chapter 2; Rachlinski and Wistrich (2017); Harris and Sen (2019).

99 Boyd, Epstein, and Martin (2010).

100 Weinshall (2011).

101 Gazal-Ayal and Sulitzeanu-Kenan (2010); Shayo and Zussman (2011); Grossman et al. (2016).

102 See Harris and Sen (2019), p. 245 f.; A. Cohen and Yang (2019), p. 173 ff. For a critical view on this assessment, see Epstein and Knight (2013), p. 11 ff.

103 Further, Carrubba, Gabel, and Hankla (2008) and Larsson and Naurin (2016) find that member states governments influence decisions by the European Court of Justice by issuing threats of non-compliance or legislative override.

constitutional courts.[104] These studies provide important insight into judicial behavior in civil law countries.

As discussed in section 2.2, however, the Swiss institutions for judicial selection are not only markedly different from those of the United States but also from those of other European countries. Given these discrepancies, the present dissertation helps broaden the horizon of these literatures by providing novel evidence on the influence of political ideology on judicial behavior in a unique, under-explored institutional context. This also contributes to a comparative literature studying the conditions for judicial independence. Evidence from cross-country studies on whether de jure protections of judicial independence foster de facto independence is inconclusive.[105] In-depth, country-specific evidence on de facto conditions for judicial independence exists primarily on the United States. While the institutional context explored in these studies often displays important parallels to Swiss institutions, the latter's particular idiosyncrasies make Switzerland an interesting case for testing the external validity of previous findings. Two examples illustrate this last point.

First, Clark (2010) argues that judicial independence is inherently limited by public support since unpopular verdicts increase the likelihood of legislative override and court-curbing legislation. Further, Hanssen (2004) finds that legislators are least likely to do so when party competition is tight. Threats of legislative override and court-curbing are particularly credible in Switzerland since Swiss courts are required to apply federal statutes even when they are unconstitutional.[106] However, Switzerland has a more consensual, less polarized culture of government, while its party-landscape is more fractured than in the United States.[107] Second, like Swiss federal judges, state judges in the United States are typically subject to regular re-elections.[108] Several studies show that this influences the

104 See also Vanberg (2005), p. 116 ff., who shows, using interviews with court members, that judges at the German Federal Constitutional Court take the likelihood that a legislative majority might override an unpopular court decision into account when deliberating. Further, see Hanretty (2020) who finds that political ideology is not among the most predictive factors for verdicts by the Supreme Court of the United Kingdom.

105 See section 2.3.

106 Due to art. 190 of the Swiss Constitution.

107 See subsection 3.1.2.

108 See footnote 43.

verdicts by state judges who are up for re-election.[109] However, as compared to the United States, re-elections for Swiss federal courts are rarely competitive even though judges have publicly known party affiliations.[110] This dissertation contributes to this literature by investigating whether incentives due to the periodic re-election by a multi-party parliament contribute to the effect of political attitudes on judicial decisions.

2.6.3 *Consistency of Adjudication*

This part of the dissertation also adds to an interdisciplinary literature which quantifies variation in judicial preferences. Since inconsistent verdicts may violate the right to equality before the law, evidence on the consistency of adjudication is of critical importance from a legal point of view. Once again, much of the previous evidence focuses on the United States. One area that has received particular attention is criminal sentencing, in particular with regards to the unequal treatment of defendants based on race.[111] In other legal areas, evidence on the consistency of adjudication frequently arises incidentally in studies using variation in judicial preferences as an instrumental variable to identify a causal effect.[112] In estimating the effect of disability benefits on employment, Maestas, Mullen, and Strand (2013) find that most federal disability examiners have a grant rate of plus or minus 10 % of the mean grant rate, though extremes range to about minus 30 % to plus 50 % from the mean.[113] Further, estimating the effect on health, French and Song (2014) find that most federal administrative law judges reviewing examiner decisions fall within 10 % of the mean grant rate, with extremes at about 20 % plus or minus the mean.[114]

109 See Shepherd (2009); Canes-Wrone, Clark, and Park (2012); Berdejo and Yuchtman (2013); Ash and MacLeod (2015). See also Kang and Shepherd (2015) on the effect of contributions to judicial re-election campaigns.

110 See subsection 3.1.2.

111 Mustard (2001); Abrams, Bertrand, and Mullainathan (2012); Rehavi and Starr (2014). Empirical results on inconsistency in sentencing have been used as a normative argument for legal reform and, for example, led to the enactment of criminal sentencing guidelines (see Waldfogel 1998; Stith and Cabranes 1998; Scott 2010; Yang 2014).

112 For example, to estimate the effect of pre-trial detention (Dobbie, Goldin, and Yang 2018), juvenile incarceration (Aizer and Doyle 2015), or patent invalidation (Galasso and Schankerman 2014).

113 Similar results in Autor et al. (2015). See also Marshaw et al. (1978).

114 Similar results in Black et al. (2017).

In immigration law, there is, to my knowledge, only one previous study. In a setting without random assignment and with data limited to nine federal immigration judges deciding over bond releases, Ryo (2016) finds that their average grant rates spread over 53 percentage points from the most lenient to the strictest judge. Extensive evidence is available on the four judicial stages of the United States asylum process, that is, regional asylum examiners, regional immigration courts, boards of immigration appeals (all of which are part of the Department of Justice), and federal courts of appeals. Ramji-Nogales, Schoenholtz, and Schrag (2007) document substantial between-judge and between-region variation in grant rates on all four levels, with lower levels of inconsistency at the higher stages of the process. During the first stage, officer grant rates range, depending on the office, across 35 to 75 percentage points.[115] At the courts of appeals, between-judge grant rates range, depending on the circuit, across 13 to 32 percentage points. Rehaag (2008) and Rehaag (2012) find similar degrees of variation in the grant rates of Canadian asylum judges.

This dissertation contributes to this literature by providing evidence on judicial inconsistency across several legal areas. In Switzerland, no comparative evidence exists so far since the only previous study available is limited to asylum law. In the United States, where the previous literature covers various areas of the law, the results arise from courts with wildly differing institutional settings. Thus, a comparison across legal areas involves, for example, comparing decisions by administration-internal examiners (in Maestas, Mullen, and Strand 2013) with three-judge panel verdicts by courts of appeals (in Ramji-Nogales, Schoenholtz, and Schrag 2007). In comparison, several important factors that may affect judicial inconsistency, for example the panel size, are held constant in the present setting.[116] The dissertation exploits this setting to provide suggestive evidence on potential mechanisms that may drive differential results by legal area. In particular, section 6.1 discusses the potential effects of uncertain case facts, re-election incentives, and the threat of being overruled by a higher court.

115 See also, with similar results, Chen, Moskowitz, and Shue (2016). Similar degrees of variation are documented in papers using asylum decisions to train machine learning algorithms which predict case outcomes (see Dunn et al. 2017 and Chen and Eagel 2017).

116 See the discussion in subsection 6.1.1.

2.6.4 *Interventions and Panel Effects*

Beyond investigating potential mechanisms, the dissertation also presents two specific policy-making interventions that may help reduce judicial inconsistency and the influence of political attitudes. In particular, I propose changing the judge-to-case assignment mechanism in two ways: assigning each panel member sequentially and anonymously, in order to reduce the opinion drafters' opportunities to tailor the opinion to the composition of the panel, and creating ideologically balanced panels, in order to increase the degree of oversight that panel colleagues provide to each other. These interventions build on the existing literature on judicial decision-making in multi-judge panels.

First, previous studies investigate the conditions under which judges diverge from their preferences as a function of the composition of the bench, so-called panel effects. For example, Sunstein et al. (2006, p. 59 ff.) show that judicial preferences are more strongly constrained by the preferences of the panel colleagues if the panel is ideologically diverse.[117] Second, Bonneau et al. (2007), in the context of the United States Supreme Court, show that the opinion drafter on a multi-judge panel exerts substantial influence over the opinion content even if judges have the possibility to dissent. The dissertation adds to these literatures by showing empirically that judges provide varying degrees of oversight to their panel colleagues depending on their ideological closeness. Further, it presents policy-making interventions which may help increase the oversight over the opinion drafter in the framework of a multi-judge panel.

117 Similar panel effects have been documented in various other contexts. For example, Boyd, Epstein, and Martin (2010) find that male judges are more likely to find in favor of gender discrimination plaintiffs if a female judge is on the panel. On gender panel effects, see also Farhang and Wawro (2004) and Peresie (2005). See Fischman (2011) on panel effects in courts of appeals asylum judges. See Kastellec (2013) on the effect of racially diverse panels.

3

INSTITUTIONAL SETTING AND DATA

This chapter describes the jurisdiction and composition of the Federal Administrative Court, the data sets used to analyze its verdicts, and the data-generating process. Section 3.1 discusses the jurisdiction of the FAC within the Swiss court system and its composition, focusing in particular on the selection of judges through elections held in the Swiss parliament. Section 3.2 introduces the data sets which are used for the empirical analyses and provides key summary statistics. The first data set contains detailed information on a total of 12,847 FAC verdicts in social security law, immigration law, and asylum law, and the second data set contains biographical information on FAC judges. Section 3.3 dives deeper into the data-generating process by analyzing the three crucial steps of the legal process studied here. First, the section discusses the original administrative decision against which the appeal is lodged. By providing summary statistics on important case characteristics, this provides a window into the legal questions which ultimately determine the court verdicts. Second, the case assignment mechanism employed at the FAC to form judge panels is detailed. Third, the section analyzes the decision-making procedure used by FAC judges to form panel decisions and discusses its implications for the empirical strategy.[118]

3.1 THE FEDERAL ADMINISTRATIVE COURT

3.1.1 *Jurisdiction*

The Federal Administrative Court has its seat in St. Gallen and, with 76 judges, is Switzerland's largest court. The Court was installed as per 1 January 2007 as the general federal administrative court of first instance. The FAC's jurisdiction includes all appeals against administrative law decisions issued by Swiss

118 The last two subsections are partly based on informal interviews with several current and former FAC members, including three current judges, one former judge, one current law clerk, and two former law clerks.

federal agencies.[119] Due to the federal organization of the Swiss Confederation, administrative decisions within the same legal area are often made both by federal as well as cantonal authorities. Decisions by cantonal authorities can typically be appealed at cantonal district courts and then at cantonal courts of appeal, while most administrative decisions by federal authorities can be appealed at the FAC. On both the federal and cantonal level, these court decisions can then generally be brought before the Federal Supreme Court (figure 3.1). In particular, appeal to the Federal Supreme Court is possible for the FAC verdicts in social security and immigration law studied here. In asylum law, by contrast, FAC verdicts are final and cannot be appealed.[120] The Federal Supreme Court also supervises the administration of the FAC although in the exercise of its judicial power the FAC is "independent and only bound by the law."[121]

Within the jurisdiction of the FAC, the bulk of cases concern asylum, social security, and immigration law. In all three legal areas, all appellants are either foreign citizens or Swiss citizens domiciled abroad, since social security disputes involving resident Swiss citizens are in the jurisdiction of cantonal courts.[122] The FAC also adjudicates a smaller number of cases in a wide array of further legal areas, including infrastructure, environment, data protection, tax, tariff, intellectual property, intelligence service, education, and competition law.[123] The Court is organized in six specialized divisions, each consisting of about $10 - 15$ judges. Social security law cases are in the jurisdiction of division III, asylum law cases are decided by divisions IV and V, and immigration law by division VI.[124]

119 See art. 1 para. 1 of the FAC Act. This excludes patent law and criminal law, where appeals go to the specialized Federal Patent Court or Federal Criminal Court, respectively. Prior to 2007, appeals against federal administrative decisions were adjudicated by court-like administration-internal commissions.

120 Art. 83 lit. d nr. 1 of the Federal Supreme Court Act. Asylum verdicts can, however, be appealed to the European Court of Human Rights.

121 Art. 3 para. 1 and art. 2 of the FAC Act. The independence of courts is also guaranteed in art. 30 para. 1 and art. 191*c* of the Swiss Constitution (see footnotes 9 and 10).

122 See subsection 3.3.1.

123 The caseload in these legal areas is significantly lower than in the areas studied here. For caseload numbers, see the FAC's annual reports (www.bvger.ch/bvger/en/home/about-fac/annual-reports.html).

124 See art. 23 of the Rules of Organization of the FAC of 17 April 2008 (in the following "FAC Rules"). Division VI has only been in operation since 1 July 2016 (see Official Compilation of Federal Law 2016, p. 1373). Until then, division III had been composed of two separate chambers, one chamber

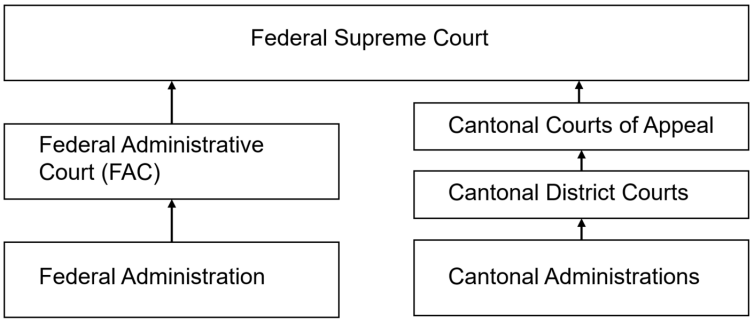

Figure 3.1: Administrative Court System

The figure depicts a simplified account of the appeal stages in the Swiss administrative court system (without civil and criminal courts).

3.1.2 *Election of Judges*

FAC Judges are elected by the two chambers of the Swiss parliament, the Federal Assembly, for a tenure of six years. There is no limit on the number of terms that judges are allowed to serve but they must retire at the end of the year in which they reach the age of 68.[125] In practice, parliament elects judges such that the major Swiss political parties are represented at each federal court roughly in proportion to their share of the national vote.[126] This is an unwritten practice, dating back into the 19^{th} century,[127] and is not required by the Swiss Constitution or any other written legal rule. The origins of this practice are best

deciding social security cases and the other immigration cases. It is important to note, however, that even before the creation of division VI panels were formed only within the two chambers. Thus, while the dissertation refers only to divisions III and VI, these references are intended to also include the former chambers.

125 Art. 5 and 9 of the FAC Act.

126 More specifically, the distribution of seats at the federal courts is based on the number of members of parliament of each parliamentary group (*Fraktion*), where some groups are composed of several political parties. In the judicial election proceedings described here, thus, it is in fact the parliamentary groups rather than the political parties that recommend judicial candidates for office. Each parliamentary group, however, is dominated by one major political party. For simplicity, I will thus refer only to the political parties in the following.

127 It is difficult to determine since when exactly the practice is in place. Vatter and Ackermann (2014), p. 529 f., find that the party-composition of the Federal Supreme Court and of the Federal Assembly were first well-aligned at the end of the 19^{th} century but not before. However, as Luminati and Contarini (2021) argue, Vatter and Ackermann (2014) underestimate the convergence between the composition of the judiciary and parliament since they do not account for the fact that judges without formal party membership, which were numerous at the time, often used to have strong informal party-ties.

understood by considering a defining aspect of Swiss democracy and political culture. Famously coined the "consensus model of democracy" by Lijphart (1999, p. 30 ff.), the Swiss political order aims for negotiation and compromise rather than majoritarian decision-making.[128] As one particular expression of this goal, the principle of proportional representation permeates Swiss politics on all levels: From the federal government down to town-level administrative committees, seats in decision-making bodies are divided among the political parties roughly in proportion to the votes they receive.[129] This culture extends to the judiciary where it serves to ensure that the full spectrum of political views held by the Swiss population is represented on the bench.[130] The next two paragraphs describe the procedure of judicial elections to the FAC, focusing in particular on the central role of the political parties.

Two different types of elections have to be distinguished: supplementary elections to fill vacant seats and general elections at the beginning of each term where all FAC judges are up for re-election.[131] In the first case, a vacancy at the FAC arises, typically because a sitting judge steps down. For the preselection of potential candidates, the parliament has established a Court Commission composed of members of parliament. The Court Commission is required to publicly announce vacant FAC seats[132] but is otherwise largely free in its procedure. Typically, the announcement specifies the division and the national language in which the vacancy exists.[133] At this point, the Court Commission also informs the parties whether they are currently over- or underrepresented at the Court. After receiving candidatures, the Court Commission holds oral hearings. In practice, the Commission only hears candidates without formal party membership if it anticipates that no candidate with party support is fit for office. Thus, though not required by law, party membership is a de facto condition for winning office and al-

128 Other political scientists have used terms such as "negotiation democracy" or "amicable agreement" for the Swiss model, while in Swiss politics this guiding principle is usually called "*Konkordanz*" (see Linder and S. Mueller 2017, p. 366).

129 See Lijphart (1999), p. 36.

130 Kiener (2001), p. 269 ff.

131 See art. 135-137 of the Federal Act on the Federal Assembly of 13 December 2002 (in the following "Federal Assembly Act").

132 Art. 40*a* para. 2 of the Federal Assembly Act.

133 For this step, the Court Commission consults with the FAC since vacancies sometimes result in court-internal reshuffling before a new judge is elected (see art. 20 of the FAC Rules). See Marti (2010), p. 6 f.

most all FAC judges have a known political party membership or are backed by a party when running for office.[134] After the hearings, the Court Commission communicates a list of recommended candidates to the parties which in turn announce which candidates they will support in the election. Only then does the Court Commission publish its official recommendation to the parliament.[135] If there is only one vacancy, the Commission typically only recommends candidates who are supported by the party that is most underrepresented at the Court. In the case of multiple vacancies, one candidate is typically recommended per vacancy. In practice, parliament follows the recommendations.[136]

After the expiry of their term of six years, FAC judges who seek another term have to win re-election by parliament. In practice, re-elections are rarely contested. In the two general elections that have been held for the FAC since its inception, in 2011 and 2018, no sitting FAC judge has failed to win re-election.[137] This practice of largely non-competitive retention elections extends beyond the FAC to the Swiss judiciary more broadly. The history of the Federal Supreme Court, which has been a permanent court since 1874, illustrates the point. Since then, only two judges who sought another term have failed to win re-election, in both cases because they were deemed too old.[138] However, the history of judicial elections at the Federal Supreme Court also reveals two qualifications. First, it is fairly common that certain judges receive less votes than their colleagues in general elections as a show of disapproval by one or several parties. This is quantitatively documented in the previous literature only for the Federal Supreme Court.[139]

134 Kiener (2001), p. 269 f. In the first election of FAC judges, a few candidates won office as independents since they had previously served on the court-like administrative commissions which the FAC replaced. Among the currently serving judges which have been elected later, one judge is a self-declared sympathizer of the green party without being a party member.

135 See art. 40 para. 3 of the Federal Assembly Act.

136 See Marti (2010), p. 6 ff.

137 Official Bulletin 2011 V, p. 570; 2018 V, p. 577.

138 Once in 1942 and once in 1995 (Schindler 2003, p. 1022). However, as Luminati and Contarini (2019), p. 282 ff., point out, there is anecdotal evidence in both cases that the age of these two judges was an excuse made up by members of parliament to cover political motivations.

139 See Luminati and Contarini (2021). In one particular case, in 1990, parliament wanted to "teach a lesson" to a judge by re-electing him by a close margin. However, since fewer members of parliament voted for the judge than expected, parliament failed to re-elect him. The judge was re-elected in a special election one week later (Official Bulletin 1990 V, 2520 f.).

A close look at the general elections of 2011 and 2018 reveals, however, that such "punishments" also occur at the FAC.[140] Second, anecdotal evidence suggests that sitting judges have in the past been pressured to retire informally by their party.[141] Since this cannot be observed from studying re-election results alone, it is possible that this occurs at the FAC, as well.

3.2 DATA

3.2.1 *Verdicts*

The dissertation builds a novel data set of the FAC verdicts in social security law (disability benefits, old-age insurance) and immigration law (inter alia naturalization, residence permits, visa) issued in the period of 1 January 2007 to 31 December 2019. I have webscraped the full text of these verdicts from the Court's official web database[142] using Python. The database is required by federal law to include all substantive verdicts, that is, all FAC decisions that are not of a purely procedural nature.[143] In the specified time period, the database contains a universe of 15,638 verdicts issued by division III (social security law) and division VI (immigration law).

In order to improve the comparability of cases across legal areas, I keep the panel size constant. That is, I only include verdicts by three-judge panels in the analysis, which is the normal panel size at the FAC.[144] This excludes cases that are decided by five-judge panels when this is deemed necessary in the interest of the development of case law or of the unity of the legal order (about 1 % of all cases in the database).[145]

140 In 2011, all 67 judges seeking re-election were re-elected, with an average of 94 % of all valid votes. Twelve judges received significantly fewer votes (on average 79 %), all of which were asylum judges of the leftist parties or independent judges (Official Bulletin 2011 V, p. 570). In 2018, all 69 judges seeking re-election were re-elected, with an average of 97 % of all valid votes. Seven judges received significantly fewer votes (on average 79 %), among them four asylum judges of the leftist parties (Official Bulletin 2018 V, p. 577).

141 Luminati and Contarini (2019), p. 282 ff.; Kiener (2001), p. 287.

142 The database is available at www.bvger.ch/bvger/de/home/rechtsprechung/entscheiddatenbank-bvger.html.

143 See art. 29 of the FAC Act and art. 6 para. 1 and 2 of the Rules on Information of the FAC of 21 February 2008. Procedural decisions that are of interest to the public are included in the database but are not used in the analysis.

144 Art. 21 para. 1 of the FAC Act.

145 As ordered by the division president on request by any member of the three-judge panel (art. 23 para. 2 of the FAC Act, art. 32 para. 2 of the FAC Rules).

Further, this excludes single-judge decisions in cases that have become obsolete, for example because the appeal is withdrawn, or that do not meet formal requirements and are dismissed without entering into the substance of the case.[146] Single-judge decisions make up 13 % of call cases in the online database. Note, however, that the true fraction of single-judge decisions is higher since they are not always published.[147] A priori, it is plausible that the inconsistency of adjudication is higher in single-judge decisions than in three-judge decisions since in the former case the decision-maker is not constrained by any panel colleagues. Conversely, an increase in the panel size to five judges may decrease inconsistency.[148] By focusing on three-judge panels, these potential effects are kept constant, facilitating a comparison across legal areas.

Within all three-judge decisions issued by divisions III and IV, I only consider social security law and immigration law cases. That is, I exclude cases concerning the approval of drugs, pension institutions, public health insurance, and accident insurance (about 11 % of three-judge decisions). These cases cannot

146 See art. 23 para. 1 of the FAC Act.

147 If appellants request a waiver of court fees due to their economic status they typically do so at the time of lodging the appeal. If the appeal is deemed obviously without merit by the chair judge, he or she will dismiss the request for a fee waiver and order the appellant to pay an advance to cover the court fees. This frequently leads to the appellant abstaining from paying the advance which results in the chair judge dismissing the appeal as a single judge. In principle, this could cause selection in the type of cases that chair judges preside over in three-judge panels. To assess this, Hangartner, Lauderdale, and Spirig (2020) obtain these unpublished data and run their analysis twice: once using only three-judge panel decisions and once using all decisions, including those by single judges (p. 20, 27, and appendix, p. 6). They find that judges do vary in how often they write off cases as a single judge rather than granting the waiver and letting the case proceed to a three-judge panel. However, they also find that the estimated judicial inconsistency is virtually identical in both data sets. Further, note that single-judge decisions are less likely to cause case selection in other legal areas since appellants in asylum law are, on average, more often needy and their cases more often deemed obviously without merit (see Sonderegger and Kneer 2016, p. 11 ff.).

148 Although no conclusive empirical evidence seems to exist, Kornhauser and Sager (1986), p. 98, provide theoretical support for this hypothesis: if judges are on average more likely to make correct rather than incorrect decisions, if judges decide by simple majority, and if judges' votes are independent from each other, then the panel decision is more likely to be correct the more judges vote. Although, in the present context, we are concerned with consistent, rather than accurate, decisions, the two concepts are related. If we assume the law is not indeterminate then observing any degree of inconsistency also implies that at least some of the observed decisions are incorrect, although it is not necessarily clear which ones.

be represented by the same uni-dimensional structure that is assumed by the statistical model,[149] as the appellant is typically not an individual but an institutional actor. The latter is also true in some immigration law cases where the appellant is formally an employer appealing on behalf of an employee whose work permit has been rejected. These cases are retained in the data.

The final data set used in the analysis contains 5,349 social security verdicts and 5,655 immigration verdicts. Further, to allow for better comparison of the results across legal areas and to the previous literature, the empirical strategy developed here is also applied to the 1,843 three-judge asylum verdicts from 2007.[150]

The variables have been constructed from the verdict text, using regular expressions in R and Python. To ensure that the algorithms work correctly, I manually checked randomly drawn samples continuously after every step. In addition, I manually checked 100 randomly drawn observations against the FAC database at the end of the data collection. All variables which are used in the empirical analysis achieved 100 % accuracy in this sample.[151] The data comprise the following variables, where the level of observation is a verdict (or, with the same meaning intended, a decision or an appeal):

- *case outcome*: a binary indicator, equaling 1 if the appeal is granted and 0 if the appeal is dismissed. Cases where the Court partially grants an appeal are coded as granted as is the standard in the empirical literature. Appeals are only coded as granted if the Court grants demands relating to the legal substance of the case but not if it dismisses those material appeal reasons and only grants, for example, a request for reimbursement of attorney's fees or for a waiver of court fees due to the appellant's economic status. The case outcome is the primary outcome variable used in the empirical analysis. The average appellant win rate is about

149 See subsection 4.1.1.

150 Appeals *submitted* after 2007 are not directly comparable to the data used here. As of 1 January 2008, asylum cases that are "clearly with or without merit" can be decided in a simplified procedure by a single judge with the approval of a second judge (art. 111 lit. e of the Federal Act on Asylum of 26 June 1998, in the following "Asylum Act"). This reduces the average panel size in asylum law significantly, which may also affect the observed judicial inconsistency (see footnote 148).

151 In one case, the FAC's online database and the verdict gave conflicting information on the year of the decision. I used the date as stipulated by the online database.

	N	Granted	Without partial
Social Security	5,349	61 %	37 %
German	2,804	61 %	49 %
French	1,509	59 %	26 %
Italian	1,036	62 %	21 %
Immigration	5,655	20 %	15 %
German	2,485	17 %	11 %
French	2,883	22 %	17 %
Italian	287	30 %	16 %
Asylum	1,834	24 %	17 %
German	1,244	26 %	23 %
French	477	20 %	16 %
Italian	122	9 %	7 %

Table 3.1: Average Appellant Win Rate

The table shows average appellant win rates per legal area, overall and subset to case language. In both columns a binary case outcome is used. In the column "Granted," appeals are counted as granted if the Court grants at least one of the material (non-procedural and not cost-related) demands of the appellant. In the column "Without partial," appeals are only counted as granted if the Court grants all of the material demands of the appellant.

61 % in social security law, 20 % in immigration law, and 24 % in asylum law (table 3.1).[152]

– *partially granted*: a binary indicator, equaling 1 if the Court only grants some, but not all, of the appellant's material appeals and 0 otherwise. If partially granted appeals are coded as dismissed rather than granted, the average appellant win rate decreases to 37 % in social security law, 15 % in immigration law, and 17 % in asylum law (table 3.1).

152 Note that Tanquerel et al. (2011), p. 34 and 59 f., report slightly different numbers which are close to the mean win rate without partially granted appeals. Their coding scheme is not entirely clear, however, and does not report how partially granted appeals are coded and whether their analysis is also restricted to three judge panels.

- *judge1*, *judge2*, and *judge3*: the identity of the chair judge, of the second judge, and of the third judge. The chair judge is one of the main explanatory variables used in the empirical analysis. In social security law, there are 36 unique chair judges, 23 in immigration law, and 34 in asylum law. For summary statistics on the caseload per chair judge, see table 4.1.

- *party1*, *party2*, and *party3*: the political party affiliation of the chair judge, of the second judge, and of the third judge. The party of the chair judge is one of the main explanatory variables used in the empirical analysis. Judges without party affiliation are coded as "Independents." Two currently serving judges are self-declared supporters of the green party without being formal party members; they are coded as green party judges. In social security law, judges of 5 parties have chaired at least one decision, while there are chair judges of 6 parties in immigration law as well as in asylum law. For summary statistics on the caseload per party, see figure 5.2 and table 5.1.

- *year*: the year in which the appeal was submitted to the Court.[153]

- *verdict date* and *verdict year*: the date and year of the verdict.

- *language*: the national language in which the verdict is rendered (German, French, or Italian). For summary statistics, see table 3.1.

- *country of origin*: the country of origin of the appellant. For summary statistics, see table 3.2.

- *subject matter*: the primary legal dispute at stake. For the categories used and summary statistics, see subsection 3.3.1.

- *legal representation*: a binary indicator, equaling 1 if the appellant is represented by a lawyer or paralegal, and 0 if not.

153 As some appeals were lodged in 2006 and then transferred to the newly created FAC, this variable ranges from 2006 to 2019.

Further variables in the data set include a unique case identifier, the division, the panel size, the age of the appellant,[154] and the first-instance administrative decision-maker.

3.2.2 *Judges*

In a second data set, I collect biographical information on all judges who took part in one of the decisions in the data (89 unique judges in total). These data are available from the judges' profiles on the FAC homepage or, where a judge has stepped down, from the official records of the parliamentary session in which that judge was elected.[155] The data comprise the following variables:

- *party*: see the variables *party1*, *party2*, and *party3* in subsection 3.2.1.
- *gender*: a binary indicator, equaling 1 if the judge is male and 0 if the judge is female. The fraction of decisions where the chair judge is male is 66 % in social security law, 69 % in immigration law, and 73 % in asylum law.
- *experience*: years of experience as a full-time judge at the time of the verdict, either at the FAC or at a different court prior to the election to the FAC. This includes experience as a judge in the court-like administrative commissions which were replaced by the FAC. The mean years of judicial experience of the chair judge is 11 in social security law, 9 in immigration law, and 11 in asylum law.

Further variables, which are not used in the empirical analysis, include the mother tongue, age (for which experience serves as a proxy), divisions in which the judge has served, year of election to the Court, hometown, universities at which the judge studied, whether the judge practiced as a lawyer, and whether the judge has a doctoral degree.

154 This variable has low coverage since the information is often blacked out in the verdict text. It is not used in the empirical analysis.

155 See, for example, the profile of the president of division III (www.bvger.ch/bvger/de/home/das-bundesverwaltungsgericht/richter-innen-und-gerichtsschreibende/richterinnen-und-richter/richter-abteilung-iii/weiss-david.html). The same biographical information is also available from the report presented to parliament recommending that same judge for office (Report of the Court Commission of 18 September 2013, www.parlament.ch/de/ratsbetrieb/suche-curia-vista/geschaeft?AffairId=20130204).

3.3 FROM APPEAL TO VERDICT

3.3.1 *Administrative Decision*

Each legal dispute decided by the FAC originates in an administrative decision by a federal agency addressed to an individual against which the addressee lodges an appeal. The original decision and the appeal reasons against it ultimately determine the legal substance of the court cases studied here. Thus, this subsection gives an overview over the characteristics of these legal cases and provides summary statistics.[156] Although the cases belong to three distinct legal areas, there is one commonality worth noting at the outset: The overwhelming majority of appellants are not Swiss citizens. While this goes without saying in immigration and asylum law, it is also true in social security law. This is because social security disputes concerning resident Swiss citizens are in the jurisdiction of cantonal, rather than federal, first-instance courts. On the contrary, if the insured person is a foreign citizen or a Swiss citizen domiciled abroad, the dispute falls into the federal jurisdiction of the FAC.[157]

Social security law cases concern disputes about disability benefits and old-age insurance pensions. Typical disability benefits cases involve a foreign citizen who has worked in Switzerland under the European free movement of persons regime, suffers an accident, subsequently returns to his or her home country, and claims disability benefits from Switzerland. Such claims are handled by the Disability Insurance Office for People Living Abroad (*IV-Stelle für Versicherte im Ausland*). If the Office fully or partly denies benefits, the insured person may appeal to the FAC. Similarly, typical old-age insurance cases involve a foreigner returning to his or her home country upon reaching retirement age, with a dispute arising about a retirement pension under the Swiss old-age insurance. In these cases, the first-instance decision-maker is the Central Compensation Office (*Zentrale Ausgleichsstelle*). Accordingly, the most frequent countries of origin of the appellant have a tradition of immigrant labor in Switzerland, namely Italy (19 % of all appellants), Spain (13 %), Switzerland (12 %), Germany (10 %), and France (9 %; table 3.2).

156 For a more detailed discussion of the case facts and legal arguments that tend to be decisive for the case outcomes, see subsection 6.1.2.

157 See art. 69 para. 1 lit. b of the Federal Act on Disability Insurance of 19 June 1959 (in the following "Disability Insurance Act") and art. 85bis para. 1 of the Federal Act on the Old-age and Survivors Insurance of 20 December 1946 (in the following "Old-age Insurance Act"). See subsection 3.1.1.

Social Security		Immigration		Asylum	
Country	Prop.	Country	Prop.	Country	Prop.
Italy	0.192	Kosovo	0.137	Iraq	0.095
Spain	0.126	Turkey	0.044	Turkey	0.079
Switzerland	0.123	Serbia	0.041	Serbia	0.068
Germany	0.104	Cameroon	0.038	Nigeria	0.066
France	0.090	Sri Lanka	0.038	Sri Lanka	0.060
Portugal	0.082	Morocco	0.033	Afghanistan	0.050
Not specified	0.054	Algeria	0.030	Ethiopia	0.047
Kosovo	0.050	Thailand	0.030	Iran	0.039
Serbia	0.035	North Macedonia	0.026	Kosovo	0.033
Austria	0.033	Brazil	0.023	DRC	0.033
Bosnia-Herz.	0.017	Dominican Rep.	0.023	Ivory Coast	0.031
Croatia	0.016	DRC	0.021	Eritrea	0.027
Turkey	0.014	Syria	0.020	Togo	0.027
North Macedonia	0.013	Tunisia	0.020	Georgia	0.026
Form. Yugoslavia	0.005	Ecudaor	0.019	Cameroon	0.024
Montenegro	0.003	Iraq	0.018	China	0.019
Brazil	0.002	Nigeria	0.016	Guinea	0.019
India	0.002	Not specified	0.016	Russia	0.019
Israel	0.002	Philippines	0.016	Bosnia-Herz.	0.018
Argentina	0.002	China	0.015	Unknown	0.017

Table 3.2: Top 20 Countries of Origin

The table shows the proportion of cases by the country of origin of the appellant (restricted to the top 20 countries). "Not specified" means the country of origin is blacked out in the decision. "Unknown" means it is stated in the decision that the country of origin is unknown. "Prop." means proportion.

The most frequent legal issues which are decisive to the appeal concern the right to a pension due to disability,[158] revision of a disability pension,[159] the degree of invalidity,[160] the right to an old-age insurance pension,[161] and the facultative insurance of self-employed persons[162] (table 3.3).

Immigration law cases concern the legal status of non-Swiss citizens, including requests for short-term visa, work permits, residence permits, and naturalization. The first-instance decision-maker in these cases is the State Secretariat for Migration (*Staatssekretariat für Migration*). The distribution of origin countries is flatter than in the other legal areas, with only one country, Ko-

158 Governed by art. 28 ff. of the Disability Insurance Act.
159 Governed by art. 17 para. 1 of the Federal Act on the General Part of Social Security Law of 6 October 2000.
160 Governed by art. 28*a* of the Disability Insurance Act.
161 Governed by art. 18 ff. of the Old-age Insurance Act.
162 Governed by art. 2 of the Old-age Insurance Act.

Legal Category	Proportion
Disability: Right to pension	0.294
Disability: Not specified	0.214
Disability: Other	0.143
Disability: Revision of pension	0.138
Old-age: Right to pension	0.058
Disability: Degree of invalidity	0.038
Old-age: Facultative insurance	0.035
Old-age: Other	0.034
Old-age: Reimbursement	0.016
Disability: Integration measures	0.013
Old-age: Contributions	0.009
Old-age: Minimal duration	0.007

Table 3.3: Legal Categories in Social Security Law

The table shows the proportion of cases in each legal category, using the categorization of the FAC online database.

sovo, exceeding 10 % of all appellants. Other frequent countries of origin are Turkey, Serbia, Cameroon, and Sri Lanka (each 4 %; table 3.2). The most frequent decisive legal issues are the denial of a visum allowing temporary entry into Switzerland,[163] a ban on entering the country, for example due to posing a threat to public security,[164] visa under the European Schengen regime,[165] facilitated naturalization after marriage to a Swiss person and its annulment due to marriage fraud,[166] and cases of individual hardship[167] (table3.4).

Asylum law cases concern requests for asylum by persecuted people or for temporary protection, in accordance with the United Nations Convention Relating to the Status of Refugees of 28 July 1951. All such requests are handled by the State Secretariat for Migration. If their request is denied, asylum-seekers can appeal the decision to the FAC. As there is no appeal to the Federal Supreme Court in asylum law, the appellants are expelled from Switzerland if the FAC does not decide in their

163 Governed by art. 5 ff. of the Federal Act on Foreign Nationals and Integration of 16 December 2005 (in the following "Foreign Nationals Act").
164 Governed by art. 67 of the Foreign Nationals Act.
165 See art. 2 para. 4 and 5 of the Foreign Nationals Act.
166 Governed by art. 20 ff. and 36 of the Federal Act on Swiss Citizenship of 20 June 2014.
167 Governed by art. 30 para. 1 lit. b of the Foreign Nationals Act.

Legal Category	Proportion
Entry into the country	0.203
Entry ban	0.161
Schengen visa	0.111
Facilitated naturalization	0.091
Individual hardship	0.083
Approval of cantonal decision	0.079
After family dissolution	0.075
Other	0.063
Travel documents	0.037
Family reunification	0.030
Expulsion from the country	0.025
Education	0.018
Citizenship	0.012
Provisional admittance	0.012

Table 3.4: Legal Categories in Immigration Law

The table shows the proportion of cases in each legal category, using the categorization of the FAC online database.

favor. The distribution of origin countries is heavily dependent on the occurrence of conflict, persecution, and economic crises abroad. In 2007, the most frequent origin countries were Iraq (10 % of all appellants), Turkey (8 %), Serbia, Nigeria (7 % each), and Sri Lanka (6 %; table 3.2). Most frequently, the decisive legal issues concern the refugee status,[168] dismissal without entering into the substance of the case,[169] withdrawal of temporary protection,[170] reconsideration requests following an initial rejection,[171] and asylum requests abroad[172] (table 3.5).

3.3.2 *Panel Assignment*

Once an appeal reaches the FAC, it is assigned to a division based on the legal area.[173] Within the division, for each case

168 Governed by art. 2 and 3 of the Asylum Act.
169 Governed by art. 32 of the Asylum Act in the version of 1 January 2007.
170 Governed by art. 76 ff. of the Asylum Act.
171 Now codified in art. 111*b* of the Asylum Act.
172 Governed by art. 20 of the Aslyum Act in the version of 1 January 2007.
173 Art. 24 para. 1 of the FAC Rules. Between the two asylum divisions, cases are divided randomly unless, for example, the case is connected to a previous case decided by a particular division (Sonderegger and Kneer 2016, p. 8).

Legal Category	Proportion
Asylum and return	0.399
Inadmissibility of request	0.374
Revocation temporary protection	0.058
Asylum and return (RR)	0.052
Asylum request abroad	0.048
Asylum procedure (other)	0.035
Revocation of asylum	0.014
Family reunification	0.011
Enforcement of return	0.003
Allocation to canton	0.003
Return and enforcement (RR)	0.002

Table 3.5: Legal Categories in Asylum Law

The table shows the proportion of cases in each legal category, using the same categories as Hangartner, Lauderdale, and Spirig (2020). "RR" indicates reconsideration requests (following an initial rejection).

a panel is formed that consists of three judges, a chair judge, a second judge, and a third judge.[174] The three judges and their respective positions as chair, second, and third judge are determined quasi-randomly using a bespoke software program called "Bandlimat."[175] The assignment is conditional on three criteria: the case language, judges' language capabilities, and workload.[176]

The case language is the national language in which the verdict is rendered (German, French, or Italian) which is determined by the language of the appealed administrative decision.[177]

174 This step occurs even if the decision is ultimately taken by only one judge or by a panel of five judges (footnotes 147 and 145). If the panel size is decreased to one judge, this simply means the chair judge decides the case before consulting with the second and third judge. If the panel size is increased to five judges, two judges are added to the initial three-judge panel.

175 Named after the first president of the Court, Christoph Bandli.

176 Art. 31 and 32 of the FAC Rules. Further, there are division-specific criteria which are defined in internal guidelines. For example, in asylum law the urgency of the appeal is considered in the assignment process. In non-urgent cases, the algorithm assigns one judge from the respective other asylum division to the panel while all three judges come from the same asylum division in urgent cases.

177 Art. 33*a* para. 2 of the Federal Act on Administrative Procedure of 20 December 1968 (in the following "Administrative Procedure Act"). Note that appellants can request to change the case language.

In addition, for each judge, his or her "official" primary language, that is, his or her mother tongue, is saved in the software. Note that, in order to keep the Court balanced in terms of native speakers, retiring judges are in practice specifically replaced by parliament with a judge from the same language region.[178] Once elected, judges stipulate court-internally in which other language(s) they are capable of serving on a panel. Note that there is some variation by legal area in how the algorithm conditions on the case language and judges' language capabilities. In immigration law and asylum law, the algorithm only considers judges for the position of chair judge whose official primary language equals the case language, while in social security law some judges chair cases in more than one language. Finally, the algorithm ensures an equal workload across judges by minimizing imbalances in the frequencies at which judges are assigned as panel president and at which each possible three-judge panel is assigned.[179]

The initial case assignment is fully automated. Note, however, that in some constellations the automatically determined panel composition can be altered, under pre-defined conditions set out in division-internal regulations.[180] There are two main constellations.[181] First, a specific judge may have to be removed from the panel, for example because the judge recuses himself or herself due to a conflict of interest or to reduce his or her caseload during the first phase of employment or just before reaching the retirement age. In these cases, a replacement is determined using the algorithm. In asylum law, additionally, a judge may be removed from the panel if the algorithm happens to assign two non-native speakers of the case language on the positions of second and third judge. In that case, the third judge is replaced by a native speaker using an ever-renewing list. Second, in certain cases a specific judge has to be added to the panel, for example in parallel or previous cases that share the

178 See subsection 3.1.2.

179 In this calculation, each case has an equal weight of one and the algorithm takes into account that some judges are on the bench only part-time. For further detail the algorithm, see Schuppisser (2007).

180 See verdict 12T_3/2018 of the Administrative Commission of the Federal Supreme Court of 22 May 2018, considerations 2.4.2 f. and 2.4.3; FAC partial verdict D-1549/2017 of 2 May 2018, consideration 4.2.

181 There is a third constellation where a judge is unavailable for a longer period of time, for example because he or she is on holiday or ill. Such absences are noted in the software and the absent judge will not be considered by the algorithm in the first place, thus not leading to an alteration of an already assigned panel.

same facts.[182] Further, before the creation of division VI, judges from divisions I and II were sometimes assigned to panels in social security law to reduce the caseload of division III.[183] Any manual alteration of the panel composition has to be logged into the software and justified by the division president.

In sum, with the exception of the case language, case assignment is in principle based on criteria that are orthogonal to a case's merit and to the characteristics of the judges. Thus, in expectation, case assignment (conditional on the case language) should be as good as random. Since panel compositions can be altered manually, however, a certain degree of case selection cannot be excluded. In practice, how often manual reassignment occurs depends on the factors discussed above as well as on the current caseload but is not publicly known.[184] Thus, to test whether quasi-random assignment is a plausible identification assumption, subsection 4.1.4 conducts a battery of manipulation checks and sections 4.3 and 5.4 test whether the results are robust to using various subsamples of the data and alternative estimation strategies.

3.3.3 *Decision-Making Procedure*

After the panel is assigned, cases are decided in the following procedure. In a first stage, the chair judge conducts a fact-finding process by instructing the parties to submit written testimony. This process is conducted entirely in writing and without oral hearings. The second and third judge are not involved in this process.[185] After the fact-finding stage, the panel decision is reached in a process of file circulation. In a first

182 Or if the panel size is increased to five judges.

183 Judges are obliged to help out in other divisions in individual cases (art. 19 para. 3 of the FAC Act, art. 32 para. 3^{bis} of the FAC Rules). These cross-division panels are easily identifiable empirically. As a robustness check, I exclude these observations from the analysis (appendix A.2.2).

184 Researchers from the University of Bern and from the University of Zurich have obtained (not publicly available) data on the initial versus final panel compositions at the FAC as well as the software logs generated in the case of a manual alteration of the panel. At the current time, no preliminary results from this study are available. See also verdict 12T_3/2018 of the Administrative Commission of the Federal Supreme Court of 22 May 2018, consideration 2.4.3: The Federal Supreme Court states that, out of 146 asylum cases the appellant's lawyer had argued before the FAC, the initial panel composition had been altered in 44 cases. It is unclear, however, whether this number is accurate beyond this selected sample.

185 See art. 39 para. 1 of the FAC Act.

step the chair judge, with the help of law clerks,[186] researches the case facts, drafts an opinion, and proposes a verdict in writing. Crucially, the chair judge completes the draft verdict and opinion before the second or third judge ever view any files associated with the case. Only once the chair judge has completed the draft are the case files forwarded to the second judge.

After reviewing the case files and the chair judge's draft, the second judge can agree or disagree with the proposed verdict and opinion and propose changes in writing. All files, including the written comments of the second judge, are then forwarded to the third judge who has the same options as the second judge. The comments of the second and third judge are then returned to the chair judge. If the second or third judge propose changes to the opinion or disagree with the verdict, circulation continues. The panel meets in person if disagreements cannot be resolved by circulating the files three times.[187] Note that individual votes and proposed changes to the opinions are never observable from the published decisions. The decisions only report the identity of the three judges and their respective position on the panel.

Due to this circular procedure, it is likely that the chair judge exerts significant influence over the case outcome. Researching the case facts and drafting an opinion is costly in terms of effort and time. While the chair judge cannot avoid paying this cost, however, the second and third judge can, by refraining from proposing changes to the proposed verdict or opinion. This incentive-structure makes it costly for the second and third judge to disagree with the chair. Since the chair judge knows the full composition, this dynamic is further reinforced. Based

186 See art. 26 of the FAC Act. According to interviews with FAC members, the law clerks are heavily involved in the opinion drafting (see also Der Bund of 22 May 2017, Bundesrichter nicken Urteile oft nur noch ab, www.derbund.ch/schweiz/standard/bundesrichter-nicken-urteile-oft-nur-noch-ab/story/17105283). However, this influence is not measurable reliably since cases are not assigned to law clerks following any observable processes. For the research questions of this study, however, it is not crucial to know to which degree the opinion is attributable to the judge or the law clerk. Rather, the study aims to measure to which degree different judges reach different verdicts without being able to causally explain such differences. From a purely descriptive perspective, the influence of the law clerk is attributable to the panel in a given case.

187 Judges also meet in person if demanded by one judge on the panel or ordered by the division president (art. 41 para. 2 of the FAC Act). According to several FAC members, asylum judges meet in less than 5 % of cases while this occurs somewhat more frequently in the other legal areas.

on his or her experience from previous cases with the same colleagues, the chair judge can predict how much oversight will be provided by the second and third judge. If those judges are ideologically close to the chair judge, then they have a low incentive to carefully research the case facts and provide close supervision. Thus, this particular decision-making procedure enables the chair judge to tailor the decision strategically depending on the panel composition.

This being said, the chair judge may nevertheless be constrained by the preferences of the other panel members. For the sake of an example, assume that panels, without necessarily meeting in person, decide by majority voting if circulation yields no consensus.[188] In this case, in game-theoretic terms, backwards induction or "threat" predicts that the chair's proposal will be overturned if the other two judges are ideologically closer to each other than to the chair judge. As a result of this dynamic, the second judge is likely more inclined to disagree with the chair judge if he or she anticipates the third judge to disagree as well. These considerations on the circular decision-making procedure have important implications for the empirical strategy, which are discussed in section 4.1.

188 Of course, judges may aggregate their preferences into a panel decision in various ways beyond majority voting. Subsection 4.1.2 estimates the fit of a number of decision-theoretic models of preference aggregation to shed some light on how panel decisions are formed empirically.

4

CONSISTENCY OF ADJUDICATION

In light of the constitutionally guaranteed equal application of the law, this chapter aims to quantify the degree to which judges in each legal area reach consistent verdicts. Section 4.1 develops the empirical strategy used to estimate the consistency of adjudication by discussing the specification of the regression models, defining the inconsistency rate, estimating decision-theoretic models which capture the circular decision-making procedure at the FAC, and conducting randomization checks. Section 4.2 presents the main results and section 4.3 investigates their robustness in various data subsets and alternative estimation strategies.[189]

4.1 EMPIRICAL STRATEGY

4.1.1 *Mixed Model*

We are interested in the degree to which differences in the preferences of individual judges lead to variation in case outcomes. To estimate judicial preferences, the following model is used:

$$Y_{i,t,l,c} = \beta_0 + \beta_1 judge_i + year_t X language_l + country_c + \epsilon_{i,t,l,c},$$

where Y is the binary case outcome, $judge_i$ is a random effect for the identity of the panel chair, $year_t X language_l$ are intersectional fixed effects for the year in which the appeal is submitted to the Court cross the national language in which the verdict is rendered,[190] and $country_c$ is a random effect for the country of origin of the appellant.[191]

189 This chapter focuses on the empirical strategy and presents results. For a discussion of potential mechanisms and interventions, see chapter 6, and for a discussion of the normative implications of the results, see chapter 7. Parts of this chapter have been used for the preparation of a German-language publication in a Swiss law journal (Gertsch 2021).

190 The year fixed effects control for over time variation in the composition of cases. They are included as intersectional fixed effects with the case language since judge-to-case randomization is conditional on the case language and on a judge's current workload when the case is submitted to the Court. Controlling for the year of the decision, instead of the year in which the appeal was submitted to the Court, does not affect the results.

191 The country of origin is a strong predictor of the case outcome. As there are many countries with only one or few observations, and since this vari-

Mixed effects logistic regression is used to model the binary outcome variable. After conditioning on the predictors, the model gives a predicted probability between 0 and 1 for each judge, that is, the predicted probability that an appeal is granted when that judge acts as chair. Following the doctrinal politics approach for modeling judicial behavior,[192] the model allows judges to have different preferences over legal rules. The predicted probabilities are interpreted as ideological preferences which partition a one-dimensional case-space into outcomes. The case-space is characterized by the case facts, that is, merits. Each judge has a preference, that is, a preferred threshold or legal rule. Appeals with merits that are too weak as measured by the judge's threshold are dismissed, the others granted. In other words, judicial decisions are described by locating both the case facts and the preference of the judge as a point on the case-space.

More formally, each case j has case facts that can be described as a location $\psi_j \epsilon [0, 1]$ where strong appeals have a lower ψ_j than weak appeals. Each judge i has a preference that can be described as a cutpoint $\theta_i \epsilon [0, 1]$. A judge will grant an appeal iff $\psi_j < \theta_i$. That is, judges with a low cutpoint grant fewer appeals than judges with a high cutpoint. In the regression model used here, the estimated preference, $\widehat{\theta_i}$, is given by each judge's predicted probability to grant an appeal under the full model specified above. The predicted case merits, $\widehat{\psi_j}$, is given by a reduced model where the judge variable is dropped. An appeal will be granted if the chair's predicted probability exceeds the case strength as predicted by the case facts.[193]

A mixed model is better suited to the research question addressed here than a fixed effects model for several reasons.[194] First, the main goal is to estimate the degree of variation within the chair judge variable. Mixed models give an unbiased estimate of the variance parameters. Second, since time spent on the bench is highly variable across judges, the number of observations per chair judge is imbalanced (table 4.1). Third, the observations are not independently distributed but rather corre-

able is included primarily to increase the estimation efficiency of the main parameters of interest, a random effect is placed on it.

192 See Clark and Lauderdale (2010); Lax (2011); Arnold, Engst, and Gschwend (2019), p. 2 f. The approach originated in the work of Kornhauser (1992).

193 In fact, decisions are not made by the chair judge alone but by a three-judge panel. The implications of this setting for the empirical strategy are discussed in subsection 4.1.2.

194 OLS models are, however, run as a robustness check (appendix A.2.4).

Social Security		Immigration		Asylum	
Judge	Prop.	Judge	Prop.	Judge	Prop.
SP_60	0.126	FDP_82	0.165	Indep_47	0.018
GPS_67	0.096	SP_41	0.125	Indep_32	0.017
FDP_84	0.096	FDP_78	0.107	FDP_68	0.016
FDP_80	0.092	SP_13	0.089	CVP_88	0.016
CVP_39	0.092	CVP_81	0.080	CVP_90	0.015
GPS_61	0.092	FDP_25	0.075	SP_70	0.015
CVP_7	0.087	Indep_26	0.075	CVP_40	0.015
SP_54	0.048	SVP_75	0.065	FDP_80	0.014
SVP_73	0.047	CVP_7	0.046	SP_49	0.013
SVP_85	0.046	BDP_4	0.037	FDP_36	0.013
SVP_62	0.037	CVP_22	0.025	CVP_18	0.012
SP_30	0.028	CVP_53	0.025	Indep_9	0.011
SP_20	0.025	SP_43	0.022	Indep_64	0.011
SVP_14	0.015	SVP_37	0.017	SVP_15	0.010
CVP_38	0.014	FDP_21	0.017	SVP_37	0.010
SP_35	0.008	SP_87	0.015	FDP_84	0.009
SVP_56	0.008	SP_63	0.009	FDP_24	0.008
FDP_55	0.007	SP_34	0.002	FDP_25	0.008
SP_45	0.006	SVP_27	0.002	SP_63	0.008
SVP_1	0.006	SVP_15	0.001	SP_65	0.008

Table 4.1: Caseload by Chair Judge (Top 20)

The table shows the proportion of cases by chair judge for the 20 judges with the highest caseload across all years. In social security law, there are 36 unique chair judges, in immigration law 23, and in asylum law 34. "Prop." means proportion.

lated within judges.[195] Finally, as the underlying distribution is logistic with a bounded interval, a mixed model facilitates the comparison of the results across legal areas.

In random effects models, the point estimates depend strongly on the model assumptions. As a result, it is not possible to determine the exact relative preference ranking of judges. Rather, the model estimates the degree of preference variation across all decision-makers. Specifically, we can use the spread of preferences from the most lenient to the most restrictive judge as an estimate of the degree of preference variation.

Case-space models of the type used here assume uni-dimensionality and monotonicity. Uni-dimensionality means that cases can be mapped on a uni-dimensional space, here from strong

195 For a discussion of mixed versus fixed effects models in such a setting, see Maltzman and Wahlbeck (2004), p. 555.

to weak merits. Monotonicity means that judges only disagree about the threshold that ought to be applied but not about the ordering of cases by merit. These tend to be credible assumptions if the case-set is relatively homogeneous, for example involving cases only from a single area of law,[196] and if the judges are highly specialized.[197] Both are the case in the present context. It is important to note, further, that monotonicity tends to produce conservative preference variation estimates since one potential source of variation in judicial preferences – judges' assessment of the case facts – is assumed to be zero.

4.1.2 *Preference Aggregation Models*

The regression model specified in the previous section identifies the effect of the chair judge on case outcomes. The second and third judge on the panel are not modeled. Due to the circular case resolution procedure used at the FAC, it is indeed plausible that the chair judge frequently determines the case outcome since it is costly for the second and third judge to disagree with the proposed verdict. However, as discussed in subsection 3.3.3, panels may sometimes use a majority principle to form decisions, in which case the judge with the median preference determines the outcome. To shed some light on this dynamic, this subsection estimates the fit of various such decision rules to the data.[198] This allows for calculating the likelihood of each preference aggregation rule, providing empirical support for a model centered on the chair judge.

To do so, I follow Hangartner, Lauderdale, and Spirig (2020) who adapt a one-dimensional case-space model from Kornhauser (1992). Recall that each case j has case facts $\psi_j \epsilon [0,1]$ where strong appeals have a low ψ_j, and each judge i has a preference $\theta_i \epsilon [0,1]$ where strict judges have a low θ_i. Thus, if judges were to decide alone, they would grant an appeal iff $\psi_j < \theta_i$. In practice, whether an appeal is granted depends on how the preferences of the three judges are aggregated into a panel decision (figure 4.1). Let $i(j)$ be the indices of each judge deciding case j. Then $\theta_{i(j)}$ is a three-component vector where $\theta_{i_1(j)}$ is the preference of the chair, $\theta_{i_2(j)}$ of the second, and $\theta_{i_3(j)}$ of the third judge. Different functions $f(\theta_{i(j)})$ can be described that aggregate $\theta_{i(j)}$ into a panel preference. Given that aggregated preference, each case

196 Fischman and Law (2009), p. 52; Fischman (2014), p. 158 and 160.
197 Ho and Quinn (2010), p. 840 ff.; Lauderdale and Clark (2012).
198 Recall that individual votes are not observable from the verdicts.

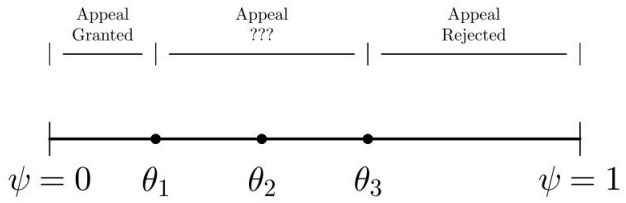

Figure 4.1: Aggregation of Preferences into Panel Decision

The figure (from Hangartner, Lauderdale, and Spirig 2020) illustrates how the observed decision depends on the preferences of the three judges on the panel. Strong appeals with $\psi_j < \theta_1$ are always granted as they are below the cutpoint of the strictest judge on the panel, while weak appeals with $\psi_j \geq \theta_3$ are always rejected. For all appeals in the range $\theta_1 \leq \psi_j < \theta_3$, the outcome depends on which decision-rule the judges use to aggregate their preferences into a panel decision.

has an outcome $Y_j = \begin{cases} 1 \text{ if } \psi_j < f(\theta_{i(j)}) \\ 0 \text{ if } \psi_j > f(\theta_{i(j)}) \end{cases}$. The resulting likelihood function for the observable outcomes is

$$\mathcal{L}(\theta) = \prod_j p(\psi_j < f(\theta_{i(j)}))^{y_j} * p(\psi_j > f(\theta_{i(j)}))^{1-y_j}.$$

This model allows for several decision-theoretic aggregation rules. If panels follow the proposed verdict of the chair judge, then the chair's cutpoint, $\theta_{1(j)}$, determines the case outcome. If panels instead use majority vote, the median judge, θ_{med}, is decisive. If panels require unanimity to grant appeals, the strictest judge, θ_{min}, decides. Conversely, if unanimity is required to dismiss appeals, the outcome is determined by the most lenient judge, θ_{max}. These decision rules are fit to the observed case outcomes via MLE, separately in each legal area. Less plausible aggregation rules, such as the null model where judges always apply the mean win rate, function as a placebo check.

Table 4.2 gives the fit of the estimated preferences under each aggregation rule by AIC. In social security law, the chair model fits best, ahead of the median and min models. In immigration law, the min model ranks best, the chair model second, and the max model third. In asylum law, the median model ranks first, ahead of the chair and max models. The chair model is the only decision rule that ranks first or second in every legal area. This confirms empirically that the chair judge exerts substantial influence over the outcome, as we would expect given the sequential decision-making procedure. In particular, only in asylum law does the majority model fit somewhat better than chair-as-dictator. As Hangartner, Lauderdale, and Spirig

(2020) show, however, the spread of judicial preferences is not sensitive to using the median instead of the chair model.

Model	AIC	Log-likelihood	Parameters
Social Security			
chair	7088.50	-3500.25	44.00
median	7118.97	-3515.49	44.00
min	7136.22	-3524.11	44.00
max	7142.24	-3527.12	44.00
third	7159.25	-3535.62	44.00
null	7171.15	-3584.58	1.00
second	7204.12	-3558.06	44.00
Immigration			
min	5550.43	-2743.21	32.00
chair	5580.55	-2758.28	32.00
max	5591.30	-2763.65	32.00
median	5601.63	-2768.82	32.00
third	5632.42	-2784.21	32.00
second	5648.08	-2792.04	32.00
null	5656.00	-2827.00	1.00
Asylum			
median	1939.55	-931.78	38.00
chair	1956.98	-940.49	38.00
max	1958.96	-941.48	38.00
min	1966.25	-945.13	38.00
second	2004.40	-964.20	38.00
null	2016.25	-1007.12	1.00
third	2041.95	-982.97	38.00

Table 4.2: Model Fit Statistics for Preference Aggregation Rules

The figure presents fit statistics, sorted by AIC, for MLE estimates of preferences under different preference aggregation rules.

Finally, using a chair model is appropriate in the present context for several further reasons. First, although factors other than the chair judge do affect case outcomes, no variance is misattributed to the chair if those factors are not systematically correlated to the chair variable. This assumption is credible in the context of quasi-random case assignment. Second, rather than achieving the best possible model fit, the goal of this research is a comparison across legal areas. A chair model is

well-suited for that. Finally, as shown in appendix A.2.4, controlling for the full panel composition in linear probability models does not substantially alter any result obtained in the main analysis.[199]

4.1.3 *Inconsistency Rate*

As a first estimate of judicial consistency, this chapter estimates the spread from the most lenient to the most restrictive judge. As a second quantification, this subsection defines an inconsistency rate, as developed by Hangartner, Lauderdale, and Spirig (2020). Let θ_j be the preferences of the three judges deciding case j, let $\widetilde{\theta}_j$ be the consensus of the court, and let $f(\psi)$ be the distribution of case facts. Across M cases, the average fraction of cases decided differently than if the consensus were applied consistently is

$$\varepsilon = \tfrac{1}{M} \sum_{j=1}^{M} \left| \int_{\theta_j}^{\widetilde{\theta}} f(\psi) d\psi \right| .$$

To benchmark which decisions an entirely consistent court ought to make, I estimate the expected grant rate conditional on a reduced model, $E\left[\pi_j \mid X_j\right]$. The reduced model only includes the case covariates X_j, that is, year-cross-language and country of origin, but not the main independent variable of interest, the chair judge. I then take the mean absolute difference between the predicted probabilities of granting an appeal of each judge, $\widehat{\pi}_j$, and the reduced model, $E\left[\pi_j \mid X_j\right]$, to estimate the inconsistency rate:

$$\hat{\varepsilon} = \sum_{j=1}^{M} \left| \widehat{\pi}_j - E\left[\pi \mid X_j\right] \right| .$$

This measure computes the fraction of cases that are decided differently than if the court consistently applied the mean grant rate from the reduced model. Without conditioning on covariates, $E\left[\pi_j \mid X_j\right]$ would simply equal the mean overall appeal grant rate, $E\left[\pi\right]$. If judges make entirely consistent decisions, then there should be no variation in the predicted probabilities of granting an appeal given the identity of the chair judge. To the extent that there is, this signifies that cases receive different outcomes depending on which chair judge is assigned. Like the regression model, the inconsistency rate assumes unidimensionality and monotonicity. Thus, the measure provides a

199 This cannot be done in the mixed model since there are not enough observations relative to the number of required parameters.

lower bound on the court's inconsistency, since the true inconsistency would be higher than $\hat{\varepsilon}$ if judges also disagreed about the relative merits.

4.1.4 *Randomization Tests*

The empirical strategy relies on the identification assumption that panels are assigned to cases quasi-randomly, conditional on the case language. In principle, the case assignment mechanism used at the FAC should ensure that, in expectation, case merits are not systematically related to the panel composition. This subsection empirically tests whether this is indeed the case. Similar to manipulation checks used in randomized controlled experiments, I first test whether certain case characteristics are predictive of the case outcome and, thus, of an appeal's merit. In the second step, I regress the case characteristics on the preference of the chair judge as estimated in the main analysis. If cases are assigned randomly, we would expect that case merits do not predict the preference of the chair judge.[200]

For the first step, I use two pre-treatment case characteristics, the specific legal question at stake (tables 3.3-3.5) and the factor of whether the appellant has legal representation or not. In a regression, I confirm that these case characteristics are jointly predictive of the likelihood that an appeal is granted. For the second step, I regress the preference of the chair judge on the merits as predicted by the case characteristics. In immigration law and asylum law, both assumptions are confirmed. Using conventional significance levels, the case characteristics are a statistically significant predictor of the case strength in a joint F-test (immigration: $p < 0.001$; asylum: $p < 0.001$). At the same time, they do not predict the preference of the chair judge (immigration: $p = 0.092$; asylum: $p = 0.14$; tables A.2 and A.3). This suggests that panels are indeed assigned quasi-randomly in these legal areas.[201]

200 This test is similar to the one used in, for example, French and Song (2014), Dobbie, Goldin, and Yang (2018), Frandsen, Lefgren, and Leslie (2019), and Hangartner, Lauderdale, and Spirig (2020).

201 In immigration law, at 0.092, the p-value is above conventional levels of significance but just below a threshold of $p < 0.1$. If this is seen as evidence that panels are not quasi-randomly assigned here, then, in principle, the results obtained in section 4.2 (no judge and no party effect) could be a false negative. However, given that in these main results I am testing for variation in a set of coefficients, rather than testing a single coefficient, it is highly

In social security law, by contrast, the case characteristics both predict case strength and the preference of the chair judge ($p < 0.001$ in both steps; table A.1). This warrants further investigation. To identify which subsets of the social security data are particularly affected by case selection, I conduct the two-step randomization test described here separately for each year and the most frequent countries of origin. This allows for partitioning the data into two subsets: a subset in which case characteristics do not have predictive power for the preference of the chair judge and a subset in which they do. Subsequently, the empirical strategy used in the main analysis is applied to both subsets. Even though this subsection shows that case assignment is not fully randomized across all observations, we can be confident in results that are obtained in both subsets. Section 4.3 indeed shows that the main results obtained in the next section do not change as a function of the data subset.

4.2 RESULTS

To estimate judicial preferences, I estimate the effect of the chair judge on the likelihood that an appeal is granted, controlling for the case language, the year in which the appeal was submitted, and the origin country of the appellant, as specified in subsection 4.1.1. Table 4.3 reports model fit statistics and hypothesis tests for the statistical significance of the judge random effect using a log-likelihood test. The results vary by legal area. In social security law, the chair judge is statistically significant at the $p < 0.001$ level, also after adding language-cross-year intersections ($\chi^2(1) = 38.1, p < 0.001$). The same results in asylum law, independent of the covariate specification used ($\chi^2(1) = 21.1, p < 0.001$). In immigration law, on the contrary, the p-value far exceeds significance levels ($\chi(1) = 0.2, p = 0.64$ in the preferred specification).

unlikely that real variation in judicial preferences happens to be canceled out due to selection.

	Dependent Variable:						
	Case Outcome						
	Social Security			Immigration		Asylum	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Judge RE	X	X	X	X	X	X	X
Language FE	X	X	–	X	X	X	X
Year FE	X	X	–	X	X	–	–
Country RE	–	X	X	–	X	–	X
YearXLang. FE	–	–	X	–	–	–	–
Observations	5,349	5,349	5,349	5,655	5,655	1,843	1,843
Parameters	17	18	43	17	18	4	5
Log-likelihood	−3466	−3409	−3386	−2750	−2738	−977	−902
$\chi^2(1)$	52.9	48.0	38.1	0.5	0.2	35.4	21.1
p	< 0.001	< 0.001	< 0.001	0.47	0.64	< 0.001	< 0.001
Inconsistency	0.046	0.042	0.039	0.006	0.004	0.057	0.041
Pref. Spread	0.256	0.249	0.320	0.041	0.028	0.289	0.180

Table 4.3: Judge Models

The table reports estimates from mixed models as specified in subsection 4.1.1. "RE" means random effect, "FE" means fixed effect, "Pref." means preference. The χ^2 and p-values report a log-likelihood test for significance of the judge random effect. As a robustness check, I also compute p-values using a parametric bootstrap, sampling 1,000 times. The resulting p-values are: model (1) $p \leq 0.001$, (2) $p \leq 0.004$, (3) $p \leq 0.028$, (4) $p \leq 0.015$, (5) $p \leq 0.031$, (6) $p = 0$, (7) $p \leq 0.002$. The formula for the inconsistency rate is given in subsection 4.1.3. Preference spread is the difference between the predicted probability to grant an appeal of the most lenient judge minus the predicted probability to grant an appeal of the strictest judge. To estimate this number, year is set to the median year (2012), language is set to the modal language (German), and country of origin is set to the modal country (Italy for social security, Kosovo for immigration, and Iraq for asylum law). No model with yearXlanguage fixed effects is reported in immigration law as the model is singular fit, and in asylum law as all data are from 2007.

To assess the size of these effects, figure 4.2 plots, per legal area, the predicted probability that an appeal is granted under each judge. As the underlying distribution is logistic, each judge receives a predicted probability between 0 and 1 after conditioning on the case covariates. In social security law, the estimated preferences range across 32 percentage points. This estimate is relatively robust to using different covariates. In the alternative specifications, the spread is reduced to 26 or 25 percentage points, respectively. Beyond statistical significance, this degree of variation in judicial preferences is substantively meaningful.

In the preferred specification, the strictest judge has a predicted probability of granting a social security appeal of 37 % while the most lenient judge has a predicted probability of 69 %. In other words, appeals are granted almost twice as often under the most lenient judge as under the most restrictive judge. This degree of variation can be translated into an inconsistency rate which indicates the proportion of appeals that receive an inconsistent outcome due to variation in judicial preferences. Compared to a hypothetical court where all judges have the same preference, 3.9 % of all social security cases receive a different outcome. In the alternative specifications, the inconsistency rate is somewhat higher.

In immigration law, by contrast, the mixed model fails to capture statistically significant preference variation. The estimated preferences roughly lie on a vertical line, spreading over 2.8 percentage points from a predicted probability of 22 % to 24 %, or over 4.1 percentage points in the alternative specification. This indicates that almost none of the variation in case outcomes is explained by diverging preferences among judges. The inconsistency rate, accordingly, is almost zero, at 0.4 % or 0.6 %, respectively.

The preference variation measured in asylum law is comparable to social security law. Specifically, in asylum law preferences range across 18 percentage points, or 29 percentage points without the country of origin random effect. Although this number is somewhat lower than in social security law, this is simply because the preference distribution is located closer to a boundary in asylum law. Considering the extremes of the distribution, the strictest judge has a predicted probability to grant an appeal of 9 % while the most lenient judge has a predicted probability of 27 %. That is, appeals are three times more likely to be granted under the most lenient judge, a higher relative difference than in social security law. This is also reflected in the inconsistency rate which is estimated at 4.1 %, or 5.7 % if the country of origin is not included in the model.

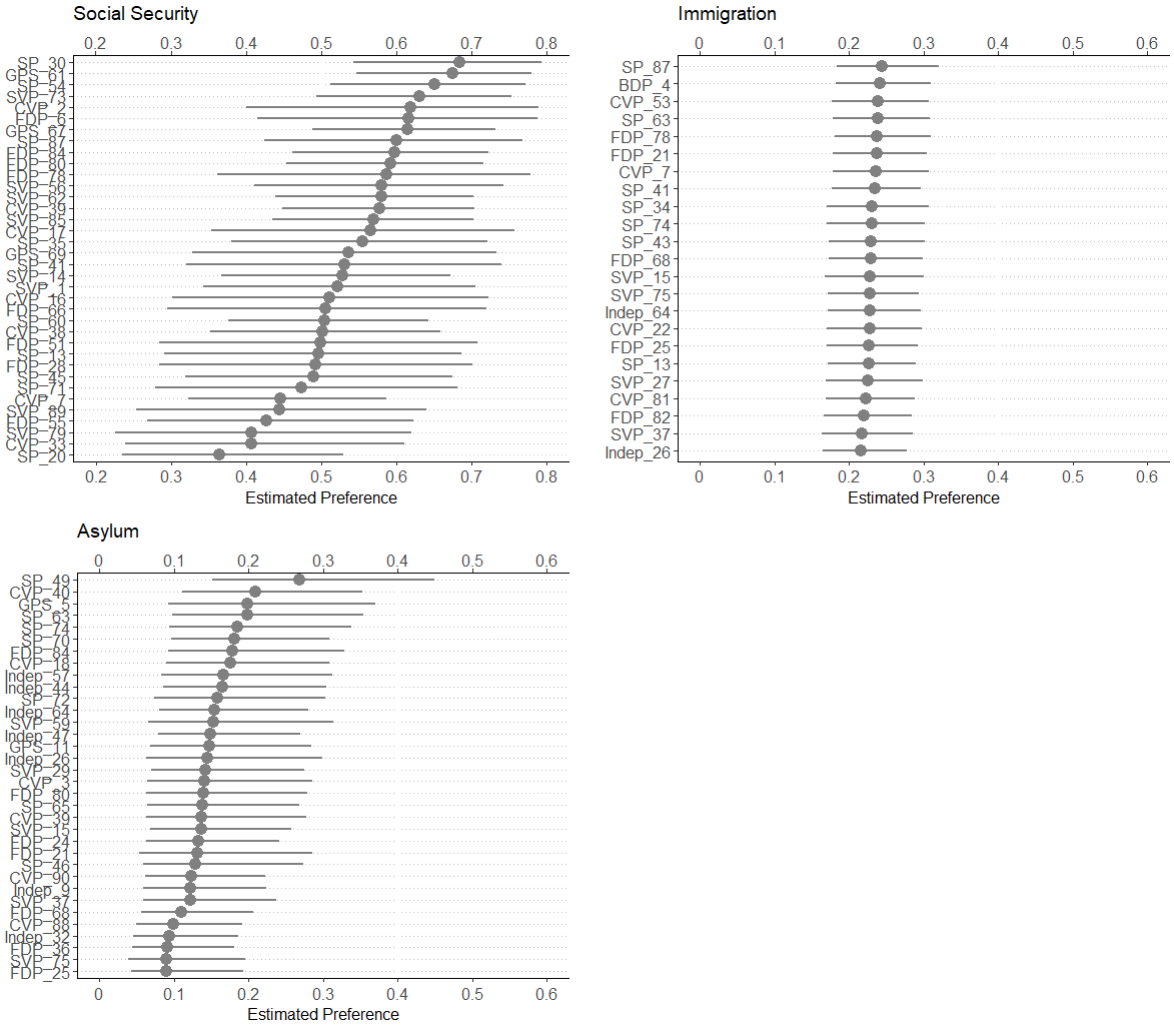

Figure 4.2: Judicial Preferences

The figure shows the predicted probability to grant an appeal for each judge, using models 3, 5 and 7 from table 4.3. Error bars are 95 % confidence intervals. Year is set to the median, language and country of origin are set to their modal value.

It should be noted that these are likely lower bound estimates of the true preference variation. First, the mixed model strategy used here yields somewhat more conservative estimates than the previous literature. Using asylum data from 2007, Hangartner, Lauderdale, and Spirig (2020) find that preferences range across 19 or 29 percentage points, depending on the specification. The lower estimate is from a model where, as in the model used here, the chair judge decides case outcomes alone. The higher estimate is from a mixture model where the chair judge sometimes decides alone while sometimes the median judge is decisive. The chair judge specification preferred in this dissertation roughly replicates their lower bound, estimating

a spread of 18 percentage points. Similarly, they estimate the inconsistency rate at 6.3 %, compared to 4.1 % here. Second, the monotonicity assumption tends to make preference variation estimates somewhat conservative.[202] Finally, if partially granted appeals are removed from the data, the estimated inconsistency increases in both social security and asylum law while other robustness checks do not consistently change the results in one direction in both legal areas.[203]

4.3 ROBUSTNESS

4.3.1 *Subset Analysis in Social Security Law*

The randomization tests run in subsection 4.1.4 provide evidence of case selection in social security law. To investigate which subsets of data are particularly affected by this, I conduct the randomization test for each year and the most frequent countries of origin. Based on the results, I partition the data into two subsets: "subset A," where the identification assumptions that case characteristics do not have predictive power for the preference of the chair judge is met, and "subset B," where the identification assumption is not met. This allows for testing whether the results presented in the previous section are obtained both in the full data and in subset A or whether they are due to case selection.

Table A.4 presents year-by-year tests of whether case characteristics are jointly predictive of the chair judge's preference. Using a conservative p-value of $p > 0.1$, the case characteristics are not predictive in eight years,[204] while they are in six years.[205] In the following, the first group of years forms data subset A and the second group forms subset B. In the next step, the model used in the main analysis is run separately in each subset (table A.5). In both subsets, the judge random effect is statistically significant at the $p < 0.001$ level as in the full data. With 19 percentage points in subset A and 23 percentage points in subset B, the estimated spread of judicial preferences is somewhat decreased relative to the full data (32 percentage points). The inconsistency rate, by contrast, is higher in subset A (4.2 %) than in the full data (3.9 %) and in subset B (3.4 %).

202 See subsection 4.1.2.
203 See subsection 4.3.2.
204 2010 – 2013, 2015, 2016, 2018, 2019.
205 2006 – 2009, 2014, 2017.

A second way to partition the data is by country of origin. Table A.6 presents country-by-country randomization tests for the ten most common countries of origin. Combined, these countries account for 88.9 % of the caseload (see table 3.2). Using a conservative p-value of > 0.1, the case characteristics are not predictive for seven countries,[206] while they are for three.[207] Once again, we will call the first group of countries subset A and the second group subset B. A similar pattern emerges as in the year-by-year analysis. If only data from country-subset A is used, the identity of the chair judge remains highly predictive of the case outcome. The inconsistency rate is at 3.6 % and preferences spread across 27 percentage points. Both values are very similar to the results obtained when using the full data. In subset B the spread is somewhat reduced, with an inconsistency rate of 2.6 % and a preference spread of 13 percentage points.

In sum, independent of whether the data is partitioned by years or countries that seem comparably more strongly affected by case selection, these subset analyses show that the results do not substantially change as a function of the data subset used to estimate judicial inconsistency. This shows that it is highly unlikely that the results presented in the previous section can be explained by imperfectly randomized case assignment.

4.3.2 *Further Robustness Tests*

To investigate the robustness of the main results further, I run a number of robustness checks using different data subsets and additional covariates.[208] In the first robustness check, cases where the Court only partially grants the appeal are dropped from the data. This concerns 23 % of observations in social security law and 6 % in asylum law. In social security law, the inconsistency rate rises from 3.9 % in the main analysis to 5.4 %, and the preference spread rises from 32 to 42 percentage points. In asylum law, there is no substantial change to the main results. The inconsistency rate is 4.1 % in the main analysis and 4.4 % in

206 Spain, Switzerland, Germany, France, unspecified countries, Kosovo, and Serbia.

207 Italy, Portugal, and Austria. It is not surprising that Italy, the most common country of origin, shows evidence of case selection since there are significantly fewer Italian native speakers among the judges than in the other case languages.

208 Results for immigration law are not reported in this subsection since they do not deviate from the main analysis in any of the robustness checks (see the tables in appendix A.2.1-A.2.3).

the robustness check, and the preference spread rises from 18 to 20 percentage points (table A.8).

As discussed in subsection 3.3.2, the quasi-randomly determined panel composition may be altered under specific circumstances. For some observations, such panel reassignment can be identified empirically with some certainty. In a first group of cases, the chair judge is from a different division of the Court.[209] This is unlikely to be the result of automated assignment. In a second group of cases, the chair judge was elected to the Court after the case had been submitted.[210] In principle, the chair judge could still have been randomly determined, for example if the initially assigned chair stepped down before the case was decided. However, on average, these cases are less likely to have been decided by a randomly composed panel. As a robustness check, I run the main analysis after removing these two groups of cases. This does not systematically change the results in one direction. In social security law, the estimated inconsistency decreases somewhat (3.1 %, 21 percentage points), while it increases slightly in asylum law (4.4 %, 19 percentage points; table A.10).

As a further robustness check, additional judicial characteristics – the gender and experience of the chair judge – are added to the model. Experience is coded as a binary indicator based on the years of judicial experience of the chair judge, equaling 1 if the chair has more experience than the median judge in that legal area at the time of the decision. Adding these biographical variables does not alter any of the main results substantially in either legal area. In social security law, the preference spread is 27 percentage points and the inconsistency rate remains at 3.9 %. In asylum law, both values increase slightly, to 24 percentage points and 4.3 %, respectively (table A.12).

4.3.3 *Linear Probability Models*

To make sure the results also obtain with an alternative empirical strategy, I run linear probability models. In a first step, I estimate the same specification as in the main analysis via OLS. In a second step, I additionally control for the full panel composition. To this end, fixed effects for every possible combination of the second and third judge on the panel in every possible

209 In 4 % of social security cases and none in asylum law.
210 In 5 % of social security cases and 8 % of asylum cases.

order are added.[211] Figures A.1 and A.2 plot the estimated judicial preferences. As the coefficients are from linear probability models, the point estimates are interpreted as probabilities. For example, a difference of 0.2 between two judges means that an appeal is 20 % more likely to be granted when the more lenient judge acts as chair.

In social security law, the estimated ideal points range from −0.41 to 0.19. That is, the most restrictive judge is 41 % less likely to grant an appeal than the median judge and 59 % less likely than the most lenient judge. The spread is similar after controlling for panel composition, with preferences ranging from −0.47 to 0.16. The estimated inconsistency rate is 4.9 % without and 4.3 % with controlling for the panel composition (compared to 3.9 % under the mixed model). In immigration law, after controlling for panel composition, preferences range from −0.12 to 0.18 and the inconsistency rate is 2.3 %. In asylum law, controlling for panel composition reduces the inconsistency rate somewhat (from 6.6 % to 3.9 %). The preference spread, on the other hand, increases. It is −0.32 to 0.14 without and −0.22 to 0.53 with panel composition fixed effects.

Thus, the same overall picture emerges as in the main analysis. While preferences spread substantively in social security and asylum law, the variation is much lower in immigration law. This demonstrates that the results are robust both to using fixed effects instead of random effects models and to controlling for the full panel composition instead of relying on the chair judge alone to estimate the consistency of adjudication.

211 The data does not comprise a sufficient number of observations to control for every possible combination of all three judges on the panel in every possible order.

5

POLITICAL IDEOLOGY IN ADJUDICATION

This chapter investigates the role of political ideology in judicial decisions. Some of the variation in judicial preferences observed in the previous chapter may be due to differing political views among judges. To find out whether this is indeed the case, this chapter tests for a relationship between the political party membership of judges and their verdicts. As a prediction for the verdicts we would expect, assuming there is such a relationship, section 5.1 characterizes each party's policy preferences. Section 5.2 develops the empirical model. In a first step, the model is applied to the full data set used in the previous chapter. In a second step, to assess the potential effect of re-election incentives, the data is reduced to the years before and after judges are re-elected. Section 5.3 presents the results, section 5.4 investigates their robustness against using particular data subsets or alternative specifications, and section 5.5 presents results from re-election years.[212]

5.1 POLITICAL PARTIES

As described in subsection 3.1.2, almost all Swiss federal judges are formal members of a political party. Further, due to the principle of proportional representation, all major Swiss political parties are represented in the judiciary.[213] This dissertation exploits this unique setting by using judges' party affiliation as a proxy for their political views.[214] Thus, this section offers an

212 This chapter focuses on the empirical strategy and presents results. For a discussion of potential mechanisms and interventions, see chapter 6, and for a discussion of the normative implications of the results, see chapter 7. Parts of this chapter have been used for the preparation of a German-language publication in a Swiss law journal (Gertsch 2021).

213 As a result of proportional representation, the composition of the courts in terms of political parties varies over time, roughly tracking parties' relative vote share. Note, however, that parties are roughly proportionally represented at each federal court but not within each court division. The summary statistics on the caseload distribution within a legal area (table 5.1 and figure 5.2), therefore, are not representative of the party vote shares.

214 It is informally known that candidates for judicial elections sometimes choose a political party not solely based on political ideology but also for opportunistic reasons, based on which party is likely to be underrepresented when

intuition for the political preferences of the parties, in particular as relates to their stances on social security, immigration, and asylum policy. The following paragraph describes each of the six parties represented on the panels in the data used here.[215] For a graphical representation, see figure 5.1.

The SP (social democrats, *Sozialdemokratische Partei*) and the GPS (green party, *Grüne Partei*) are both economically left wing and socially liberal. The SP dates back to the end of the 19^{th} century and has close historical ties to labor unions, while the GPS originated in the 1980*s*, merging various environmental activist groups. Regarding the legal areas studied here, both parties promote an increase in spending on social welfare protections and oppose restrictive migration policy, advocating for generous asylum laws and free movement of persons within Europe. Over the course of the study period since 2007, the SP had a relatively stable average vote share of 18 %, while the GPS averaged 10 % after a significant uptick in the 2019 election.

Originating in catholic opposition to the foundation of a federal Swiss state in 1848, the CVP (Christian people's party, *Christlichdemokratische Volkspartei*) today lies at the ideological center. The party tends to be socially conservative but frequently reaches out to the leftist parties on welfare spending and immigration. Its vote share is in steady, slow decline, averaging 12 % over the study period.

The FDP (free democratic party, *Freisinnig-Demokratische Partei* or *FDP.Die Liberalen*), a government party almost since the dawn of the Swiss Confederation, is socially liberal but economically right wing. The party sees itself as a representative of business interests, promoting a reduction in welfare spending. In terms of migration policy, the FDP advocates for moderate restrictions but is a strong proponent of the European free movement of persons regime. The strongest Swiss party as recently as 1995, its recent average vote share is 16 %, behind the SP and the SVP (Swiss people's party, *Schweizerische Volkspartei*). The BDP (conservative democratic party, *Bürgerlich-Demokratische Partei*) split from the SVP in 2008. Though less socially liberal than the FDP, the BDP shares a similar profile regarding social security and migration policy.

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the next vacancy arises (Burger 2020, p. 58). As a result, political party membership as a proxy for political ideology is likely to have a certain degree of measurement error.

215 For more detailed party-profiles, see Linder and S. Mueller (2017), p. 130 ff. For an overview over the historical development, see Ladner (2017), p. 363 ff. The vote share numbers are available at www.wahlen.admin.ch/de/ch/.

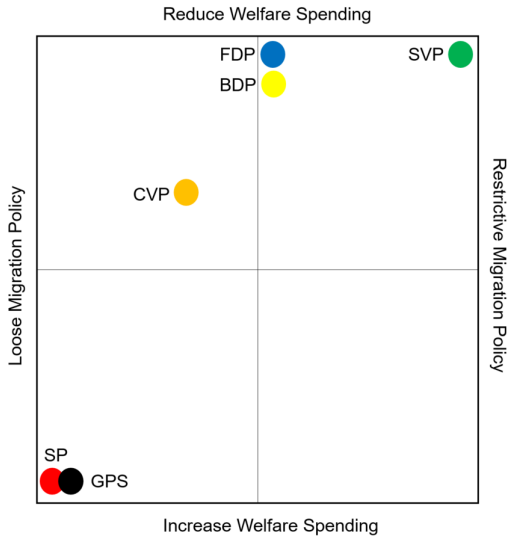


Figure 5.1: Policy Stances of the Political Parties

The figure gives the stances of the major Swiss political parties on two dimensions, welfare spending and migration policy. The latter area is meant to include both immigration law and asylum law. The stances of the SP and GPS are not discernibly different. The figure is an interpretation of the data from a survey with each party's candidates for member of parliament in the general election of 2015, carried out by smartvote.ch (www.parteienkompass.ch/#/parteien/portrait/cvp => smartspider). I simplified the survey results to two dimensions for this figure. The stances of the candidates that ultimately won a seat in the Federal Assembly are almost identical to the stances of the candidates plotted here (see Linder and S. Mueller 2017, p. 130 ff.). The ranking of the parties regarding their preferred migration policy is equal to the item-response theory estimates for the period 2007 – 2015 by Hangartner, Lauderdale, and Spirig (2020), generated from roll call votes on asylum policy (see footnote 282).

The SVP originally represented the interests of small businesses and farmers in protestant cantons. Socially and economically conservative, the party promotes a significant reduction in welfare spending and tight restrictions on immigration and asylum. As the only party represented in government, it is opposed to the free movement of persons with the European Union. Using unusually aggressive messaging, the party has won numerous constitutional referenda aiming to tighten immigration policy since the 1990*s*. In that time period, the SVP has dramatically increased its vote share to an average of 28 % over the study period.

Social Security		Immigration		Asylum	
Party	Prop.	Party	Prop.	Party	Prop.
SP	0.249	FDP	0.364	Indep	0.241
FDP	0.201	SP	0.263	FDP	0.216
CVP	0.198	CVP	0.175	CVP	0.206
GPS	0.190	SVP	0.084	SP	0.200
SVP	0.163	Indep	0.076	SVP	0.105
		BDP	0.037	GPS	0.031

Table 5.1: Caseload by Party

The table shows the caseload by party of the chair judge averaged across all years. In asylum law, all data are from 2007. "Indep" means independent. "Prop." means proportion. For the caseload over time, see figure 5.2.

5.2 EMPIRICAL STRATEGY

Subsection 4.1.1 presents the model used to estimate variation in judicial preferences, which I will call the "judge model" in this section. To test for a relationship between political ideology and judicial behavior, a "party model" is employed. Fundamentally, the same empirical strategy informs these models and they only differ along one parameter. For that reason, the model discussion is kept short here. Specifically, the only modification to the judge model is that the chair judge random effect is replaced with a random effect for the party of the chair judge:

$$Y_{p,t,l,c} = \beta_0 + \beta_1 party_p + year_t X language_l + country_c + \epsilon_{p,t,l,c}.$$

After conditioning on the predictors, the party model gives a predicted probability between 0 and 1 for each party, that is, the predicted probability that an appeal is granted when a judge of that party acts as chair. In other words, the model estimates a party preference, instead of a judge preference, which partitions the one-dimensional case-space into outcomes. For the same reasons as discussed in the case of the judge model, a mixed model is better suited to estimate variation across parties than a fixed effects model. In particular, the number of observations across parties is imbalanced, too, since some parties are more strongly represented at the Court than others (see table 5.1 and figure 5.2). Linear probability models are estimated as a robustness check.

For a discussion of the covariate choice, of the model's interpretation as describing party preferences on a one-dimensional case-space, and of model assumptions, see subsection 4.1.1. For a discussion of how individual preferences are aggregated into

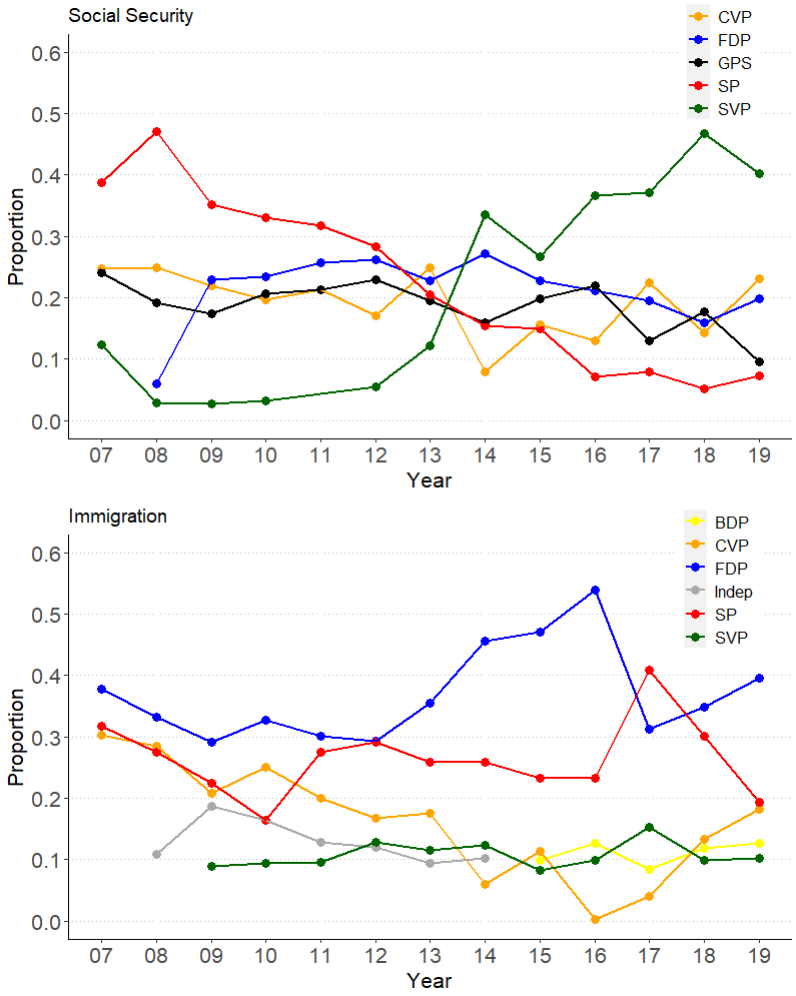


Figure 5.2: Caseload by Year and Party

The figure shows the caseload by year and by the party of the chair judge in social security and immigration law. For asylum law, where all data are from 2007, see table 5.1. "Indep" means independent.

panel decisions, see subsection 4.1.2. Finally, the approach developed for manipulation testing in the context of the judge model is applied to the party model analogously in subsection 5.4.1.

As an extension, this set-up also allows for the investigation of the effects of re-election incentives. Recall that judges are elected for a term of six years and that, to win another term, they have to be re-elected by parliament.[216] The risk that this process may affect the outcome of verdicts and endanger judicial independence is in fact one of the central criticisms leveled at the Swiss institutions.[217] Although no FAC judge seeking another term has failed to win re-election so far, unpopular judges

216 See subsection 3.1.2.
217 See footnote 62.

do regularly receive less votes than their colleagues as a show of disapproval by parliament.[218] It is possible that judges temporarily alter their preferences to avoid bad re-election results, although it is difficult to predict the direction of this potential effect.

On the one hand, judges may align with their party's preferences to retain the support of its members of parliament. Based on this, we would predict a strong party effect shortly before the election, before judges revert back to their intrinsic preference. On the other hand, since no Swiss party comes close to an absolute majority of seats in the Swiss parliament, judges need the votes of several parties to remain in office. Based on this, we would predict less inconsistency in judicial preferences shortly before the election due to extreme judges pandering to centrist parties, before the level of inconsistency reverts back towards its average.

To investigate these competing hypotheses, the party model, as well as the inconsistency rate defined in subsection 4.1.3, are estimated using data from the years before and after the two general elections that have occurred during the time span of the study, in March 2011 and March 2018.[219] In this analysis, I only focus on social security law[220] and compare the obtained results to Hangartner, Lauderdale, and Spirig (2020) who conduct a similar exercise in asylum law using data from the election in 2011.[221]

5.3 RESULTS

To assess the spread of party preferences, I estimate the effect of the party of the chair judge on the likelihood that an appeal is granted, controlling for the case language, the year in which the appeal was submitted, and the origin country of the appellant. Table 5.2 reports model fit statistics and hypothesis tests for the statistical significance of the party random effect using a log-likelihood test. The results, again, are heterogeneous across legal areas. In social security law, the party of the chair judge is a statistically significant predictor of the case outcome when year-cross-language intersections are used, though only at the

218 See footnote 140.

219 Including only cases chaired by judges who chaired cases in both periods (all judges who sought another term were re-elected in both elections).

220 Since there is practically no variation in judicial preferences in immigration law and, thus, no party effect either.

221 Their data set ends in 2015 and does not cover the election in 2018.

$p < 0.05$ level ($\chi^2(1) = 6.3, p = 0.012$). In the alternative specifications, party is significant at the $p < 0.001$ and $p = 0.002$ level, respectively. In asylum law, party predicts the outcome at the $p > 0.001$ level independent of the specification used ($\chi^2(1) = 14.3, p < 0.001$, in the preferred specification). In immigration law, by contrast, the party of the chair judge does not affect case outcomes ($\chi^2(1) = 0.03, p = 0.78$) as is to be expected given that the previous chapter fails to find significant variation on the judge-level.

	Dependent Variable:						
	Case Outcome						
	Social Security			Immigration		Asylum	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Party RE	X	X	X	X	X	X	X
Language FE	X	X	–	X	–	X	X
Year FE	X	X	–	X	–	–	–
Country RE	–	X	X	X	X	–	X
YearXLang. FE	–	–	X	–	X	–	–
Observations	5,349	5,349	5,349	5,655	5,655	1,843	1,843
Parameters	17	18	43	18	44	4	5
Log-likelihood	−3487	−3427	−3402	−2738	−2720	−985	−905
$\chi^2(1)$	9.7	12.2	6.3	0.03	0.08	18.1	14.3
p	0.002	< 0.001	0.012	0.87	0.78	< 0.001	< 0.001
Pref. Spread	0.082	0.098	0.079	0.010	0.013	0.152	0.095

Table 5.2: Party Models

The table reports estimates from mixed models as specified in subsection 4.1.1. "RE" means random effect, "FE" means fixed effect, "Pref." means preference. The χ^2 and p-values report a log-likelihood test for significance of the party random effect. As a robustness check, I also compute p-values using a parametric bootstrap, sampling 1,000 times. The resulting p-values are: model (1) $p = 0$, (2) $p = 0.001$, (3) $p \leq 0.025$, (4) $p = 1$, (5) $p = 0.115$, (6) $p = 0$, (7) $p \leq 0.004$. The formula for the inconsistency rate is given in subsection 4.1.3. Preference spread is the difference between the predicted probability to grant an appeal of the most lenient party minus the predicted probability to grant an appeal of the strictest party. To estimate this number, year is set to the median year (2012), language is set to the modal language (German), and country of origin is set to the modal country (Italy for social security, Kosovo for immigration, and Iraq for asylum law). No model without country random effect is reported in immigration law as the model is singular fit, and no model with yearXlanguage fixed effects is reported in asylum law as all data are from 2007.

Figure 5.3 plots, per legal area, the predicted probability of each party's judges to grant an appeal, conditioning on case covariates. Each party receives a predicted probability to grant an appeal between 0 and 1 when one of their judges acts as chair. In social security law, party preferences spread across 8 percentage points. The strictest party is the CVP with a predicted probability of granting an appeal of 56 %, the median party is the SP with 59 %, and the most lenient party is the GPS with 64 %. Since the point estimates in a mixed model depend strongly on the model assumptions, it is difficult to interpret the relative ranking of the parties. This is true, in particular, since the observed differences are very small in practical terms. Specifically, judges from the most lenient party are only 1.14 times more likely to grant an appeal than judges of the most restrictive party. Nevertheless, it is important to note that the ordering we do observe is not in line with the expected ordering given the parties' policy stances on social security law. Based on that, we would predict judges of the SP and the CVP to be less strict than judges of the empirically more lenient FDP and SVP. In sum, while the party variable is a significant improvement to the model, the effect goes in an unexpected direction and is relatively insubstantial in real-world terms.

In asylum law, the strictest parties are the FDP with a predicted probability of granting an appeal of 10 % and the SVP with 11 %; in the distribution's center are Independents with 12 % and the CVP with 14 %; and the most lenient parties are the GPS with 16 % and the SP with 20 %. This spread across 10 percentage points is substantial in the context of the low average grant rate in asylum law. Translated into relative differences, SP judges are about twice as likely than FDP judges to grant the appeal of an asylum-seeker against an order to leave the country. Moreover, the ordering of parties confirms our theoretical expectations. The FDP and SVP, which are the most restrictive on immigration based on the classification in section 5.1, are at one end of the distribution while the liberal parties, GPS and SP, are at the other fringe, with the centrist CVP and Independents in the middle.

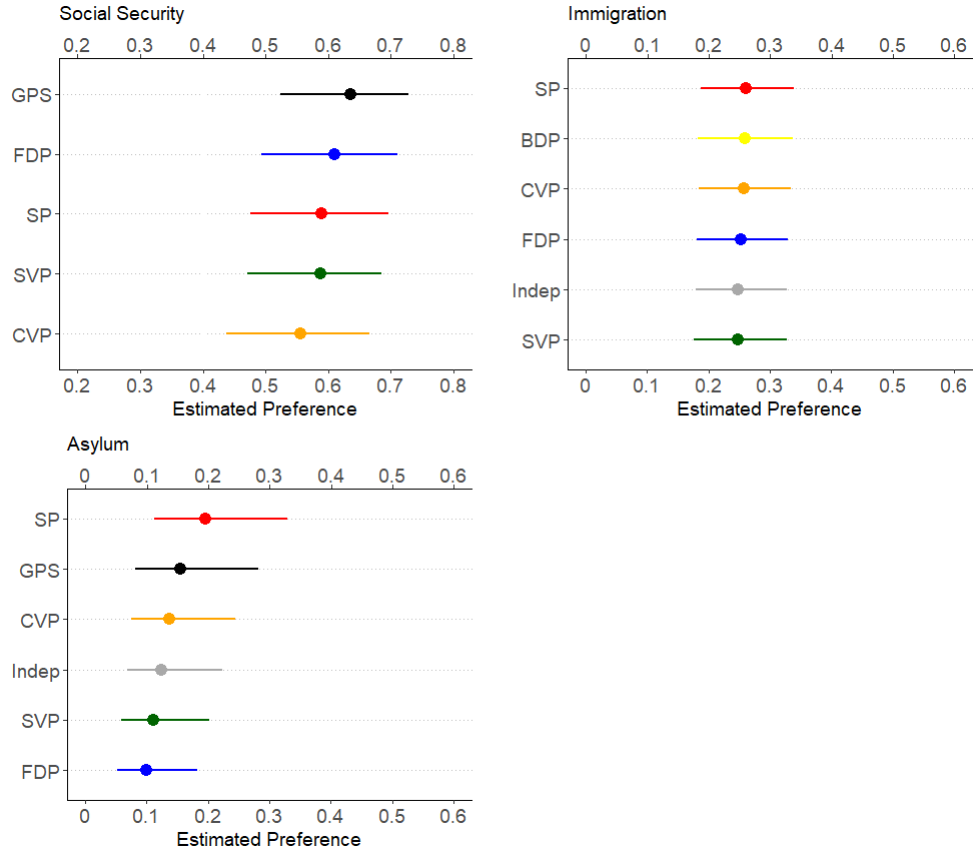


Figure 5.3: Party Preferences

The figure shows the predicted probabilities to grant an appeal for each party, using models 3, 5 and 7 from table 5.2. "Indep" means independent. Error bars are 95 % confidence intervals. Year is set to the median, language and country of origin are set to their modal value.

5.4 ROBUSTNESS

5.4.1 *Social Security Law*

The party effect in social security law, albeit statistically significant, is small in practical terms and contradicts the theoretical predictions. In addition, the effect does not replicate in a number of key robustness checks. In particular, it is not robust to reducing the data to those year-subsets and country-subsets that show no evidence of case selection, as determined via the randomization test run in subsection 4.3.1. In year-subset A, the party random effect loses statistical significance and the spread from the strictest to the most lenient party, estimated at 8 percentage points in the full data, all but disappears, dropping to 1 percentage point ($\chi^2(1) = 0.01, p = 0.80$; table A.5). The same result obtains in country-subset A where the spread reduces to

2 percentage points ($\chi^2(1) = 0.02, p = 0.66$; table A.7). These subset analyses indicate that the party effect which is obtained in the full data may be driven by case selection.

Further, the effect is also not robust to removing cases where the chair judge is from a different division or had not yet been elected to the Court at the time when the appeal was submitted. After dropping those observations showing evidence of manual panel reassignment, the party effect loses statistical significance ($\chi^2(1) = 1.3, p = 0.25$; table A.11). By contrast, the small party effect does replicate if partially granted appeals are removed ($\chi^2(1) = 14.7, p < 0.001$; A.9) and after additionally controlling for the gender and experience of the judge ($\chi^2(1) = 9.8, p = 0.002$; table A.13). Finally, as under the mixed model, using OLS returns a statistically significant but practically small party effect. This is true with or without controlling for the full composition of the three-judge panel in terms of party membership (tables A.3 and A.4). In sum, assessing the results across different specifications and data subsets, the data provide, at most, a weak suggestion of a link between party membership and case outcomes in social security law.

5.4.2 *Asylum Law*

The party effect observed in asylum law, by contrast, remains statistically significant and substantial in size across all robustness checks and estimation strategies employed here. After dropping potentially reassigned panels, the spread from the preference of the most lenient to the most restrictive party remains at 10 percentage points, as in the full data ($\chi^2(1) = 14.5, p < 0.001$; table A.11). If partially granted appeals are removed, the spread drops only slightly, to 9 percentage points ($\chi^2(1) = 11.8, p < 0.001$; table A.9). Finally, the spread increases to 23 percentage points after controlling for additional biographical attributes of the judge ($\chi^2(1) = 23.8, p < 0.001$; table A.13). If party preferences are estimated via OLS, the relative ranking of the parties remains the same as under the mixed model and the most lenient party visibly separates from the most restrictive party. Both statements are robust to adding controls for the full panel composition (tables A.3 and A.4). In sum, a clear picture emerges in asylum law. The political ideology of the judges, proxied by their party membership, predicts case outcomes in expected ways.

	Dependent Variable:			
	Case Outcome			
	2011		2018	
	(1)	(2)	(3)	(4)
Observations	618	493	391	323
F	7.63	17.7	2.90	23.4
df	3.34	2.94	1.67	2.29
p	0.052	0.021	0.311	0.029
Inconsistency	0.049	0.087	0.062	0.054

Table 5.3: Pre- and Post-Election Estimates

The table reports estimates for the year before and after the mid-March 2011 and mid-March 2018 elections in social security law. That is, model (1) uses all verdicts issued from March 2010 to February 2011, model (2) from April 2011 to March 2012, model (3) from March 2017 to February 2018, and model (4) from April 2018 to March 2019. All models are estimated via OLS since there are not enough observations to estimate mixed models. All models control for yearXlanguage, country of origin and panel composition (see appendix A.2.4 on this variable). For the hypothesis test, a party fixed effect is added. The *F* and p-values report a Wald test for joint significance of the party fixed effect. For the inconsistency rate, as defined in subsection 4.1.3, a judge fixed effect is added instead.

5.5 RE-ELECTION YEARS

This section explores whether incentives set up by the requirement that judges win re-election by parliament every six years affects judicial behavior in social security law. Since the previous sections only find a weak suggestion of a party effect in this legal area, it is worth testing whether the effect is in fact strong and robust in pre-election years but gets canceled out in the full data. Such a finding would suggest that re-election incentives lead social security judges to strategically align themselves with the preferences of their parties. If, on the other hand, I find a party effect only in the year after the election this would suggest instead that the institutional setting leads judges to pander to other parties.

Empirically, the latter is the case. When the data is reduced to pre- and post election years, in both elections observed here party only predicts case outcomes in the year after the election but not in the year before (using a p-value of $p < 0.05$). In the 2011 election, the inconsistency rate increases substantially in the year after the election, from 4.9 % in the year before to 8.7 %, while the rate decreases slightly in 2018, from 6.2 % to 5.4 % (table 5.3). In other words, it appears that some social security judges deviate from the average preference of their party colleagues in the year leading up to their re-election but realign themselves in the following year. These data provide suggestive evidence that some judges (potentially subconsciously) alter their preferences to gain support from other political parties.

In asylum law, interestingly, the data point in the same direction. Hangartner, Lauderdale, and Spirig (2020) also investigate the 2011 election, focusing on asylum judges. They find that the correlation between IRT-generated party preferences, based on roll call votes on asylum policy in the Swiss parliament,[222] and judicial preferences is lower in the year before the election than in the year after. It should be noted, however, that their estimated inconsistency rate is equal in both periods and that the spread of judicial preferences is even slightly decreased in the year prior to the election. Regarding re-election incentives, Hangartner, Lauderdale, and Spirig (2020) interpret these data as providing evidence that in asylum law, too, judges deviate from their true preference in the year leading up to the election in order to win votes from other parties.

These findings are surprising. In the political and academic debate, critics often see the re-election requirement as a danger to judicial independence precisely because it may make judges dependent on their political party. The results indicate that, if anything, the opposite is likely the case.[223] It should be noted, however, that the evidence provided here is suggestive and to be read with caution. Only two elections could be observed in the context of the present study; further data would be necessary in order to draw firmer conclusions. In addition, the estimated election effects are small in size and, thus, do not provide a much stronger signal than the effect found in the full data, which I deemed to be only a weak suggestion of a party effect.

222 See footnote 282.

223 If this result is taken at face value then, from a normative perspective, one may, of course, still argue that re-election incentives ought never influence court verdicts, one way or the other.

Nevertheless, it is suggestive that the signal only appears in the years after the election and not in the years before.[224] This should at least decrease our prior that a real effect in the full data is canceled out due to re-election incentives.[225]

224 Note, however, that the p-value in the the year before the 2011 election is almost significant at the < 0.05 level.

225 For the implications of these re-election year results for the mechanisms explaining the differences by legal areas, see subsection 6.1.3.

6

MECHANISMS AND INTERVENTIONS

The empirical results obtained in the previous two chapters indicate that judicial behavior varies by legal area. Specifically, in asylum law some judges are more lenient than others, and their estimated preferences align with party policy in expected ways. In social security law, only the former result obtains. That is, case outcomes depend on the identity of the chair judge to a similar degree as in asylum law but there is only a weak suggestion that political ideology matters. In immigration law, finally, neither of the two effects is present. This chapter investigates potential mechanisms that may explain these differences by legal area (section 6.1). Further, the chapter discusses potential policy-making interventions which may increase the consistency of adjudication (section 6.2).[226]

6.1 MECHANISMS

6.1.1 *Approach and Limitations*

This section considers mechanisms that may contribute to the observed differences in judicial behavior by legal area. To this end, I discuss specific legal, institutional, and political factors that vary by legal area and plausibly affect variation in judicial preferences and the influence of political attitudes on case outcomes. In other words, the goal is not to consider all of the numerous possible determinants of judicial behavior.[227] Rather, we are only interested in factors that, first, differ by legal area and, second, are plausible candidates for explaining the main results. The factors discussed here are the potential effects of uncertainty about the decisive case facts, politicization in combination with judicial selection and re-election incentives, the hierarchy of the judicial system, variation in caseload, and certain aspects of court organization. These are, in my view, the most important potential mechanisms. Naturally, however,

226 Parts of this chapter have been used for the preparation of a German-language publication in a Swiss law journal (Gertsch 2021).

227 For an overview, see the literature in footnote 98.

I cannot exclude that there are further plausible mechanisms which are not covered in this chapter.

One limitation of this approach should be noted at the outset. Namely, the explored differences between the legal areas under study are endogenous to the empirical results. That is, in each legal area different judges decide different cases applying different legal norms. For that reason, the results cannot be explained causally in the setting of the present study. Rather, the investigation below provides suggestive evidence about plausible mechanisms which may be used as hypotheses in future research. I discuss potential study designs which may allow further insight into the mechanisms at work. It should be noted, however, that it is difficult to imagine a perfect experiment which allows for identifying the causal effect of the legal area on judicial behavior, since there are usually numerous important differences between legal areas. That being said, in the present context several important dimensions are actually held constant across legal area.

First, the judges in all three legal areas are elected (and re-elected) under the same procedure, share similar career paths leading up to their election, and serve on the same court.[228] Second, all cases in the data used here are decided by three-judge panels, using virtually the same court-internal processes for case assignment and panel decision-making. Third, almost all appellants are foreign citizens, unlike in the more common setting where social security appellants are native citizens but not appellants in immigration and asylum law.[229] These features increase the homogeneity of the set of judges, cases, and decision-making procedures that are being compared. In Switzerland, no comparative evidence across legal areas exists so far. In the United States, where judicial preferences have been estimated in various contexts, comparing across legal areas usually includes courts with wildly differing judicial election procedures and differing procedural rules.[230] Thus, for a comparison across legal areas, the institutional setting used here is a significant improvement to the previous literature.

228 Prior to the creation of the Court's division VI, social security and immigration judges even served on the same division (see footnote 124).

229 This may help shielding against differential judicial biases based on group membership (see the literature in footnote 101). At the same time, of course, a potential disadvantage is that this may reduce the external validity of the results in comparison to legal areas with non-foreign citizens as appellants.

230 For example administration-internal examiners versus three-judge appeals panels. In this regard, see the discussion in subsection 2.6.3.

6.1.2 *Law versus Facts*

The empirical analysis shows that immigration judges are very consistent, while preferences are more spread out in social security and asylum law. Strikingly, previous studies from the United States have also documented particularly strong variation in between-judge grant rates in social security and asylum law, although at higher absolute levels.[231] One potential explanation for this is that case outcomes strongly depend on the case facts rather than legal interpretation in these legal areas. The most influential strands in continental legal theory share a focus on legal interpretation and largely treat the facts of a case as a constant.[232] That is, it is assumed that the case facts are established and the role of the judge only consists of applying the law to those facts. As a result, dogmatic legal methodologies almost exclusively focus on the interpretation of the law. In such a framework, judicial inconsistency is simply explained by judges interpreting the law differently.

This subsection explores the hypothesis that an additional source of inconsistency arises from the case facts. That is, in practice judges might not only disagree about the correct interpretation of the law but also about the correct assessment of uncertain case facts.[233] Several former and current FAC judges and law clerks suggest that in asylum law more often than in other legal areas cases primarily hinge on the judge's assessment of the case facts. Typically, whether an asylum-seeker is granted asylum depends on the appellant being able to provide credible prima facie evidence showing that he or she is in danger if expelled to the origin country. In many cases, however, no evidence for or against this claim can be produced. The relevant facts occur abroad, often in war-torn countries, where official investigation or cooperation with local authorities is not possible. As a result, the legal question of whether the appealed decision should be upheld is reduced to a credibility assessment of the alleged facts. In the legal literature, this is a known characteristic of asylum adjudication.[234] This may increase the observed varia-

231 See subsection 2.6.3.

232 See Altwicker (2019), p. 183 f.

233 In the terms of the statistical model used here, judges may not only disagree about the correct threshold to apply but also about the relative ranking of the merits on the one-dimensional case-space.

234 Thomas (2006), p. 80 ff.; Klaushofer (2017), p. 150 ff.; Schindler (2017), p. 197 ff.; Kneer (2020), p. 169 ff. As an example, see FAC verdict D-2311/2016 of 17 August 2017, consideration E. 10.1.

tion in judicial preferences for two reasons: strategic fact-finding and intuitive reasoning.

First, before applying the law, judges conduct a fact-finding process. That is, they study the appeal documents including the provided evidence.[235] When deciding which facts to include in the written verdict, judges have considerable discretion. Thus, if a judge prefers a specific outcome, selecting the relevant facts accordingly, potentially unconsciously due to confirmation bias,[236] may sometimes be more attractive than justifying the decision via legal interpretation. This may shield from oversight by other judges on the panel or by an appellate court. For the second and third judge on FAC panels, it may be more costly to research the case facts in order to detect such behavior than disagreeing with the legal opinion.[237]

Second, after the fact-finding process, judges assess the provided evidence. Determining the correct standard of proof is a legal problem. When there is uncertainty regarding the evidence, however, applying the standard of proof requires estimating factual probabilities. Research in behavioral law and economics demonstrates that judges tend to rely heavily on intuition to assess probabilities[238] rather than using a systematic, formal approach for this step, such as Bayesian probability updating.[239] As a result, judges might differ wildly in their propensity to put faith in the purported case facts. For these two reasons, the law may be less able to constrain judicial intuition, emotion, and political preferences when there is uncertainty about the case facts.

In principle, this hypothesis could be investigated quantitatively by developing a quantitative measure of factual uncertainty,

235 In the case of the FAC divisions studied here, the evidence exclusively consists of documents as no oral hearings are conducted.

236 That is, the human tendency to seek out information that is consistent with prior beliefs while ignoring contradictory information. Wistrich and Rachlinksi (2013) show that judge subjects, too, exhibit confirmation bias in the classic experiment of Wason (1968).

237 Similarly, appellate courts typically rely on the fact-finding by the lower court and focus on legal questions.

238 See, for example, Guthrie, Rachlinksi, and Wistrich (2001) demonstrating that judges, in assessing negligence, tend to neglect the probabilistic base rate in favor of intuition (see, originally, Kahneman and Tversky 1973). For further experiments showing intuitive reasoning in judge-subjects, see Guthrie, Rachlinksi, and Wistrich (2009) and Rachlinksi, Wistrich, and Guthrie (2013). For studies demonstrating intuitive probability assessment by judges in real-world court cases, see Beebe (2006) and Chen, Moskowitz, and Shue (2016). For an overview, see Rachlinski and Wistrich (2017), p. 211 ff.

239 As proposed, for example, by Schweizer (2015).

for example using methods from text analysis and computational linguistics. This separate research question, however, would require a bespoke methodological approach and is beyond the scope of this dissertation.[240] For this reason, I instead investigate the hypothesis by randomly selecting and carefully examining 20 opinions per legal area.[241] Since the goal is to give a qualitative overview of the degree of factual uncertainty in each legal area, rather than creating a measure for statistical analyses, this number seems sufficient.

In the sampled asylum law cases, factual uncertainty typically concerns the asylum-seeker's status as a refugee. A refugee is a person who in his or her home country is subject to serious disadvantages for reasons of, for example, race, religion, or political opinions. Asylum-seekers must at least "credibly demonstrate" this status "on the balance of probabilities."[242] In many cases, asylum-seekers cannot prove their refugee status or even their identity due to a lack of written documents to this effect. The Court must then decide based on incidental evidence whether the facts appear credible. Typically, if the Court rules that the refugee status is not credibly demonstrated,[243] this is based on circumstantial evidence, for example due to contradictions,[244] because the purported facts appear as an implausible succession

240 In particular, one could exploit the fact that FAC opinions are divided into separate facts and law sections. In theory, this allows to, for example, use classification models which predict case outcomes based on the bigram frequencies of the full opinion on the hand and of the facts section only on the other hand. This may potentially allow insight into whether the facts or the law predict case outcomes more strongly. However, there are major challenges to a text-as-data approach since asylum verdicts in particular frequently discuss the uncertainty of the case facts in both sections of the opinion. This may also be the reason why a simpler approach that I tried did not yield a useful measure for factual uncertainty: I computed the relative length of the facts versus the law section but found that the ratio does not vary by legal area.

241 Due to my language capabilities, Italian verdicts are excluded from the random draw.

242 This standard is not met, in particular, if the purported facts are unfounded, contradictory, or based on falsified evidence. See art. 3 and 7 of the Asylum Act.

243 For an example where the status is credibly demonstrated, see FAC verdict E-6562/2007 of 1 September 2010. The Court may also rule that the first-instance decision-maker has not conducted sufficient investigation for the Court to assess the credibility of the purported facts which leads to a verdict in favor of the appellant (FAC verdicts E-2731/2007 of 24 October 2007; D-3900/2007 of 20 July 2007).

244 FAC verdicts D-4921/2007 of 17 September 2009; E-4950/2007 of 5 April 2011.

of coincidences,[245] or because the submitted evidence seems falsified.[246]

Factual uncertainty regarding the crucial facts is also a frequent feature in social security cases, often concerning the disability of the appellant. Typically, the first-instance decision-maker argues that the disability does not qualify for a pension since the appellant's ability to earn an income is not sufficiently reduced.[247] In a first group of cases, factual uncertainty arises because the medical opinions solicited by the parties are contradictory. The Court has developed legal criteria to determine the credibility of an opinion.[248] If this test is inconclusive, the Court tends to grant the appeal and order the first-instance decision-maker to solicit further opinions.[249] The detailed analysis of individual cases thus confirms that substantial uncertainty about the case facts is frequent in social security and asylum law. It is plausible that this increases inconsistency in judicial decisions.

In the absence of a clear measure for factual uncertainty, however, the merit of this hypothesis is difficult to assess. For

245 FAC verdict E-2137/2007 of 9 July 2007.

246 FAC verdict E-4950/2007 of 5 April 2011. In most other cases, the Court either rules that the asylum claim is "obviously unfounded" (FAC verdicts E-3056/2007 of 13 September 2007; D-2029/2007 of 21 March 2007; D-4699/2007 of 22 April 2010) or acknowledges factual uncertainty which, however, is not decisive for the case outcome. The latter can be the case, for example, because the uncertain facts are not relevant to the refugee status (FAC verdicts D-2218/2007 of 3 May 2007; D-3082/2007 of 9 May 2007; E-3908/2007 of 11 October 2010), the appellant can reasonably be expected to seek asylum in a different country (FAC verdict E-4657/2007 of 31 August 2009), or because a procedural deadline was missed (FAC verdict D-2798/2007 of 23 November 2007).

247 See art. 28 ff. of the Disability Insurance Act.

248 For example how detailed or specific the opinion is and whether the author is a specialist in the relevant medical field (FAC verdict C-4779/2008 of 1 December 2010). Further, the opinions may be of such different quality that the Court gives one opinion precedence and treats the facts as fully established (FAC verdict C-1046/2007 of 8 July 2009), the opinions may be inconclusive but the contradiction concerns a question that does not affect the case outcome (FAC verdicts C-5381/2009 of 7 April 2011; C-6768/2010 of 14 October 2011), or the loss of earnings is not high enough to qualify for a pension in the first place (FAC verdict C-6768/2010 of 14 October 2011).

249 FAC verdicts C-3533/2008 of 16 February 2010; C-2340/2009 of 1 October 2010; C-6262/2013 of 13 January 2015. Similarly, the Court may rule that the solicited opinions are not comprehensive enough, for example because they do not state whether the disability had already occurred at the time of the appealed decision (FAC verdicts C-5621/2007 of 17 February 2009; C-3412/2016 of 12 October 2018) or both parties may agree that further opinions are necessary (FAC verdicts C-1829/2014 of 25 September 2014; C-6864/2018 of 12 June 2019).

in immigration law, too, cases are frequently decided based on circumstantial evidence. Often, this concerns the annulment of a naturalization due to marriage fraud. Foreign citizens become eligible for naturalization after several years of marriage to a Swiss citizen. If the marital relationship has in fact ended before the foreign spouse receives citizenship, the naturalization can be annulled. Thus, the Court has to form a belief about the mental motivation of the former spouses at the time of the naturalization.[250] A different type of factual uncertainty arises where the Court has to form a prognosis regarding the future behavior of the appellant. This is the case with appellants who are denied a short-time visum because it is deemed too likely that they will not return to their domicile abroad.[251] Similarly, where appellants are banned from entering the country due to constituting a threat to public security, the uncertain risk of a future offense is decisive to the case outcome.[252]

In sum, factual uncertainty also arises regularly in immigration law, where the empirical results indicate very low levels of judicial inconsistency. Further research explicitly designed to tackle this question is needed to assess the hypothesis that uncertainty about the case facts is an important driver of between-judge preference variation.[253] As an alternative to text-as-data methods,[254] future research could include the use of laboratory, online, or artefactual field experiments, where judges acting

250 In some cases the Court only knows that the marriage was divorced briefly after the naturalization and that the appellant remarried almost immediately (FAC verdicts C-1205/2006 of 29 October 2008; C-6165/2008 of 6 September 2010) while it has stronger circumstantial evidence in other cases. An example of the latter concerns an appellant who fathered several children in his home country during the marriage, and shortly after the divorce married the mother of his children and applied to immigrate his new family (FAC verdict C-5365/2008 of 31 May 2010).

251 FAC verdicts C-1000/2006 of 4 June 2007; C-7455/2006 of 24 January 2008; C-1787/2007 of 6 June 2008; C-5958/2007 of 22 July 2008; C-4344/2009 of 19 January 2010.

252 FAC verdicts C-4752/2010 of 26 April 2012; C-1429/2013 of 12 August 2013; F-4592/2014 of 2 December 2016.

253 Results on this question may have implications for legislation. Though Swiss law stipulates the principle of "free appreciation of the facts" for administrative, civil as well as criminal proceedings (art. 19 of the Administrative Procedure Act; art. 10 para. 2 of the Federal Act on Criminal Procedure of 5 October 2007; art. 157 of the Federal Act on the Civil Procedure of 19 December 2008), in principle the legislator is free to stipulate rules on how to weigh uncertain evidence, so-called "rules of evidence."

254 See footnote 240.

as study participants[255] would be asked to decide hypothetical cases with varying degrees of uncertainty in the presented case facts.

6.1.3 *Politicization and Judicial Selection*

A potential cause for the important role of political ideology in asylum law is politicization in combination with judicial (re-)elections. Previous research shows that ideology plays a larger role in judicial behavior when politically salient issues are concerned.[256] Unquestionably, the asylum divisions of the FAC receive far more attention in politics and in the media than their colleagues in social security and immigration law.[257] Asylum law is a politically salient topic at the national level.[258] Further, asylum judges have received media attention that far exceeds the usual degree of court coverage in Switzerland.[259] The previous literature confirms that this is indeed not without effect on the verdicts of the FAC. Spirig (2020) shows that FAC asylum judges of all parties temporarily lower their grant rates by $2-7\,\%$, depending on the specification, when asylum law coverage in the Swiss media increases by one standard deviation.

255 See, for example, Spamann et al. (2020) who let judges from seven jurisdictions solve hypothetical cases to test for precedent effects and common versus civil law differences in behavior.

256 See the discussion in footnote 76.

257 Note that in social security law the FAC only handles a small minority of all disputes nation-wide as most cases are in the jurisdiction of cantonal courts. In asylum law, in contrast, the FAC has exclusive jurisdiction (see subsection 3.1.1). This may contribute to the difference in public attention.

258 Since 2007 alone, three revisions of the Asylum Act have come into effect that had been approved in contested national referenda. See the federal referenda of 24 September 2006 (Federal Gazette 2006, p. 9455), of 9 June 2013 (Federal Gazette 2013, p. 6613), and of 5 June 2016 (Federal Gazette 2016, p. 6779).

259 For example, a major newspaper published a "ranking" of the strictest asylum judges based on summary statistics on 30,000 asylum cases (Tages-Anzeiger of 10 October 2016, Das sind die härtesten Asylrichter der Schweiz, https://blog.tagesanzeiger.ch/datenblog/index.php/12556/je-nach-richter-dreimal-hoehere-erfolgschancen). Individual judges have been criticized in numerous further media articles (for example, Die Weltwoche of 14 January 2016, Richten gegen die Regeln, www.weltwoche.ch/ausgaben/2016_2/aktuell/richten-gegen-die-regeln-die-weltwoche-ausgabe-22016.html; Berner Zeitung of 21 October 2016, Interview with Jean-Luc Bächler, www.bernerzeitung.ch/schweiz/die-persoenlichkeit-des-richters-hat-einfluss-auf-das-urteil/story/28992254; Die Weltwoche of 22 January 2020, Willkommensruf, www.weltwoche.ch/ausgaben/2020-4/kommentare-analysen/willkommensruf-die-weltwoche-ausgabe-4-2020.html).

In contrast, social security and immigration judges have received almost no media coverage at all.[260]

Beyond media attention, this subsection considers two further mechanisms for how politicization may affect judicial behavior: self-selection and re-election incentives. Under the first mechanism, selection in the process of judicial elections may politically align parties and judges. Recall that FAC judges are elected by the Swiss parliament, and almost always join a political party as they have to be nominated for election by a commission composed of members of parliament.[261] During their career, judicial candidates with strong political attitudes may be more likely than other candidates to self-select into politicized legal areas and more careful to self-select into politically aligned parties. And, observationally equivalent, parties may be more careful to nominate ideologically aligned candidates in politically salient legal areas.[262]

Under the second mechanism, judges may, once elected, strategically alter their preferences due to re-election incentives. Since judges are up for re-election every six years, it is plausible that they behave strategically, particularly during the lead-up to an election, in order to receive more votes.[263] It is, however, difficult to predict the direction of such an effect. On the one hand, judges may align with their party's policy preferences to retain the support of its members of parliament. On the other hand, judges need the votes of several parties to win re-election, which may cause extreme judges to pander to the political middle, rather than to their own party. As section 5.5 shows, the data

260 The few exceptions are newspaper articles which use FAC cases to make an argument about social security or immigration policy without criticizing the Court (see, respectively, Neue Zürcher Zeitung of 20 March 2018, Der ganz normale Wahnsinn – der lange Weg zu einem IV-Entscheid, www.nzz.ch/schweiz/der-weg-fuehrt-ueber-viele-gutachten-aber-nirgends-hin-ld.1367566?reduced=true; Republik of 6 November 2019, Sie war einmal Schweizerin, doch das ist egal, www.republik.ch/2019/11/06/sie-war-einmal-schweizerin-doch-das-ist-egal).

261 See subsection 3.1.2.

262 Note that judges sometimes switch divisions after serving on the Court for some time when vacancies arise (see footnote 133).

263 So far, no FAC judge has failed to win re-election. However, it is fairly common that Swiss federal judges receive fewer votes than their colleagues if they are unpopular in parliament (see subsection 3.1.2). Judges may want to avoid such "punishments" even if it does not lead them losing their seat. See also footnote 64 regarding the recent contested re-election of a Federal Supreme Court judge.

suggest that the latter is indeed the case, both in asylum law and in social security law.

Re-election incentives, in other words, seem to reduce, rather than increase, the importance of political attitudes for judicial behavior in the Swiss context. This also means that, since the effect goes in the same direction in both legal areas, re-election incentives are an unlikely explanation for the finding that judges are more aligned with their parties in asylum law than in social security law. Although the present research design cannot produce direct evidence on the importance of the first mechanism, self-selection, this finding should somewhat increase our prior that self-selection indeed contributes to the increased importance of political ideology for case outcomes in asylum law. Thus, I interpret the data as providing suggestive evidence that parties (judges) more carefully vet judges (parties) for their ideological alignment in asylum law than in other legal areas. For future research in the Swiss context, two avenues in particular seem promising. First, the role of re-elections, particularly across a longer time span than is observed here, deserves more attention in future quantitative studies.[264] Second, it may be promising to investigate the hypothesis that self-selection explains the results more closely, for example using interviews with (former) members of the Court Commission as well as judges.[265]

6.1.4 *Hierarchy of the Judicial System*

Due to the hierarchical nature of the judicial system, judges at lower courts are more often bound by precedent than supreme court judges. Previous research shows that judges are averse to being overruled by a higher court and sometimes diverge from

264 It should be noted, however, that increasing the observed time span would come with serious challenges. Regarding the FAC, no further election results are available since the Court has only been in operation since 2007. Luminati and Contarini (2021) investigate re-election results for the Federal Supreme Court reaching back into the 19^{th} century. They do not, however, scale judicial preferences and thus cannot test whether re-elections affect judicial behavior. Scaling individual preferences at the Federal Supreme Court would require a novel methodological approach since cases are not assigned quasi-randomly and individual votes are not observable. In particular, most cases are decided by three or five-judge panels which are formed from a group of six judges, leading to very limited variation in the panel compositions.

265 Previous qualitative studies on the Federal Supreme Court (see section 2.4) have conducted interviews with key figures in the selection process but do not address this hypothesis directly.

their preferences in order to avoid that.[266] Further, judges who are overruled less often tend to have more successful careers.[267] As a result, lower court judges may be less free to follow their own policy preferences than judges at the highest court in a jurisdiction.[268] A similar dynamic might also be at play in in the present context.

In asylum law matters, the FAC is the highest national court, which means its decisions are final. In social security and immigration law, on the other hand, the FAC is a lower federal court since its decisions can be appealed to the Federal Supreme Court.[269] Thus, the threat of being overruled only affects judges in the latter legal areas. Further, since asylum law decisions are final, the Federal Supreme Court does not have dedicated asylum law divisions, while two out of its seven divisions exclusively adjudicate cases in social security law. In other words, asylum judges are inherently less likely to move up to the Federal Supreme Court during their career than social security judges.[270] Given the previous evidence, we expect these two factors to reduce the variation in judicial preferences in social security and immigration law but not in asylum law. This suggests that the hierarchical nature of the judicial system, and the lower incentive for auditioning behavior by asylum judges, likely contribute to the important role of political attitudes in asylum law.

266 See Schanzenbach and Tiller (2007) and Randazzo (2008) on the United States federal judiciary.

267 See Salzberger and Fenn (1999) on the English Court of Appeal and Ramseyer and Rasmusen (2001) on Japanese judges.

268 Epstein and Knight (2013), p. 15.

269 See subsection 3.1.1 and footnote 120. Empirically, in 2011 and across all FAC divisions, about 14 % of its verdicts where an appeal was possible were indeed appealed; about 18 % of those appeals were subsequently fully or partially granted by the Federal Supreme Court (Metz 2012, p. 249). The latter number seems to be relatively stable over time. Between 1996 and 2008, the Federal Supreme Court granted appeals against federal judicial bodies (that is, the FAC from 2007 and its predecessors before that) 17 % of the time (Tanquerel et al. 2011, p. 75). Further, note that in social security law the reversal rate at the Federal Supreme Court is substantially higher over that time period, at 30 %, although this includes appeals against verdicts by cantonal first-instance courts and as well as appeals against verdicts by the FAC (Tanquerel et al. 2011, p. 71).

270 Of course, FAC judges cannot be "promoted" to the Federal Supreme Court but have to be elected by parliament. Nevertheless, currently 6 out of 38 full time Federal Supreme Court judges have previously served at the FAC. None of them had been asylum judges at the FAC (four had been in division I, two in division III).

6.1.5 *Caseload*

According to a commonly held intuition, there is more room for individual judicial policy preferences or unconscious reasoning when judges decide complex, non-routine cases.[271] This is, however, not necessarily in line with the existing empirical evidence on preference variation in the United States, where particularly high between-judge variation is often found in settings with a high caseload and relatively homogeneous case sets.[272] This suggests that a high load of relatively standardized cases may be associated with high preference variation.[273] Due to the circular case resolution procedure used at the FAC, this may be the case in the present context as well. In particular, a high caseload likely reduces the degree to which chair judges receive oversight from their panel colleagues.

Under the decision-making procedure at the FAC, the chair judge proposes a verdict and opinion draft before the other judges on the panel first receive the case files. If the chair proposes an outcome that the second (or third) judge disagrees with, the latter must decide whether to acquiesce or to disagree. Under the spatial model used here, the second judge will be more inclined to disagree the further away from his or her cutpoint the particular appeal is situated. Disagreeing, however, is costly in terms of effort as it requires researching the case facts. Plausibly, providing oversight requires a significant initial effort for each case before marginal cost decreases. Thus, as the caseload increases, judges will be able to provide oversight to the chair judge less frequently.[274]

271 As Posner (2009) summarizes on the book cover: "[...] in non-routine cases, the conventional materials run out and judges are on their own, navigating uncharted seas with equipment consisting of experience, emotions, and often unconscious beliefs." For this reason, Hangartner, Lauderdale, and Spirig (2020), p. 30, hypothesize that the preference variation in asylum law may be a lower bound for other legal areas.

272 See subsection 2.6.3.

273 Note note that under the unidimensionality assumption invoked in the empirical strategy used here, the case-set is assumed to be relatively homogeneous (see subsection 4.1.1). In a context where the case-set is too complex to be mapped onto one dimension, preference variation estimates may be downward biased since one source of variation is muted.

274 This does not assume that judges are lazy, that is, that they have a specific preference for leisure over work (see Posner 1993). Assume that a certain judge maximizes being thorough in each case and does not value leisure. If the caseload decreases, that judge will increase the time spent on each individual case since he or she does not like to spend it on leisure.

While it appears plausible that high caseload numbers contribute to the observed degree of judicial inconsistency, the present institutional setting does not provide strong empirical evidence for this hypothesis. In particular, from the publicly available data alone it is not possible to determine, by legal area, the average amount of time judges spend on each case.[275] Thus, the effect of caseload on judicial preferences remains an open avenue for future research designed to answer this particular question. A promising approach would include a setting with plausibly exogenous variation in caseload, for example due to an administrative change affecting court resources.[276]

6.1.6 *Court Organization*

As a last potential mechanism, I briefly consider potential division-specific panel effects and the importance of coordination between judges within divisions. At the FAC, there are significantly fewer social security and immigration judges than asylum judges.[277] This may affect judicial preference variation and the influence of political attitudes since it is easier to coordinate in a smaller group of judges. For one, the smaller the pool of judges is, the more frequently judges will serve on a panel with the same colleagues. This likely facilitates consistent decision-making over time through compromise. In addition, in a small division it is easier for division presidents to coordinate between judges via internal guidelines and informal processes, which also tends to contribute to a higher consistency in case outcomes.[278] In order to identify the effect of judge pool size on preference variation quantitatively, the most promising

275 In terms of three-judge verdicts, in social security law each chair judge hands down 33 verdicts per year on average, in immigration law 50, and in asylum law (in 2007) 54. However, even if we assume that judges trade off work and leisure equally in each legal area, we still cannot rank the legal areas by how much time is spent on each case since some single-judge decisions are not published (see footnote 147).

276 Engel and Weinshall (2020) exploit such a change in the Isreali judiciary and find that the reduction in the caseload leads to judges spending more time on each case. While this finding is in line with the hypothesis put forward here, it does not confirm it conclusively since the authors do not scale judicial preferences.

277 Currently, there are 11 judges in division III (social security), 9 judges in division VI (immigration), 15 judges in division IV and 14 judges in division V (both asylum).

278 See former FAC president Metz (2013), p. 126 ff.

approach for future research would again be exploiting an exogenous change in court organization.[279]

6.2 INTERVENTIONS

The empirical results demonstrate that the appellant's odds of winning are not solely determined by the law. Rather, they may also be determined by the identity of the judge and the judge's party membership, depending on the legal area. Whether these results call for a fundamental reform of the judicial selection system or not is ultimately a normative question. The subsequent chapter offers some concluding considerations in this regard. However, modest improvements to judicial consistency may be achievable even without substantially altering the separation of powers interplay. While it is beyond the scope of this dissertation to discuss every policy-making intervention that may possibly increase judicial consistency, this section proposes two interventions that are, in my view, particularly promising: sequential case assignment and party-balanced panels.

6.2.1 *Sequential Case Assignment*

The first proposed intervention is sequential judge-to-case assignment. Under the current procedure, the full panel composition is determined before the chair judge receives the case files. Since the identity of the second and third judge is known to the chair judge, the latter can predict how much oversight will be provided by his or her panel colleagues. Recall that disagreeing with the verdict or opinion proposed by the chair is costly for the other judges since this requires researching the case facts.[280] If the second and third judge are ideologically similar to the chair judge (that is, if their preferences are located closely to the chair's preference on the one-dimensional case-space) then they may not have a sufficient incentive to pay this cost. This knowledge enables the chair judge to make decisions strategically, based on his or her experience working with the assigned panel colleagues in previous cases.

This dynamic could be muted by assigning judges sequentially. That is, under this procedural change, the second judge would

279 The creation of division VI at the FAC (footnote 124) does not fit this bill since it did not change the effective judge pool size and was not exogenously imposed.

280 See subsection 3.3.3.

	Dependent variable:
	Case outcome
Chair Party Pref.	-0.525^{***}
	p = 0.000
Distance	-0.366^{***}
	p = 0.0001
Chair Party Pref. * Distance	0.777^{***}
	p = 0.00001
Language Fixed Effects	Yes
Country Fixed Effects	Yes
Observations	1,843
R^2	0.386
Note:	*p<0.1; **p<0.05; ***p<0.01

Table 6.1: Panel Effects in Asylum Law

The table shows an OLS-regression of a binary indicator for the case outcome (= 1 if the appeal was granted) on the ideological preference of the chair judge's party, the distance between the ideological preference of the chair's party and the average preference of the parties of the other judges on the panel, and the interaction between these two variables, controlling for case language and country of origin. "Pref." means preference. The data are all asylum appeals submitted in 2007. The party preference is based on IRT-estimates by Hangartner, Lauderdale, and Spirig (2020), rescaled to range from 0 to 1. The results are robust to instead using party preferences based on a survey with each party's candidates for parliament in a general election (figure 5.1).

only be assigned once the chair judge has proposed a verdict. Similarly, the third judge would only be assigned once the second judge has returned the case files. As an additional measure, the identity of the already-assigned judges should not be communicated. Oral deliberations, where necessary, could still be held after the first circulation. Of course, in practice, it may not be possible, or even always desirable, to prevent judges from communicating with each other informally. However, full compliance is not necessary for this procedural change to have an effect. Even if second and third judges frequently learn the panel composition informally, sequential case assignment would still drastically reduce the chair judge's opportunities for

strategic behavior. Since the chair judge demonstrably holds significant sway over the case outcome, the intervention has potential for reducing variation in judicial preferences.[281]

6.2.2 *Party-Balanced Panels*

The second proposed intervention is introducing party-balanced panels. This intervention is primarily relevant for asylum law, where a robust party effect is obtained in the main analysis. Thus, I demonstrate the idea using asylum law data. Panels frequently contain several judges of the same party: In 1.8 % of all asylum cases, all three judges are from the same party, in 24.3 % the chair judge has one party colleague on the panel, and in 16.3 % the second and third judge are from the same party. In other words, in 42.4 % of all asylum cases, one party forms a majority. Ensuring politically more diverse panels is a promising avenue to weaken the link between political ideology and case outcomes. This can be shown in a regression, using two new variables.

First, I proxy the policy preference of the chair judge's party with IRT-estimates from pro- versus anti-asylum roll call votes in the Swiss parliament.[282] Based on this, I then compute the ideological distance between the chair judge and the second and third judge, by taking the absolute difference between the policy preference of the chair's party and the averaged preferences of the other judges' parties. I then regress case outcomes on these two variables and their interaction (table 6.1). As expected, the preference of the chair's party negatively predicts the appeal's likelihood of success. Crucially, the interaction term is positive and statistically significant. This indicates that the ideological distance between the chair and the other judges moderates how strongly the policy preference of the chair's party dictates case outcomes. That is, the chair judge is subject to more strict supervision when the panel is ideologically diverse. Thus, party-

281 Note that the FAC's asylum divisions have experimented with anonymous panels as proposed here in 2019. However, according to former FAC members, the procedural change was suspended in the course of 2019 due to administrative difficulties.

282 As estimated by Hangartner, Lauderdale, and Spirig (2020). I rescale the ideal points to a spectrum ranging from 0 to 1. The GPS is least asylum-restrictive with an ideal point of 0, followed by the SP with 0.1, the CVP with 0.48 and the FDP with 0.52 are in the center, and the SVP is most asylum-restrictive with an ideal point of 1. I assign independent judges an ideal point of 0.5.

balanced panels may increase judicial inconsistency in legal areas where political attitudes matter for case outcomes.

6.2.3 *Discussion*

While both proposed interventions hold promise, the concrete implementation would likely be challenging. With regards to sequential case assignment and anonymity, non-compliance is a potential issue although full compliance is likely not required for this intervention to work. With regards to the second intervention, it would be necessary to define what constitutes a "balanced panel," that is, whether any panel that does not contain a one-party majority is considered balanced or whether parties ought to be weighted according to their policy preferences. These questions would warrant further careful investigation in cooperation with FAC judges and, since both interventions would require changing the case assignment mechanism, with the developers of the case assignment software used at the FAC. This is beyond the scope of this dissertation.

Nevertheless, it is important to highlight two crucial advantages of the interventions proposed here over potential alternatives. First, both interventions are tailored to the specific decision-making procedure used at the FAC. In turn, of course, this also means that the considerations made here do not necessarily apply to other institutional settings. Second, the two interventions can be implemented directly by the FAC via internal regulations. Due to the constitutionally guaranteed judicial independence, the administration of the judiciary is governed by the respective court rather than by the government, as is the case for non-judicial bodies of the federal administration.[283] Thus, within statutory and constitutional boundaries, the FAC is free to design its case assignment mechanism.[284] While the constitutional right to a legally constituted court[285] does require a minimum rule of law standard for the mechanisms that courts use for case assignment, the case law of the Federal Supreme Court leaves considerable discretion to courts in this regard.[286]

283 See art. 188 para. 3 of the Swiss Constitution and art. 27 para. 1 of the FAC Act.

284 Art. 24 of the FAC Act only requires that the Court pass regulations regarding the case assignment mechanism.

285 Art. 30 para. 1 of the Swiss Constitution.

286 The same is true for the jurisprudence of the European Court of Human Rights in regard to art. 6 nr. 1 of the European Convention on Human Rights. See Brunner (2021).

It is thus very likely that both interventions can be implemented directly by the FAC within its self-administration. This is a significant advantage over more drastic reforms, such as an increase in the panel size or a switch to fixed, non-renewable terms of office. The former intervention would require formal legislation by parliament,[287] while the latter one would factually require amending the constitution in a popular referendum.[288]

287 The panel size is specified in art. 21 para. 1 of the FAC Act which can only be amended by parliament.

288 In theory, abolishing the requirement of regular re-election by parliament does not require a constitutional amendment since the term length is specified in art. 9 of the FAC Act rather than in the Constitution. In practice, however, such a reform would likely only find political support if it also applied to the Federal Supreme Court. That, however, would require changing the Constitution (art. 145 of the Swiss Constitution). Analogously the same is true for transferring the competence to elect judges away from parliament to a different body (see art. 5 para. 1 of the FAC Act and art. 168 para. 1 of the Swiss Constitution). Changing the Constitution always requires a popular referendum and the consent of a majority of the population and of the cantons (art. 140 para. 1 lit. a of the Swiss Constitution).

7

CONCLUSION

Judicial independence is widely recognized as a necessary safeguard for the rule of law. The principle requires that court decisions be unaffected by political pressure. To this end, judges receive life tenure and are elected by judicial councils in many countries. In Switzerland, by contrast, federal judges are elected by parliament for a short and renewable tenure. In addition, judicial candidates are required in practice to join a political party and have to pay an annual levy to their party once elected. This politicized judicial election procedure has drawn repeated criticism from international organizations, Swiss politicians, judges, and academics. In particular, critics worry that the Swiss institutions lead to politicized judicial decisions which violate the constitutional guarantee of equal treatment before the law. This part of the dissertation examines quantitatively whether this is indeed the case. To this end, the dissertation collects new data on verdicts by federal judges in social security, immigration, and asylum law. The final chapter of this part summarizes the findings (section 7.1), discusses potential avenues for future research (section 7.2), and offers concluding considerations on the normative implications of the results (section 7.3).

7.1 VARIATION BY LEGAL AREA

Analyzing 12,847 FAC verdicts spanning the period from 2007 to 2019, this dissertation documents considerable variation in judicial preferences in social security law and in asylum law, but not in immigration law. Specifically, in social security law the most restrictive judge grants 37 % of all appeals while the most lenient judge grants 69 %. In other words, the latter judge grants appeals almost twice as often as the former judge. This results in an estimated inconsistency rate of 3.9 % – the fraction of cases that are decided differently than if judges had entirely consistent preferences. In asylum law, the most lenient judge (27 % of appeals granted) is three times more likely to grant an appeal than the most restrictive judge (9 %). This results in an inconsistency rate of 4.1 %. In immigration law, by contrast, judicial preferences are practically uniform. In all three legal

areas, the results are robust to using a different estimation strategy and to a series of further robustness checks – in particular dropping partially granted appeals, dropping cases that show evidence of a manually altered panel composition, controlling for judicial gender and experience, and (in social security law) reducing the data to various country- and year-subsets.

In a next step, the dissertation investigates the role of judicial ideology for the observed case outcomes. In asylum law, judicial preferences strongly correlate with political ideology as proxied by judges' political party membership. Specifically, judges of the liberal social democratic party are about twice as likely to grant an appeal than judges of the most conservative parties. This is in line with these parties' policy stances on asylum law at the national level. Further, the effect is substantial in size and robust to all employed robustness checks and estimation strategies. In social security law, by contrast, this is not the case. Judges of the most lenient party are 1.14 times more likely to grant an appeal than judges of the empirically most conservative party. While the model does indicate a statistically significant effect, the ordering of the parties is not in line with their policy preferences and the effect does not replicate in several robustness checks. In all, there is only a weak suggestion of a link between party membership and judicial preferences in social security law. In immigration law, judges of different parties do not have statistically distinguishable preferences.

Since there are numerous legal and political differences between the legal areas under study, this dissertation cannot explain the causal mechanisms driving the results. At the same time, several important factors are held constant across legal areas, including the procedure for judicial selection, the court-internal procedures for case assignment and panel decision-making, the panel size, and the fact that almost all appellants are foreign citizens. This institutional setting is a significant improvement to the previous literature for a comparison across legal areas, since the existing quantitative evidence on judicial behavior in Switzerland is limited to one legal area. Against this background, this dissertation provides suggestive evidence on potential mechanisms by investigating particularly salient factors that may contribute to the results.

First, social security and, in particular, asylum law may exhibit higher levels of preference variation due to the regular absence of conclusive factual evidence. This is plausible since the law may be less able to constrain judicial preferences in the presence

of factual uncertainty. However, an in-depth legal analysis of randomly selected cases in each legal area does not conclusively confirm the hypothesis. Second, narrowing down the data set to the years before and after judges are re-elected for another term in office suggests that re-elections tend to temporarily reduce, rather than increase, judicial inconsistency and the influence of political ideology on case outcomes. Since this is true both for social security and asylum law, re-election incentives are unlikely to explain the results. This suggests, e contrario, that self-selection of judges (parties) to ideologically aligned parties (judges) may contribute to the observed party effect in asylum law. Finally, the threat of overrule by a hierarchically superior court in social security and immigration law, the high caseload in asylum law, and the relatively small number of individual judges in immigration law are all plausible candidates for mechanisms contributing to the main results.

7.2 AVENUES FOR FUTURE RESEARCH

Given the empirical results summarized in the previous section, a number of opportunities for future research emerge. These include, in particular, providing further comparative evidence, obtaining stronger evidence on potential mechanisms, and exploring the legal implications of this research. First, an important contribution to the empirical study of judicial behavior would be collecting and analyzing new data, either from other Swiss courts covering further legal areas or from other national jurisdictions where quantitative evidence does not yet exist. This would allow for comparing the results from different types of legal disputes, different institutions for judicial selection, and different models of court organization, adding further nuance to our understanding of judicial behavior outside of the federal judiciary of the United States. One key challenge for such research is that scaling judicial preferences and measuring the influence of political ideology is very difficult in institutional settings without quasi-random case assignment, as is the norm in European countries.[289]

Second, future research could shed more light on why the results differ by legal area.[290] For example, the role of judicial elections and self-selection of judges into politically aligned

289 See section 2.5.

290 See also the discussion of potential avenues for future research at the end of the respective subsections in section 6.1.

parties (and vice versa) deserves more attention. Regarding the former question, obtaining data that cover a longer time span than can be observed at the FAC seems most urgent. The latter question, on the other hand, may rather lend itself to qualitative, interview-based research methods. I also consider the puzzle of whether it is the case facts or the law that drives case outcomes and variation in judicial preferences a promising avenue for future research. Various methodological approaches may be suitable to tackle this question, in particular text-as-data methods, qualitative text analysis of the opinion text in combination with interviews, or experiments in which judges, as study participants, solve hypothetical cases. The further mechanisms considered here (the threat of reversal by a higher court, caseload, and the size of the judge pool) may most convincingly be addressed in settings where the parameter of interest is exogenously varied, for example due to a legislative change.

Third, the dissertation also sets up legal and normative research questions. For example, quantitatively measured inconsistency in judicial decisions begs the doctrinal question of whether and at which degree of inconsistency the fundamental right to equal treatment before the law is violated. In particular, such an analysis could ask whether a specific positive formulation of equality before the law mandates a maximum level of inconsistency that is compatible with the fundamental right. If a doctrinal analysis yields that this is indeed the case, the question arises whether inconsistency rates exceeding that threshold constitute a litigable individual rights violation that should compel appeals courts to reverse decisions by violating lower courts or whether, instead, the legislator can and should enact remedies. Since equality before the law is guaranteed as an individual right in constitutions and international treaties around the globe, doctrinal research in this vein could be carried out within the legal framework of particular national jurisdictions or by using a comparative or international law approach.[291]

7.3 NORMATIVE IMPLICATIONS

The primary objective of this part of the dissertation is to provide a data-driven basis for the policy-making discussion regarding the Swiss judicial election system. Whether the results presented here bolster the case for or against legal reforms is ultimately a

291 For positive formulations of equality before the law in international human rights law, see the legal sources cited in footnote 11.

normative, rather than empirical, question. This is true both for the results on the degree of variation in judicial preferences and on the influence of political ideology on case outcomes. This section offers concluding thoughts on the normative implications of the empirical results.

Consistent judicial adjudication is a central objective and marker of quality of the legal system. Judges are bound by the constitutionally enshrined principle that any person is to be treated equally in legal adjudication.[292] The results presented here show that this is mostly, but not always, the case in social security and asylum law.[293] In practice, however, it is almost impossible to prove unequal treatment by judges, since no two cases ever share exactly the same case facts.[294] Thus, research, legal practice, and policy-making should, in my view, focus on developing case-to-panel assignment procedures that reduce judicial inconsistency to the degree that is possible. As discussed in subsection 6.2.3, the jurisprudence of the Federal Supreme Court leaves wide discretion to courts in this regard. Courts should use this leeway to experiment, within the boundaries of national and international law, with interventions that have the potential to reduce the frequency of inconsistent verdicts. Determining the most promising intervention will depend on the particular institutional context. Based on the empirical analysis in this dissertation, it appears that sequential case assignment and party-balanced panels hold potential, in particular for courts using a circular decision-making procedure.

Critics worry that political ideology determines judicial decisions given the Swiss institutions on the selection of judges. Federal judges are elected by parliament, their tenure is renewable and limited to six years, and in practice they have to join a political party and pay a levy to that party while in office. While none of these rules or practices violates binding international

292 Art. 8 para. 1 and art. 29 para. 1 of the Swiss Constitution. See section 2.1.

293 For a specific example, see FAC verdicts D-1009/2009 of 25 February 2009 and D-1159/2009 of 2 March 2009. The two asylum verdicts concern two cousins from Iran and share almost identical case facts. Both cases were decided by single judges, in the first case because the appeal was deemed "obviously founded," in the second case because the appeal was deemed "obviously unfounded." The second appellant subsequently lodged a complaint at the Federal Supreme Court, invoking the latter's administrative supervisory role regarding the FAC. The Federal Supreme Court investigated the case assignment mechanism used at the FAC and dismissed the complaint (Federal Supreme Court verdict 135 II 426 of 29 September 2009).

294 In principle, appellants could also submit statistical evidence on judicial inconsistency to make their case. See in this regard Altwicker (2018), p. 619 ff.

agreements,[295] they stand in contrast to the international trends and conflict with recommendations by international organizations.[296] In the view of many, this institutional bundle appears unlikely to guarantee the independence of the judiciary. The empirical results presented here, however, only provide limited support for this view. In social security law and immigration law, no reliable link between between the political party of the judge and the case outcome can be established. In asylum law, the political party does matter for case outcomes, although the distance from the most lenient to the strictest judge is far lower than, for example, in the United States or Canada.[297]

The observed judicial behavior is the result of countless interacting legal, political, and cultural factors. The present dissertation exploits a natural experiment and statistical modeling to measure that behavior descriptively but cannot pin down causal mechanisms. Thus, the empirical results alone do not allow for the conclusion, by direct deduction, that specific aspects of the Swiss institutional bundle need to to be abandoned, reformed, or retained. However, in my view, the judicial behavior we do observe in this institutional context does not provide a strong argument in favor of a fundamental reform of the Swiss institutions for judicial elections. Consider, first, the comparison between the results in asylum and social security law. While I do find that political ideology matters in the former legal area, this leads to inconsistent verdicts about as frequently as in social security law. In the latter legal area, however, only a small portion of the inconsistency is explained by different political attitudes among judges. It appears ambitious to design a legal reform that eliminates the particular source of variation in judicial preferences which is at work in asylum law but not in social security law. Second, consider the comparison to other European courts, such as the constitutional courts of Portugal, Spain, Germany, or France. Naturally, cross-country comparisons cannot provide a perfect counterfactual. Nevertheless, it is noteworthy that even in institutional contexts where judges have guaranteed tenure, their voting behavior is correlated with the preferences of the political parties that were in power at the time of their appointment or election.[298]

295 See footnote 61.
296 See the discussion in section 2.2.
297 See subsection 2.6.3.
298 See, for example, Amaral-Garcia, Garoupa, and Grembi (2009); Garoupa, Gomez-Pomar, and Grembi (2013); Hönnige (2009). See the literature discussion in subsection 2.6.2.

Certainly, these arguments will not convince every critic. From a multitude of possible counter-arguments, three in particular deserve mention here. First, so far there is no quantitative evidence on the influence of political ideology on the Federal Supreme Court, which decides highly salient individual cases more often than the FAC. In such a context, political ideology may be particularly influential for case outcomes,[299] albeit in ways that may be too subtle to measure quantitatively.[300] Second, the results may be susceptible to cultural and political change. Under the current electoral practice judges are all but guaranteed to win another term if they do not retire, and parliament elects judges in accordance with each parties' seat strength. These are unwritten practices, however, which may change if the Swiss legislator would experience significant political polarization.[301] Third, as the English High Court of Justice famously pronounced, "justice should not only be done, but should manifestly and undoubtedly be seen to be done."[302] In other words, some argue that even if Swiss judges are in fact independent, the judicial election system makes them look dependent, which is also unconstitutional.[303]

In my view, however, these concerns do not sufficiently appreciate the fact that institutions on judicial selection do not have the sole purpose of maximizing judicial independence. Rather, they may also serve other goals, in particular the democratic legitimacy and accountability of the judiciary and the public acceptance of its verdicts. In this trade-off, the Swiss tradition

299 See the references in footnote 76.

300 See, for example, an interview with Federal Supreme Court judge Thomas Stadelmann who states that he has experienced judges recusing themselves from a case after a phone call with a leading politician of their party (Aargauer Zeitung of 30 July 2019, Nach UBS-Urteil und Abwahldrohung, www.aargauerzeitung.ch/chronik/datum/2019-07-30 => Mehr Artikel).

301 K. Eichenberger (1960) uses the fact that judges, empirically, almost never fail to win re-election (see subsection 3.1.2) as an argument to defend the re-election requirement (smilarly, Lorenz Langer, Neue Zürcher Zeitung of 22 September 2020, Bundesgerichtswahl: Die SVP sägt am eigenen Ast, www.nzz.ch/meinung/bundesgerichtswahl-die-svp-saegt-am-eigenen-ast-ld.1576172?reduced=true). Some authors in the legal literature diagnose an increasing politicization of judicial re-elections that may change this practice (footnote 62). See, however, Luminati and Contarini (2021): They analyze re-election results for judges at the Federal Supreme Court from the 19^{th} century to today and find that the frequency of contested or tight re-election results has not increased substantially over time.

302 See High Court of Justice of the United Kingdom, Rex v Sussex Justices, ex parte McCarthy ([1924] 1 KB 256, [1923] All ER Rep 233).

303 The European Court of Human Rights indeed uses the appearance of (in)dependence as a criterion (see footnote 61).

puts a high value on the latter principle. This tradition can be seen as an acknowledgment that legal adjudication is not the value-free, scientifically precise determination of an objectively correct verdict. Judges are influenced by their values, emotions, and intuitions. Taking this into consideration, the Swiss practice of proportional party-representation in the federal courts at least ensures, to a certain degree, that the spectrum of *Weltanschauungen* held by the citizenry is also represented in the judiciary.

Granted, these arguments are not equally applicable to all aspects of the judicial election system.[304] In particular, the most frequently offered reform proposal,[305] namely that judges be elected for a fixed, long term instead of every six years, may increase the perceived independence of judges without questioning their democratic legitimacy. However, the question of whether depoliticizing judicial elections does, indeed, increase public trust and the perceived independence of the judiciary has not been answered conclusively in the empirical literature. In fact, existing survey studies document a negative correlation between de jure and perceived judicial independence.[306] This may hint at a fundamental paradox: As Clark (2010) argues, judicial independence is inherently limited by public and political support for courts and their perceived legitimacy. The lower the public's trust in the judiciary, the higher the legislator's incentive for legislative override of court decisions, formally narrowing the jurisdiction of courts or, in the Swiss context, denying to re-elect judges for another term. Courts can avoid such court-curbing to a degree by avoiding judgments that are unacceptable to the public.[307] Paradoxically, therefore, it is precisely in an effort to preserve their independence that courts ultimately cannot refrain from making political considerations. Due to this dynamic, depoliticizing judicial elections may ultimately weaken judicial independence if it negatively affects the public's trust in the judiciary. This risk should not be neglected in light of Switzerland's direct democratic tradition.

304 For example, the requirement that judges pay a levy to their party can hardly be justified this way. In practice, however, abolishing the levy would likely require introducing government funding for political parties since some parties' finances currently heavily depend on the levy (see Burger 2020, p. 57 f.).

305 See the references in footnotes 62.

306 Regarding Swiss cantons, see Schwenkel (2016), p. 159 and 169, and regarding the European Union, see Voigt and Gutmann (2020).

307 See also Vanberg (2005) who shows that the German Constitutional Court takes the risk of legislative override into account in its decision-making.

Part III

RESPECT FOR PROPERTY RIGHTS

8

INTRINSIC RESPECT FOR PHYSICAL VS. INTELLECTUAL PROPERTY

This chapter is based on a working paper (Bechtold, Gertsch, and Schonger 2019) which is co-authored with Stefan Bechtold (ETH Zurich) and Martin Schonger (Lucerne University of Applied Sciences and Arts).[308]

8.1 INTRODUCTION

8.1.1 *Widespread Infringement of Intellectual Property Rights*

Growth depends, in the words of Robert Solow (1987), "entirely on the rate of technological progress." Technology and knowledge are non-rival and non-excludable, as are many other goods essential to human welfare, such as music or literature. Absent legal protection, free-riders can consume such goods without compensating innovators and creators. This may lead to underprovision due to a lack of incentives for creation.[309] Legislators have instituted intellectual property rights to solve this problem. However, infringement of all types of intellectual property – including patents, copyrights, trademarks, designs, and trade secrets – is commonplace, by actors ranging from consumers to senior employees and companies themselves.

Carnegie Mellon University, for example, sued chip manufacturer Marvell in 2009 for using two hard disk technology patents in billions of chips without authorization. Marvell later agreed to pay Carnegie Mellon University $750 million to settle the lawsuit.[310] Smartphone manufacturers have been suing and counter-suing each other in legal fora around the globe, ag-

308 The authors contributed in equal parts to the design of the experiment. I had the leading role in running all laboratory sessions, including the pilot sessions, the sessions for the main study, for the supplementary study, and for the calibration study. The authors contributed equally to interpreting the data while I ran all statistical analyses and created all graphs and tables. I had the leading role in writing the working paper, providing a complete first draft, while the authors contributed equally to reworking the draft into the working paper version.

309 See Landes and Posner (2003), p. 12 ff.; Merges (2019), p. 75 ff.

310 See Day and Udick (2019), p. 138 ff.

gressively demanding injunctive relief and multi-billion dollar damage awards for alleged utility and design patent infringements.[311] In 2016, Anthony Levandowski, a senior employee of Alphabet's self-driving car unit Waymo, quit his job to found his own company, later acquired by Uber. When leaving Waymo, Levandowski copied, without authorization, about 14,000 digital files on self-driving car technology. A subsequent trade secret lawsuit between Alphabet and Uber settled for $ 245 million; a court ordered Mr. Levandowski to pay Alphabet $ 179 million to resolve employee poaching claims, driving him into bankruptcy; and Mr. Levandowski pleaded guilty to trade secrets theft, thereby risking a prison term.[312] Infringement of intellectual property is also common among consumers. For instance, 51 % of European adults (and 72 % of minors) infringe copyright through illegal downloading or streaming.[313]

The examples above, in line with a widely held conventional wisdom,[314] suggest that intellectual property rights are more frequently and more severely infringed upon than rights in physical property. According to survey evidence, 78 % of Americans view infringement of physical property as a serious offense but merely 40 % hold the same view when intellectual property is concerned.[315] Similarly, many people would never buy stolen goods, such as a smartphone or handbag. At the same time, most people have no qualms about buying a smartphone whose production violates third-party patent rights[316] or a fake handbag which violates trademark and design rights.[317]

311 See Graham and Vishnubhakat (2013); Paik and Zhu (2016).

312 See Complaint, Waymo LLC v. Uber Technologies, Inc., et al., 2017 WL 726994 (N.D. Cal. 2017); New York Times of 20 March 2020, Former Uber Executive Pleads Guilty to Trade Theft, www.nytimes.com/2020/03/19/technology/levandowski-uber-google-plea.html.

313 Figures refer to the European Union in 2014 (Ende et al. 2014, p. 93 ff.).

314 See, for example, Tyler (1997); Manesh (2006), p. 76; Rhode (2019), p. 93.

315 Poltrack (2013).

316 Estimates for standard-essential patent royalty fees per smartphone range from 3.3 % to more than 30 % of the smartphone's selling price. See Galetovic, Haber, and Zaretzki (2018), p. 266 and 271 (3.3 %); Sidak (2016), p. 703 and 719 (4 – 5 %); Dedrick and Kraemer (2017), p. 14 and 17, and Mallinson (2015) (5 %); World Intellectual Property Organization (2017), p. 99 (11 – 12 %); Fairphone (2015) (12 %); Armstrong, J. Mueller, and Syrett (2014), p. 3 and 68 (30 %). For an overview, see Contreras (2019). The exact amount of the royalty fee is subject to debate due to complex royalty schemes, intellectual property cross-licensing and limited public access to royalty data. Note that the value of all intellectual property rights on a smartphone is likely to be even higher if licenses for non-essential patents and intellectual property rights other than patents are also included.

317 See Barnett (2005).

8.1.2 *Research Question*

Various explanations for widespread infringement of intellectual property have been proposed. Some survey studies argue that people fail to comply with intellectual property laws because they misconceive the scope and goals of the latter.[318] Another explanation may be that physical property has deep evolutionary roots, with notions of property hard-wired in the human brain.[319] By contrast, intellectual property as we currently know it is a relatively recent institutional invention that originated from state-granted printer privileges about 500 years ago.[320] However, psychological research suggests that people apply ownership not only to physical objects but also to ideas.[321] Yet another explanation is deterrence theory (Becker 1968), which holds that adherence to the law depends on the expected costs and benefits of a crime. That is, the probability and severity of punishment for intellectual property infringement may be insufficient to deter infringement,[322] for example because of robust social norms.[323] However, in the context of software piracy, a previous study finds no evidence that anti-piracy enforcement efforts decrease infringement.[324] This suggests that the extent to which people obey property rights is not only driven by the probability and severity of extrinsic punishment.

Another explanation relates to the broad body of evidence documenting that people view infringement of intellectual property as less morally condemnable.[325] Already in the seminal deterrence model of Becker (1968, p. 10), the criminal's utility from crime not only takes into account pecuniary aspects but also the psychic costs of committing the crime (a bad conscience). This part of the dissertation investigates this hypothesis, that is, that the psychic costs of infringing intellectual property versus physical property differ. One reason why psychic costs may differ is that physical property is typically a rival good, while intellectual property is typically non-rival. Hence, infringement

318 For example, Mandel, Fast, and Olson (2015), p. 918 and 951; Fast, Olson, and Mandel (2017).
319 Stake (2004).
320 Seville (2018).
321 Shaw, V. Li, and Olson (2012). For an overview, see Buccafusco and Sprigman (2019), p. 597 f.
322 See Buccafusco and Masur (2013).
323 See the references in footnote 361.
324 Athey and Stern (2015).
325 See, for example, Lysonski and Durvasula (2008); Wingrove, Korpas, and Weisz (2011); Krawczyk et al. (2015); Hergueux and Jemielniak (2019).

or theft of a physical good harms the owner since he can no longer consume the good. By contrast, infringement of intellectual property does not diminish the owner's consumption opportunities.[326] Noting this difference, people may have different intrinsic norms regarding infringement of physical versus intellectual property. Hence, they may infringe intellectual property more often than physical property.[327] Our research question is whether this is indeed the case. If we do find evidence in favor of this hypothesis, adherence to different kinds of property rights would then be (partially) explained by intrinsic factors.

8.1.3 *Design Challenge*

Identifying the causal effect of the rival versus non-rival nature of a good on intrinsic adherence to property rights protecting that good is challenging. Observational data on theft and intellectual property infringement suffer from detection bias.[328] While a large survey literature has explored how deterrence affects copyright infringement,[329] such studies are typically subject to the limitation that they are not incentivized. Moreover, when illicit behavior is concerned, eliciting truthful answers using vignettes[330] or survey items may be subject to social desirability bias. Other studies employ experiments to overcome detection bias and offer subjects salient incentives. The paradigm in this literature is the dictator game where the recipient instead of the dictator is allocated the pie. Taking from the recipient is then interpreted as stealing. The dominant use of this

326 To be sure, the owner would be better off if the infringer paid for using the good. Compared to non-infringement, however, the owner is not worse off (and indeed may not even notice infringement).

327 In addition, people may fail to see that infringement of intellectual property rights may do great harm by reducing the incentives for creation. In this case, not only the owner may be harmed but also society at large if incentives to create intellectual property are attenuated.

328 See Goel and Nelson (2009); Buonanno, Montolio, and Vanin (2009); Athey and Stern (2015).

329 LaRose, Lai, et al. (2005); Al-Rafee and Cronan (2006); LaRose and Kim (2007); X. Li and Nergadze (2009); Liao, Lin, and Liu (2010). For overviews, see P. Williams, Nicholas, and Rowlands (2010); Watson, Zizzo, and Fleming (2015); Fleming, Watson, et al. (2017).

330 For example, Green and Kugler (2010); Depoorter and Van Hiel (2015).

design is to study deterrence,[331] although it has been employed for a range of further research questions.[332]

The challenges of social desirability bias and, relatedly, of behavior induced by experimenter demand remain an issue in these studies. Experimenter demand is a key concern when studying theft in the lab. Quidt, Haushofer, and Roth (2018), in a study with 19,000 participants measuring experimenter demand effects in eleven canonical experiments, find that the dictator game is particularly affected. When using dictator games to study stealing, experimenter demand creates two main issues, lack of anonymity and legitimization. First, as Levitt and List (2007) demonstrate, when participants feel that their potentially illegitimate behavior is observed by the experimenter, they tend to behave more pro-socially. Second, Zizzo (2010) shows that an experimental design may legitimize illegitimate behavior if it is obvious to participants that behaving illegitimately is what the study is about. That is, realizing the purpose of an experiment inclines participants to act in line with the purpose. Therefore, explicitly asking participants about their stealing decision may cause experimenter demand for stealing. For the lack of anonymity, an elegant solution has been proposed in the prior literature, a double-blind procedure.[333] Legitimization, however, remains an issue with this procedure.

8.1.4 *Approach*

The aforementioned designs to study theft in the laboratory solve the challenges of detection bias and insufficient incentives that non-experimental studies suffer from. The challenges posed by experimenter demand, however, remain insufficiently addressed. To overcome these challenges, we develop a novel game, the *theft game*. In the game, one participant, the *user*, decides whether to steal a good from another participant, the *owner*.

331 Schildberg-Hörisch and Strassmair (2012); Rizzolli and Stanca (2012); Harbaugh, Mocan, and Visser (2013); Engel and Nagin (2015); Khadjavi (2015); Engel (2016); Khadjavi (2018); Feess et al. (2018).

332 R. Eichenberger and Oberholzer-Gee (1998) study social norms on redistribution, Falk and Fischbacher (2002) and Fleming, Parravano, and Zizzo (2016) study social determinants of theft, Pecenka and Kundhlande (2013) study racial discrimination, Bar-Gill and Engel (2016) study the effect of property rights on economic efficiency, and Baumann and Friehe (2017) study preferences for punishment of theft.

333 Hoffman et al. (1994). Studies using this procedure to investigate stealing include Kettner and Ceccato (2014); Kettner and Waichman (2016); Faillo, Rizzolli, and Tontrup (2018).

Our theft games offers three key features. First, the game offers plausible deniability for stealing. Participants know that their illicit behavior cannot be observed but the experimenter may be able to draw statistical inferences. We conduct a calibration study and find that participants drastically underestimate the experimenter's ability to draw inferences about behavior. Hence, the deniability as perceived by the user is higher than the true deniability. Second, in our theft game the possibility of stealing arises seemingly incidentally. Thus, stealing is not legitimized by the game. Third, the theft game can model theft of rival as well as non-rival goods. In combination, this allows us to causally isolate the impact of (non-)rivalry on stealing.[334]

Our research question focuses exclusively on intrinsic moral norms regarding theft of a particular type of good. Outcome-based social preferences are a potential confound. Outcome-based preferences include fairness preferences,[335] inequity aversion,[336] and quasi-maximin preferences.[337] The main study excludes outcome-based preferences as an explanation for behavior by setting endowments such that payoff vectors are constant across treatments. Thus, the difference between our treatments is essentially one of framing. To investigate a setting where both intrinsic moral norms and outcome-based preferences are present, appendix B.2 provides a supplementary study.

8.2 DESIGN

8.2.1 *Theft Game*

In our theft game, both the owner and the user can create goods by completing Scrabble tasks. The user, in whose behavior we are interested, can buy or steal a good from the owner. The owner and the user both receive the same nine letters to form words, but the permutation of letters can differ, which is pointed out to users.[338] This allows us to choose separate levels of difficulty. The owner can only submit long solutions (words

334 For the sake of brevity, we refer to the infringement of physical and intellectual property as "stealing" and "theft." No normative or other claims are intended by this terminology.

335 Kahneman, Knetsch, and Thaler (1986).

336 Fehr and Schmidt (1999).

337 Charness and Rabin (2002).

338 In each solution, each letter can only be used as many times as provided. Whether a solution is valid is decided by the official German Scrabble dictionary. Different adaptions of Scrabble have been used in Crosetto (2010);

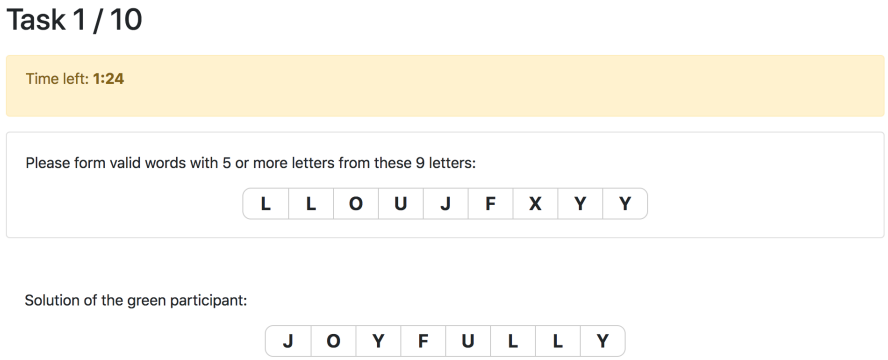


Figure 8.1: Scrabble Task

The figure shows the screen of the user in the second half of her three minutes. During the first 90 seconds, only the nine-letter scramble is displayed. During the second 90 seconds, the long solution of the owner, here JOYFULLY, is displayed, provided the owner has found it. Short solutions that can be derived from JOYFULLY include JOYFUL and FULLY. To frame the experiment neutrally, the owner is referred to as the "green participant."

with eight or more letters), and his induced valuation is v_o. The user can submit both short (words with five to seven letters) and long solutions, and she can submit as many solutions as she likes. She has an induced valuation of v_U for a long solution and s for a short solution, where $s < v_U$. The user receives no payoff for solutions shorter than five letters. The scrambles are constructed such that there is no nine-letter solution, exactly one eight-letter solution, and several short solutions. Knowledge of the long solution inspires short solutions, particularly as the Scrabble dictionary includes plurals, declinations, and conjugations. For instance, consider the scramble YFLLOYJXU. It contains the eight-letter word JOYFULLY. Knowing the long solution, it is easy to come up with JOYFUL and FULLY.

First, the owner has six minutes to complete the Scrabble task, then the user has three minutes. The user's three minutes are divided into two halves of 90 seconds each. During the first half, the user is only shown the scramble. During the second half, she is additionally shown the long solution of the owner, provided he has found it (figure 8.1). Recall that the long solution inspires short solutions. Therefore, the user can use it to develop her own solutions. After the three minutes, the user sees a screen where she can submit all her short solutions (prior to that, she

Bechtold, Buccafusco, and Sprigman (2016); Brüggemann, Crosetto, et al. (2016); Brüggemann and Meub (2017).

can write them down on paper). On the subsequent screen (figure 8.3), she then chooses one of three mutually exclusive options regarding the long solution:

- (A) "Do nothing:" User does not submit the long solution.
- (B) "Buy:" User buys the solution for price $p > 0$ and submits it.
- (C) "Submit:" User submits the long solution without paying.

Note that a user who did not find the long solution independently can, nevertheless, claim she did find the solution by choosing (C) Submit. Such a claim cannot be disproven. Option (C) is deliberately framed neutrally, as we want to study participants' intrinsic norms rather than imposing ours. To ensure that buying is a Pareto improvement, we pick parameters such that $v_U > p > v_o$.

8.2.2 *Perceived and True Deniability (Calibration Study)*

A challenge for lab studies on illicit behavior is that participants may feel that they are observed by the experimenter, which may contaminate the results. This challenge can be addressed by giving participants plausible deniability of the illicit action. For example, in a seminal study on lying, Fischbacher and Föllmi-Heusi (2013) let participants privately roll a six-sided die and pay them according to the outcome reported. Thus, even very advantageous outcomes can be explained by participants as luck.[339] While lying cannot be observed by the experimenter on an individual level, it can be inferred statistically on an aggregate level. Fischbacher and Föllmi-Heusi (2013) pay the highest reward for rolling a 5. The probability of rolling a 5 is 1/6, which we call the true deniability. At the same time, participants' belief about this probability is also 1/6, which we call the perceived deniability.

Our theft game offers plausible deniability in the same vein. If the user chooses (C) Submit, the experimenter cannot know

339 Plausible deniability is further increased in the adaptation of Kajackaite and Gneezy (2017) where participants are asked to think of a number and receive money if they report having rolled it. Gravert (2013) adapts the design of Fischbacher and Föllmi-Heusi (2013) to a study where participants can steal from the experimenter rather than from other participants.

with certainty whether the user is stealing but can make a statistical inference. However, our design improves the statistical inference vastly and allows near-certain inferences at the individual level: In the theft game, true deniability is lower than perceived deniability. This wedge arises because participants have to form beliefs about how hard it is to complete a Scrabble task within 90 seconds and, on average, they underestimate the difficulty.

The difference between perceived and true deniability varies from round to round. In some rounds, they are about equal. In other rounds, however, it is nearly impossible for users to find the long solution within 90 seconds but they still believe it is doable. To estimate the perceived and true deniability parameters for each round, we conduct a calibration study with 138 participants.[340] Participants receive exactly the same scrambles and permutations as users in the main study and are asked to solve within 90 seconds. They then state their belief about the percentage of participants who could solve the scramble within that time limit. Both parts of the study are incentivized. Figure 8.2 illustrates the results. Beliefs about task difficulty track actual difficulty to some extent. Across all rounds, the correlation between actual and believed average percentage solved is 0.79. However, participants systematically underestimate the difficulty of the Scrabble tasks. In other words, perceived deniability lies above true deniability. The best example is round 7 where the scramble is so difficult that none of the 138 participants is able to solve it, yet, on average, participants believe that 34 % of participants are able to do so.

We discuss plausible deniability with the example of round 7. No user is able to find the long solution in that round. Nevertheless, if a user chooses (C) Submit, she believes it plausible to claim that she did find the solution on her own as, on average, she believes about a third of users do find it. That is, while the user perceives deniability of theft to be 34 %, the true deniabi-

340 The sessions took place in the ETH Decision Sciences Laboratory in 2018 and 2019. Participants were recruited from the same subject pool as in the main sessions. In the first session ($N = 35$), participants completed the Scrabble tasks used in the main study. In the three remaining sessions ($N = 103$), participants also completed those tasks but we additionally elicited beliefs about the fraction of participants who could find the long solution within 90 seconds. Both parts were incentivized, where the first session served as the ground truth on which incentives for the elicitation of beliefs were based. The session duration was 70 minutes, average earnings were USD 34.70. The sequence of instructions and screens used are documented in the online supplement to the calibration study which is available from me on request.

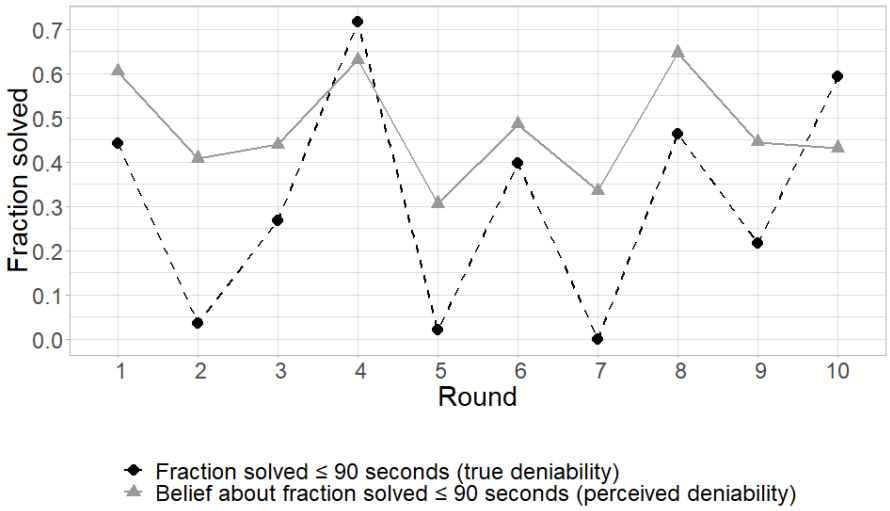


Figure 8.2: Perceived and True Deniability

True deniability is defined as the fraction of participants who found the long solution within 90 seconds ($N = 138$). Perceived deniability is defined as participants' belief about true deniability ($N = 103$). The data is from four separate sessions, the calibration study (footnote 340).

lity is 0 %. Thus, while the user perceives theft to be plausibly deniable, the experimenter knows it is almost certain that she stole the solution. Hence, our design not only provides high perceived deniability to participants[341] but also allows inferring stealing behavior, for round 7 with virtual certainty and without deceiving participants.

The design makes plausible deniability seemingly a natural consequence of the Scrabble task rather than a deliberate choice by the experimenter. This is a significant improvement on the paradigm of using dictator games to study stealing in the lab, even when a double-blind procedure is implemented. The owner's solution is displayed to the user seemingly for the reason that it inspires short solutions. In addition, option (*C*) Submit appears to be designed for users who found the solution on their own. At the same time, users can steal without fearing being judged, or even observed, by the experimenter. This ensures that participants do not perceive a sanction that is not intended by the experimenter, while also reducing experimenter demand for illicit behavior.

341 34 % in round 7 versus about 17 % in Fischbacher and Föllmi-Heusi (2013).

8.2.3 *Rival and Non-rival Treatments*

The main study has two treatments: In the rival treatment, the good is rival in consumption (corresponding to physical property), and in the non-rival treatment, the good is non-rival in consumption (corresponding to intellectual property). The rival or non-rival nature of the good is implemented by varying the owner's payoff for his solution across treatments. If the good is rival, the owner cannot consume the good if the user consumes the good as well, that is, chooses (B) Buy or (C) Submit. Hence, in the rival treatment the owner receives his induced valuation, v_o, only if the user chooses (A) Do nothing. If the good is non-rival, the owner can consume the good even if the user chooses (B) Buy or (C) Submit. Hence, in the non-rival treatment the owner always receives his induced valuation (except, of course, if he did not find the long solution himself). To summarize, if a user chooses (C) Submit, she decreases the payoff for the owner if the good is rival but not if it is non-rival (figure 8.3). For the user, whether the good is rival or non-rival does not change anything in terms of payoffs.

Our research question focuses on intrinsic norms regarding theft of rival versus non-rival goods. Another norm or preference that may cause differential behavior are outcome-based preferences. Consider the following: If a user chooses (C) Submit in the rival treatment, this decreases the owner's payoff while it does not in the non-rival treatment. Thereby, the type of good has an impact on the owner's payoff. Differential user behavior by treatment might then not be due to the nature of the good but rather due to outcome-based preferences. Hence, to rule out outcome-based preferences as an explanation, we give the owner an endowment, ω, which we vary across treatments. The variation exactly offsets the effect of the nature of the good on the owner's payoff. Therefore, the owner's endowment in the rival treatment, ω, equals the sum of her endowment in the non-rival treatment, ω_L, and his valuation for the long solution, that is, $\omega = v_o + \omega_L$. Note that with this design, if the user has outcome-based preferences, her behavior does not differ across treatments as the payoff vectors are identical across treatments.[342] If we observe a treatment difference in this setup, it cannot be explained by outcome-based preferences but must be

342 For (A) Do Nothing, the owner's payoff differs between the rival and the non-rival treatments. However, option (A) is strictly Pareto-dominated and, empirically, users only choose this option 2 % of the time.

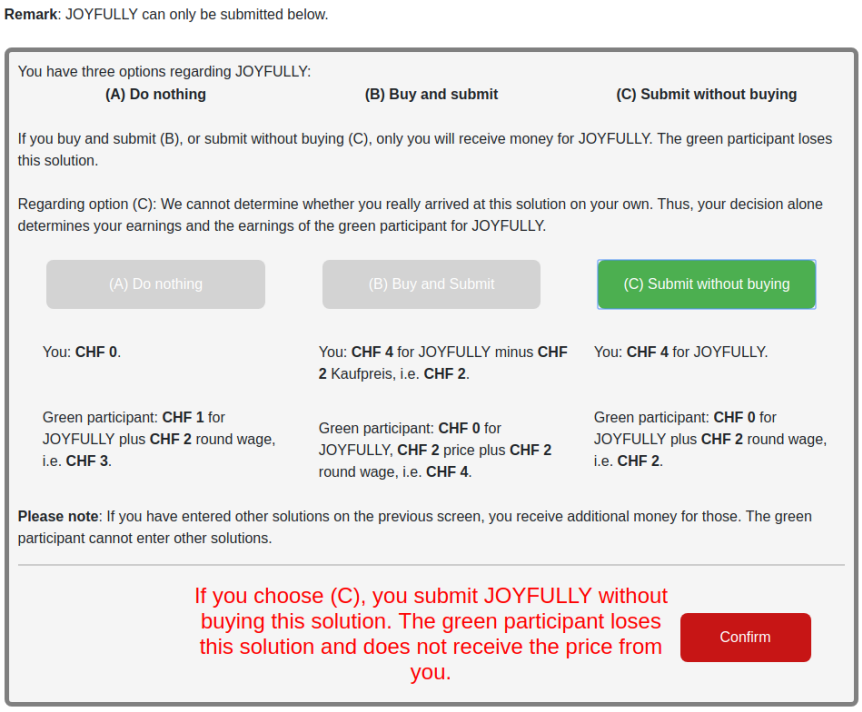


Figure 8.3: Do Nothing, Buy, or Submit? (Rival Treatment)

The figure shows the screen of the user in the rival treatment facing the decision between (*A*) Do nothing, (*B*) Buy, or (*C*) Submit. In the example shown, the owner has found the long solution JOYFULLY, and the user is selecting (*C*) Submit. After users have selected (*A*), (*B*), or (*C*), the red text reminds them of the consequences for the owner. If the user had chosen (*A*) Do nothing, the red confirmation text would be "If you choose (*A*), you neither buy JOYFULLY nor submit this solution without buying it," if she had chosen (*B*) Buy, the red text would be "If you choose (*B*) you buy JOYFULLY and submit this solution. The green participant loses this solution, but receives the price from you." See figure B.1 for the screen in the non-rival treatment. To frame the experiment neutrally, the owner is referred to as the "green participant."

due to the nature of the good. Table 8.1 summarizes the payoffs. In addition to the main study, appendix B.2 provides a supplementary study where both intrinsic norms and outcome-based norms can manifest themselves.

8.2.4 *Social Norms*

In addition to learning about behavior in the theft game, we elicit social norms regarding behavior. If our design successfully implements theft in the laboratory, this should be reflected in participants' disapproval of choosing (*C*) Submit when the user did not find the solution herself. We employ the procedure developed in Krupka and Weber (2013), setting the performance

	(A) Do nothing	(B) Buy	(C) Submit
Rival	$(0, v_o + \omega)$ $= (0, 3)$	$(v_U - p, p + \omega)$ $= (2, 4)$	(v_U, ω) $= (4, 2)$
Non-rival	$(0, v_o + \omega_L)$ $= (0, 2)$	$(v_U - p, v_o + p + \omega_L)$ $= (2, 4)$	$(v_U, v_o + \omega_L)$ $= (4, 2)$

Table 8.1: Payoffs as a Function of User Actions

The first entry in the payoff vector is the user's payoff. The table gives the payoffs as a function of the user's action, given that the owner finds a long solution, and the resulting payoffs in USD. Observe that in the non-rival treatment, the owner keeps his induced valuation for the good, v_o, regardless of the user's action, while in the rival treatment the owner keeps his induced valuation only if the user chooses (A) Do nothing. The table does not include the user's earnings from short solutions, *ns*, which would be a constant added to the user's payoff in every cell. In the study, $p = 2$, $v_U = 4$, $s = 1$, $v_o = 1$, $\omega = 2$, $\omega_L = 1$. As the study was conducted in Switzerland, participants received Swiss francs. The Swiss franc was at parity with the USD at the time of the study.

incentive to a highly salient level of USD 10. The instructions request that users imagine a user who did not find the long solution on her own. Then, on separate screens, they indicate how socially appropriate it would be for the user to (A) Do Nothing, (B) Buy or (C) Submit. Participants rate each action as either "very socially inappropriate" (coded as 1), "somewhat socially inappropriate" (2), "somewhat socially appropriate" (3) or "very socially appropriate" (4). Given that the user in this scenario did not find the long solution, action (C) Submit equals stealing.

8.2.5 *Procedure*

This subsection gives a simplified overview of the procedure followed in the lab sessions. Appendix B.3 shows the printed instructions used in the main study and in the supplementary study. A complete sequence of the screens displayed to the participants in the main study and in the supplementary study is documented in an online supplement. A complete sequence of the printed instructions and screens displayed to the participants in the calibration study is documented in a second online supplement. Both online supplements are available from me on request. All sessions were conducted in German. The instructions and screenshots shown in the dissertation and in the online

supplements are translations into English. The original German instructions and screenshots are available from me on request.

At the beginning of a session, participants are randomly allocated to the role of owner or user. Owners then enter the lab, while users wait for a few minutes to allow the owners to complete the first rounds. Upon entering the lab, users receive comprehensive printed and on-screen instructions. After reading a handout on the scrabble task, users answer a set of comprehension questions. Users then read a second handout explaining the payoffs and the interaction with the owner before answering another set of comprehension questions. All comprehension questions are implemented such that participants can only move on to the next question after having answered correctly. When stuck, participants can clarify their understanding with the experimenters. In the theft game, one owner is randomly matched with one user in each of the 10 rounds. After the theft game, we administer an incentivized dictator game to elicit social preferences, and elicit social norms. The sessions conclude with a demographic questionnaire. The experiment is programmed in oTree.[343] Participants are recruited from the common subject pool of ETH Zurich and the University of Zurich using ORSEE.[344] To be eligible, a participant must speak German and be between 18 and 30 years of age.

To calculate the power of our study, we look at a real world analogue of theft of rival versus non-rival goods: According to survey evidence, 40 % of people consider infringement of intellectual property a serious offense, while 78 % of people think so for infringement of physical property.[345] Guided by this difference of 38 percentage points, our study detects a treatment effect of 30 percentage points, with a power of 80 % and at a significance level of 5 %. The non-rival treatment is used in both the main study and the supplementary study. Hence, it is efficient for this treatment to have more participants than the rival treatment and the supplementary rival treatment. The power calculation implies that 50 observations in the non-rival treatment are required and 37 observations in the rival treatment. Note that we will have more users than observations, since a user will sometimes not have a long solution of the owner available. 150 users (and 150 owners) participated in nine sessions in the ETH Zurich Decision Sciences Laboratory in

343 Chen, Schonger, and Wickens (2016).
344 Greiner (2015).
345 Poltrack (2013).

2018. The non-rival treatment has 60 users, the rival treatment has 45, and the supplementary rival treatment has 45.

8.3 RESULTS

Sessions lasted about 105 minutes for users, and their average earnings were about USD 60 per session or USD 34 per hour. Demographic characteristics are balanced across treatments. The fraction of users who are female is 0.47 ($SD = 0.50$) in the rival treatment and 0.60 ($SD = 0.49$) in the non-rival treatment. The mean age, rounded to one year, is 22 in both treatments ($SD = 2.3$ in rival, $SD = 2.7$ in non-rival). Users' median monthly budgets (without rent) are USD 480 ($SD = 302$) in the rival treatment and USD 400 ($SD = 380$) in the non-rival treatment. None of these differences are statistically significant in two-sided Wilcoxon tests.[346] Further, none of these covariates predict our outcome variable in a regression (table B.1).

8.3.1 *Theft Game*

For a first discussion of the theft game as such, particularly regarding how often users choose (C) Submit, we pool the data from the different treatments. Figure 8.4 plots the fraction of Scrabble tasks where participants solve or claim to solve. The blue curve plots the data from the calibration study (where participants can only solve on their own). The red curve plots the data from the main study, using data only from user-rounds where a long solution of the owner is available. By comparing both curves, we can investigate whether participants actually solve the Scrabble tasks as often as they claim to. Clearly, users in the main study claim to find the long solution independently far more often than users in the calibration study actually do find it. A two-sided Wilcoxon test rejects the null hypothesis that the distributions are equal ($W = 2977, p = 0$).[347] On average, users in the main study claim to find the solution 67 % of the time, while participants in the calibration study actually find the solution 32 % of the time. Hence, an estimated 35 % of all users steal in a given round or, in other words, about half of all solutions users claim to have found independently are stolen from the owner.

346 Gender ($W = 1170, p = 0.18$); age ($W = 1388, p = 0.81$); income ($W = 1292, p = 0.71$).

347 The same results in a two-sided t-test ($t(233) = -13.8, p = 0$).

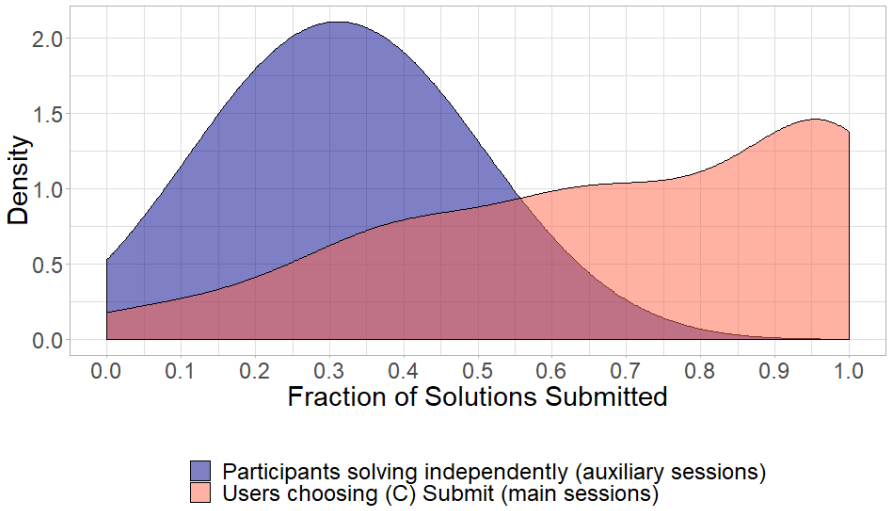


Figure 8.4: (Claimed) Independent Solutions

The figure shows the density of the fraction of long solutions submitted, with participants who have to solve on their own in the calibration study (footnote 340) in blue and participants who claim to have solved on their own by choosing (C) Submit in the main study in red. The figure uses the Gaussian Kernel smoother with bandwidth 0.1.

8.3.2 *Stealing Rival versus Non-rival Goods*

We start our discussion with round 7, where 0 % of participants in the calibration study find the long solution before it is shown to them. Hence, we estimate true deniability to be 0 % and can, thus, infer with virtual certainty that a participant who chooses (C) Submit is stealing. Note that, by contrast, in round 7 participants believe, on average, that 34 % of participants find the long solution before it is shown to them. In round 7, 51 % ($SD = 0.51$) of users steal in the rival treatment and 59 % ($SD = 0.50$) steal in the non-rival treatment. We cannot reject the null hypothesis that the fraction of users who steal is equal in the rival and non-rival treatments in a two-sided t-test ($t(94) = 0.8, p = 0.41$).[348] A one-sided Wilcoxon test with the alternative hypothesis that there is more stealing in the non-rival treatment also does not reject ($W = 1437, p = 0.20$).

In the remaining nine rounds (figure 8.5), the fraction of users who steal may differ from the fraction of users who choose (C) Submit. However, if users are more inclined to steal in the non-rival treatment, this results in a higher fraction of users who choose (C) Submit in the non-rival than in the rival treatment. The null hypothesis that behavior is the same in both treatments

348 The same results in a two-sided Wilcoxon test ($W = 1437, p = 0.41$).

cannot be rejected in a two-sided Wilcoxon test ($p = 1$ in all ten rounds), independent of the method used to adjust for multiple hypothesis testing. Independent of the covariates used, treatment fixed effects are not a statistically significant predictor of our outcome variable in a regression (table B.1). Hence, across all rounds, there is no evidence that the rival or non-rival nature of the good impacts adherence to property rights protecting the good.

Failure to reject the null hypothesis does not allow the inference that the null is true.[349] Hence, we use Bayesian factor analysis to investigate whether the likelihood of the null hypothesis is substantially higher than the likelihood of the alternative. To do so, we summarize our data in a contingency table.[350] In our case, the rows correspond to the treatments and the columns correspond to behavior. We assume that the counts are multinomially distributed within each row. We use the function contingencyTableBF from the BayesFactor package for R.[351] For the prior a, we use the uninformative prior of $a = 1$,[352]which is the default setting. In nine out of ten rounds, the resulting Bayes factor provides evidence in favor of the null hypothesis that there is no treatment effect over the alternative hypothesis that there is. Specifically, in four rounds (rounds 1, 3, 4, and 10), the null has a likelihood that is about four times higher than the alternative, in three rounds (5, 7, and 8) the null is about three times likelier, and in two rounds (6 and 9) the null is between one and two times likelier. Round 2 employs such a difficult scramble that there are only 11 observations in the rival and 12 observations in the non-rival treatment (versus an average of 43 and 56 observations, respectively, in the other rounds). In this round the alternative is 1.4 times likelier than the null.[353]

8.3.3 *Social Norms*

Recall that users are asked to rate the appropriateness of each of the three actions in a scenario where the user did not find the long solution on her own. Hence, the action (C) Submit equals stealing. The four point rating scale goes from 1 ("very socially inappropriate") to 4 ("very socially appropriate"). On average,

349 See, for example, Dienes (2014).
350 In this regard following Gunel and Dickey (1974).
351 Morey et al. (2018).
352 Jamil et al. (2017).
353 Note that the Bayesian answer does not need to correct for multiple testing (Dienes 2011).

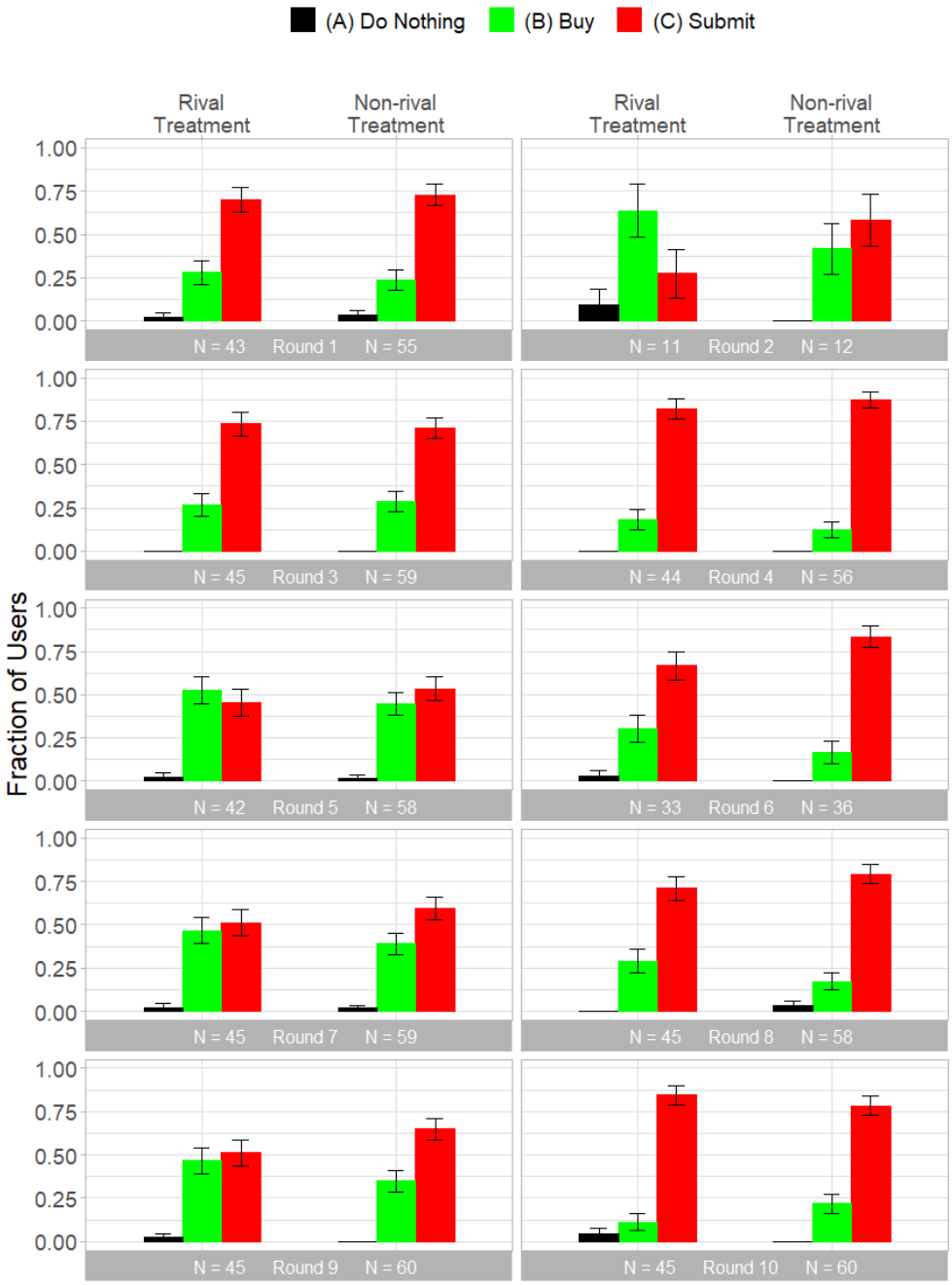


Figure 8.5: Behavior in the Rival and Non-rival Treatments

The figure presents user behavior by treatment. We only consider the case where a long solution of the owner is available. The error bars show standard errors.

(C) Submit is rated as 1.60 $(SD = 0.75)$ in the rival treatment and 1.5 $(SD = 0.65)$ in the non-rival treatment (figure 8.6). That corresponds to a rating between "very socially inappropriate" and "somewhat socially inappropriate." The difference in means is not statistically significant in a two-sided Wilcoxon test $(W = 1273, p = 0.57)$.[354] We use Bayesian factor analysis to investigate whether the likelihood of the null hypothesis, that is, that the ratings of social appropriateness are equal across treatments, is substantially higher than that of the alternative. The rows of the contingency tables are the treatments and the four columns correspond to the ratings of the social appropriateness of choosing (C) Submit. The resulting Bayes factor estimates the likelihood of the null hypothesis to be 45 times higher than the likelihood of the alternative.

On average, (A) Do nothing is rated as 2.78 $(SD = 0.82)$ in the rival treatment and 2.48 $(SD = 0.83)$ in the non-rival treatment, while (B) Buy is rated as 3.60 $(SD = 0.65)$ in the rival treatment and 3.77 $(SD = 0.43)$ in the non-rival treatment (figure B.2 for the figures for actions (A) and (B)). In sum, for participants stealing is the only action that is socially inappropriate. In a regression, viewing stealing as less socially inappropriate is a statistically significant predictor of stealing (table B.1). These data are consistent with the notion that choosing (C) Submit without having found the solution oneself represents a model of theft in the laboratory.

8.3.4 *Discussion*

This part of the dissertation investigates one factor that could explain why people have less respect for intellectual than for physical property. Namely, while physical property rights protect rival goods, intellectual property rights protect non-rival goods. To cleanly isolate the effect of (non-)rivalry on behavior and social norms, we conduct a laboratory experiment. We find no evidence that people differentiate between rival and non-rival goods, neither in behavior nor in social norms. However, it is a commonly and strongly held prior that intellectual property rights are substantially more infringed upon, and that this is also reflected in social norms. This raises the question whether there are factors that cast doubt on our results.

354 The same results in a two-sided t-test $(t(87) = -0.7, p = 0.48)$.

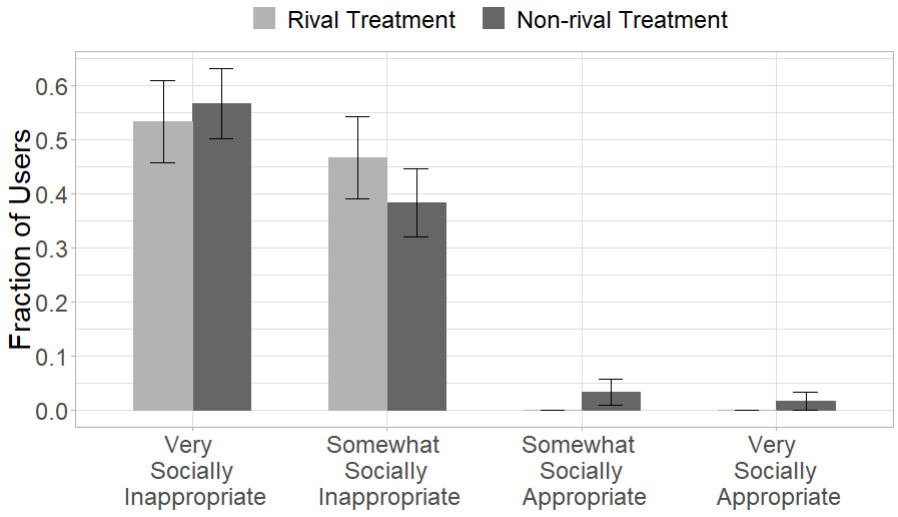


Figure 8.6: Social Appropriateness of Stealing

We measure participants' beliefs about how appropriate others view stealing (from 1 "very socially inappropriate" to 4 "very socially appropriate"). The figure presents results for the rival and non-rival treatments. Given that we ask participants to judge the scenario where the user did not find the long solution on his own, action (*C*) Submit equals stealing. The error bars show standard errors.

First, one might wonder whether our findings could be explained by inadequate participant understanding. However, participants receive instructions both verbally and in writing. Users have to answer nine comprehension questions correctly before the theft game. Participants can individually ask the experimenters questions at any time. In the main sessions, we conducted exit interviews with random subsamples of participants. From these interviews, we are confident that participants fully understand the game.

Second, as in all controlled experiments, strength of treatment could be a concern. Our treatment consists of different payoff consequences for the owner regarding buying and theft. The payoff consequences are made salient to the user using several measures. They are described in detailed instructions, and several comprehension questions are dedicated to them. In addition, the payoff consequences for both players are repeated on the screen where users choose an action and, upon selecting an action, they are highlighted in red text (figure 8.3). After each round, the user receives a screen giving the payoff consequences arising from her action regarding the long solution for both participants.

Third, owner behavior cannot explain the results regarding user behavior, as owners are randomly allocated to treatments and do not know in which treatment they are. To that end, instructions for owners do not include the exact payoff consequences of users' behavior.

Fourth, the results are not due to insufficient monetary payoffs for users. Incentives are extremely salient, with the average user earning more than 10 % of her monthly budget (without rent) in less than two hours.

Finally, the results cannot be explained by unusual social preferences in our subject pool. To benchmark our participants to the previous literature, we run a simple dictator game after the theft game. Users decide how much of two USD (in USD 0.1 increments) they want to keep for themselves. The remainder is allocated to another, randomly matched participant. On average, users keep USD 1.39, or about 70 % of the pie, and 77 % of users allocate some money to the other participant.[355] The result is comparable to the previous literature, where dictators typically keep about 80 % of the pie and somewhat more than 60 % of dictators transfer some money.[356]

8.4 CONCLUSION

There is an economically and ethically very relevant difference between physical property and intellectual property: The former is rival, while the latter is not. Taking someone else's non-rival property does not enjoin them from consuming the good themselves or letting others do so. This part of the dissertation examines whether this difference can explain why there is less respect for intellectual property rights than for physical property rights. We employ a laboratory experiment to isolate this potential explanation from other explanations. This allows us to keep all factors constant across control and treatment except the nature of the good. In order to address our research question, we design a new theft game. Existing lab studies on theft typically employ (framed) dictator games. Compared to these designs, our theft game has three advantageous features: First, the possibility of stealing does not appear as a deliberate option given by the experimenter, but rather as arising naturally. Second, while individual participants believe that they

355 In a regression, dictator keeping is a statistically significant predictor of stealing (table B.1).

356 For an overview, see Levitt and List (2007).

can plausibly deny stealing, vis-à-vis both the victim and the experimenter, the experimenter can statistically infer whether participants steal on an aggregate level. Third, in our experiment, deniability as perceived by the participant differs from true deniability (as known to the experimenter). This allows us to infer stealing with near certainty on the individual level (in round 7), while participants believe that they can plausibly deny stealing.

Despite high perceived plausible deniability and the absence of sanctions, participants in our theft game steal only about one out of two times when given the possibility. This incidental result of our study strengthens findings of the previous literature that there is substantial voluntary adherence to property rights.[357] To address our core research question, we implement a rival treatment and a non-rival treatment. In the rival treatment, the owner cannot consume the good if he sells it or if it is stolen, while he can in the non-rival treatment. Users (the potential thieves) are fully aware of this and the associated payoff consequences for the owner (the potential victim). Our theft game is designed such that outcome-based preferences are ruled out as an explanation.

Surprisingly, the null hypothesis that stealing behavior is identical across treatments cannot be rejected. Bayesian factor analysis provides evidence for the null hypothesis over the alternative hypothesis in nine of ten rounds. Hence, we find evidence that participants see the rival versus non-rival nature of a good as irrelevant to their behavior towards others' property. Behavior is reflected in social norms. Using the incentivized Krupka-Weber method, we find that social norms concerning theft of rival goods do not differ from those concerning non-rival goods. Given our prior that people have less respect for property rights in non-rival goods, the findings are very unexpected. However, all results point in the same direction. The experiment was saliently incentivized, and numerous exit interviews make us confident that participants understood the experimental procedures. A supplementary study (appendix B.2) allows for outcome-based preferences. The supplementary study yields the same results.

While it may be intuitive that adherence to intellectual property rights is lower than for physical property rights, our study finds that people do not differ in their adherence to these different kinds of property. Whether people view physical and

357 See, for example, Levitt and List (2007) and List (2007).

intellectual property differently is a key question for policy-makers, and is embedded in a debate both as a normative and descriptive matter.[358] Easterbrook (1990) argues that "Intellectual Property is Still Property," and that both types of property should be treated identically in the law. Following this line of thought, scholars have argued that intellectual property is, descriptively, the same as physical property and, normatively, should be treated similarly.[359] By contrast, others argue that people have less respect for intellectual than for physical property,[360] or that effective deterrence may not be achieved in societies where copyright infringement is widespread without raising enforcement to a level which undermines society's support for the underlying copyright rules.[361]

Our evidence can inform these debates regarding one important dimension. Physical and intellectual property differ on many dimensions, and our lab study isolates a single dimension, the rival versus non-rival nature of goods. All other dimensions are kept constant. The results cast doubt on the notion that the law should treat physical and intellectual property differently due to differing social or intrinsic norms regarding the rivalry of the protected good. Our data suggest that the difference in direct harm to the owner by the infringement of a rival versus a non-rival good does not cause humans to adapt differential behavior or social norms.

If people's intrinsic adherence to intellectual property rights does not differ from their adherence to physical property rights, the non-rival nature of the protected good provides no reason for distinguishing enforcement regimes between physical and intellectual property by, for example, increasing deterrance and sanctions as far as intellectual property rights are concerned. Our study indicates that people may have similar intrinsic respect for both physical and intellectual property. There may be other reasons why the enforcement regime should distinguish between physical and intellectual property. But such differential treatment should not be based on the rival versus non-rival nature of the protected goods.

Our study does not analyze other dimensions in which physical and intellectual property differ in the real world beyond

358 For an overview, see Van Houweling (2019), p. 5.
359 Smith (2007); Merges (2018). But see Lemley (2014); J. E. Cohen (2015).
360 Tyler (1997).
361 For experimental evidence, see Depoorter and Vanneste (2005); Depoorter, Van Hiel, and Vanneste (2011); Depoorter and Van Hiel (2015). For an overview, see Depoorter (2019), p. 414 f.

the nature of the protected good. In our study, for instance, across all treatments, there is a zero probability of punishment, and goods are intangible. Owners do not notice theft and never learn for sure whether they were victimized. In the real world, physical property owners typically are no monopolists, the property is tangible, theft or loss is noticed, the detection probability is high and punishments are comparatively harsh. By contrast, intellectual property owners are sometimes monopolists, the property is intangible, theft easily goes unnoticed, the detection probability is low and punishments are comparatively weak. We see two promising avenues for future research: whether a good is tangible or not and whether the user believes the owner notices harmful infringement or not. While our study isolates the rivalry dimension, future research could examine the causal impact of these additional dimensions and their interaction.

Part IV

EPILOGUE

9

CONCLUDING REMARKS

The dissertation investigates whether the behavior of specific actors in the legal system respects particular fundamental rights. In the first main part, the dissertation studies the verdicts of Swiss federal administrative judges in light of the fundamental rights to an independent judge and to equal treatment before the law. In the second main part, the dissertation studies individual citizens' intrinsic respect for property rights. In economics parlance, the dissertation's fundamental approach to these research questions is observing the "revealed preferences" (that is, behavior) of the respective decision-makers. To examine the behavior of judges, I collect and analyze observational data on real-world court cases. To examine the behavior of individuals, my co-authors and I run a series of incentivized laboratory experiments with participants from a student subject pool. In both parts, the obtained results are somewhat surprising.

First, consider the studies on judicial behavior. In Europe, there is increasingly a consensus that the independence of the judiciary can only be guaranteed if judges receive life tenure and are selected by judicial councils. Switzerland marks an exception, with judicial elections by parliament for a short, renewable tenure and formal ties between judges and political parties. Based on these institutions, critics worry that Swiss judges are heavily guided by their political ideologies, reaching verdicts that do not treat like alike. The quantitative results obtained in this dissertation do not fully support that view. The political party affiliation of Swiss federal administrative judges reliably predicts their behavior only in one of three legal areas studied here, namely asylum law. In social security law, judges reach inconsistent verdicts about as often as in asylum law, but these inconsistencies cannot be explained by different political ideologies. In a third legal area, immigration law, their adjudication is highly consistent. Whether these results are seen as a commendation or condemnation of the Swiss judiciary and judicial institutions is ultimately a normative question. Nevertheless, the results may change the priors of politicians, international organizations, and legal scholars who believe that democratic

elements in the procedure for judicial selection always lead to politicized court decisions.

The results in the second main part are no less surprising. Infringement of intellectual property laws is widespread. Intellectual property differs from physical property on several dimensions. One dimension that appears particularly relevant economically and ethically is that the former is typically non-rival in consumption, while the latter is typically rival. Prior to conducting any experiments, my co-authors and I held the belief that this difference causes humans to adapt differential behavior and social norms towards these types of property rights. The results suggest that this is not the case. Of course, it is still possible that interactions between the (non-)rivalry of a good with other dimensions on which physical and intellectual property differ might explain widespread infringement of intellectual property rights. Nevertheless, the results should change our prior belief that the differential harm to the owner of rival versus non-rival goods drives adherence to property rights.

In the first empirical, qualitative study of judicial elections in Switzerland, Reichel (1919, p. 7) noted that "Im übrigen scheint es, dass es hier wie anderwärts fast noch mehr auf die Handhabung ankommt, als auf das formale Prinzip." In translation, "It appears further that here as elsewhere it comes down to the practice more than to the formal principle." What really matters, in other words, is the law in action rather than the law in the books. Over a century later, this is no less true. The fact that the quantitative studies presented in this dissertation yield counter-intuitive results underscores that sentiment. For that reason, the relative scarcity of empirical investigations into the behavior of Swiss judges and the Swiss legal system more broadly is both unfortunate and an opportunity for future research. This dissertation is my contribution towards the endeavor of basing our understanding of legal institutions on empirical observation.

Part V

APPENDICES

A

APPENDIX PART II

A.1 RANDOMIZATION TESTS

A.1.1 *Full Sample*

	Dependent variable:	
	Case outcome	Preference chair
	(1)	(2)
Lawyer / paralegal	0.030** (0.015)	0.00001 (0.002)
Disability: degree of invalidity	−0.082** (0.040)	0.010** (0.005)
Disability: integration measures	−0.136** (0.058)	−0.001 (0.007)
Disability: other	−0.030 (0.026)	−0.007** (0.003)
Disability: revision of pension	0.010 (0.022)	−0.0004 (0.003)
Disability: not specified	−0.018 (0.025)	−0.011*** (0.003)
Old-age: contributions	−0.186** (0.072)	−0.011 (0.008)
Old-age: facultative insurance	−0.044 (0.042)	−0.007 (0.005)
Old-age: minimal duration	−0.234*** (0.081)	0.005 (0.009)
Old-age: other	−0.154*** (0.039)	−0.015*** (0.005)
Old-age: right to pension	−0.238*** (0.032)	0.004 (0.004)
Old-age: reimbursement	−0.294*** (0.063)	0.011 (0.007)
F	10	4.1
df1,df2	12,5223	12,5223
p-value	< 0.001	< 0.001
Observations	5,349	5,349
R^2	0.104	0.426
Note:		*p<0.1; **p<0.05; ***p<0.01

Table A.1: Randomization Check Social Security Law

The table shows OLS-regressions of a binary indicator for the case outcome (= 1 if the appeal was granted) on case characteristics (model 1) and of the preference of the chair judge, as estimated in the main analysis (model 3 in table 4.3), on case characteristics (model 2). Both models include yearXlanguage and origin country fixed effects. "Lawyer / paralegal" is a binary variable indicating whether the appellant has legal representation. The baseline for

the legal category is "Disability: right to pension." The *F*-test reports the p-value for the null hypothesis that the case characteristics are not jointly predictive of the outcome. The sample consists of the same observations as in the main analysis.

	Dependent variable:	
	Case outcome	Preference chair
	(1)	(2)
Lawyer / paralegal	0.084^{***} (0.013)	0.00004 (0.0002)
Approval of cantonal decision	0.030 (0.025)	-0.001^{**} (0.0004)
Citizenship	0.274^{***} (0.049)	-0.0004 (0.001)
After family dissolution	0.122^{***} (0.028)	0.0001 (0.0004)
Education	0.010 (0.045)	-0.001^{**} (0.001)
Entry ban	0.060^{**} (0.025)	-0.0005 (0.0004)
Expulsion from the country	-0.044 (0.037)	-0.001 (0.001)
Facilitated naturalization	-0.063^{***} (0.024)	-0.0002 (0.0003)
Family reunification	0.104^{***} (0.037)	-0.001 (0.001)
Individual hardship	-0.053^{**} (0.026)	-0.001 (0.0004)
Other	-0.005 (0.029)	-0.001 (0.0004)
Provisional admittance	0.158^{***} (0.052)	-0.001 (0.001)
Schengen visa	0.012 (0.025)	-0.001^{***} (0.0004)
Travel documents	-0.089^{***} (0.034)	-0.001^{*} (0.0005)
F	13.5	1.5
df1,df2	14,5462	14,5462
p-value	< 0.001	0.092
Observations	5,655	5,655
R^2	0.103	0.410
Note:		*p<0.1; **p<0.05; ***p<0.01

Table A.2: Randomization Check Immigration Law

The table shows OLS-regressions of a binary indicator for the case outcome (= 1 if the appeal was granted) on case characteristics (model 1) and of the preference of the chair judge, as estimated in the main analysis (model 5 in table 4.3), on case characteristics (model 2). Both models include yearXlanguage and origin country fixed effects. "Lawyer / paralegal" is a binary variable indicating whether the appellant has legal representation. The baseline for the legal category is "Entry into the country." The *F*-test reports the p-value for the null hypothesis that the case characteristics are not jointly predictive of the outcome. The sample consists of the same observations as in the main analysis.

	Dependent variable:	
	Case outcome	Preference chair
	(1)	(2)
Lawyer / paralegal	0.123*** (0.022)	0.001 (0.002)
Allocation to canton	0.024 (0.176)	0.027 (0.019)
Asylum and return (RR)	0.168*** (0.045)	0.005 (0.005)
Enforcement of return	0.293* (0.162)	−0.005 (0.017)
Family reunification	0.016 (0.091)	0.010 (0.010)
Inadmissibility of request	0.054** (0.024)	0.004* (0.003)
Asylum procedure (other)	0.293*** (0.052)	0.009* (0.006)
Asylum request abroad	0.048 (0.051)	0.008 (0.005)
Return / enforcement (RR)	0.098 (0.202)	0.051** (0.021)
Revocation of asylum	0.077 (0.087)	0.009 (0.009)
Revocation temp. protection	0.077 (0.047)	0.009* (0.005)
F	7.2	1.5
df1,df2	11,1737	11,1737
p-value	< 0.001	0.14
Observations	1,843	1,843
R^2	0.215	0.072
Note:	*p<0.1; **p<0.05; ***p<0.01	

Table A.3: Randomization Check Asylum Law

The table shows OLS-regressions of a binary indicator for the case outcome (= 1 if the appeal was granted) on case characteristics (model 1) and of the chair judge's preference, as estimated in the main analysis (model 7 in table 4.3), on case characteristics (model 2). Both models include language and origin country fixed effects. "Lawyer / paralegal" is a binary variable indicating whether the appellant has legal representation. The baseline for the legal category is "Asylum and return." "RR" indicates reconsideration requests (following an initial rejection). The *F*-test reports the p-value for the null hypothesis that the case characteristics are not jointly predictive of the outcome. The sample consists of the same observations as in the main analysis.

A.1.2 *Subset Analysis in Social Security Law*

Year	N	F	p
2006	449	3.47	0.000
2007	751	1.84	0.051
2008	604	2.48	0.004
2009	536	1.57	0.095
2010	477	1.14	0.328
2011	536	1.38	0.180
2012	341	1.44	0.160
2013	388	0.53	0.884
2014	418	1.62	0.090
2015	316	1.12	0.347
2016	304	1.53	0.137
2017	245	1.67	0.083
2018 – 2019	136	0.66	0.771

Table A.4: Year-by-Year Randomization Checks

The table presents year-by-year OLS-regressions of the chair judge's preference on case characteristics (legal representation and legal category). The chair preference is estimated via OLS since there are not enough observations per year for estimating mixed models, otherwise using the same specification as in the main analysis (specified as in model 3 in table 4.3). The F-test reports the p-value for the null hypothesis that the case characteristics are not jointly predictive of the chair preference. The data for the last two years are pooled since there are only 9 cases that were submitted *and* decided in 2019.

	Dependent Variable:					
	Case Outcome					
	Judge Models			Party Models		
	(1)	(2)	(3)	(4)	(5)	(6)
Data Subset	All	A	B	All	A	B
Judge RE	X	X	X	–	–	–
Party RE	–	–	–	X	X	X
Country RE	X	X	X	X	X	X
YearXLang. FE	X	X	X	X	X	X
Observations	5,349	2,346	3,003	5,349	2,346	3,003
Parameters	43	32	20	43	25	20
Log-likelihood	−3386	−1458	−1940	−3402	−1466	−1944
$\chi^2(1)$	38.1	16.9	15.5	6.3	0.1	7.7
p	< 0.001	< 0.001	< 0.001	0.012	0.802	0.006
Inconsistency	0.039	0.042	0.034			
Pref. Spread	0.320	0.193	0.228	0.079	0.010	0.114

Table A.5: Results for Year-Subsets

The table reports estimates for the full data, year-subset A, and year-subset B, using the same specification as in the main analysis. "RE" means random effect, "FE" means fixed effect, "Pref." means preference. The χ^2 and p-values report a log-likelihood test for significance of the respective random effect. The formula for the inconsistency rate is given in subsection 4.1.3. Preference spread is the difference between the predicted probability to grant an appeal of the most lenient judge (party) minus the predicted probability to grant an appeal of the most restrictive judge (party). To estimate this number, year is set to the median year in the respective subset (2012 in the full data and in subset A, 2009 in subset B), language is set to the modal language (German), and country of origin is set to the modal country (Italy).

Country	*N*	*F*	*p*
Italy	1026	11.9	0.000
Spain	673	1.01	0.432
Switzerland	658	0.66	0.790
Germany	555	0.87	0.572
France	482	1.27	0.236
Portugal	438	1.89	0.039
Not specified	291	0.86	0.576
Kosovo	265	1.11	0.357
Serbia	186	0.89	0.540
Austria	175	2.47	0.007

Table A.6: Country-by-Country Randomization Checks

The table presents country-by-country OLS-regressions of the chair judge's preference on case characteristics (legal representation and legal category). The chair preference is estimated via OLS since there are not enough observations per country for estimating mixed models, otherwise using the same specification as in the main analysis (specified as in model 3 in table 4.3). The *F*-test reports the p-value for the null hypothesis that the case characteristics are not jointly predictive of the chair preference.

	Dependent Variable:					
	Case Outcome					
	Judge Models			Party Models		
	(1)	(2)	(3)	(4)	(5)	(6)
Data Subset	All	A	B	All	A	B
Judge RE	X	X	X	–	–	–
Party RE	–	–	–	X	X	X
Country RE	X	X	X	X	X	X
YearXLang. FE	X	X	X	X	X	X
Observations	5,349	3,110	1,639	5,349	3,110	1,639
Parameters	43	42	43	43	42	43
Log-likelihood	−3386	−1935	−1025	−3402	−1944	−1024
$\chi^2(1)$	38.1	17.5	5.4	6.3	0.2	5.7
p-value	< 0.001	< 0.001	0.020	0.012	0.660	0.017
Inconsistency	0.039	0.036	0.026			
Pref. Spread	0.320	0.271	0.131	0.079	0.018	0.122

Table A.7: Results for Country-Subsets

The table reports estimates for the full data, country-subset A, and country-subset B, using the same specification as in the main analysis. "RE" means random effect, "FE" means fixed effect, "Pref." means preference. The χ^2 and p-values report a log-likelihood test for significance of the respective random effect. The formula for the inconsistency rate is given in subsection 4.1.3. Preference spread is the difference between the predicted probability to grant an appeal of the most lenient judge (party) minus the predicted probability to grant an appeal of the most restrictive judge (party). To estimate this number, year is set to the median year (2012), language is set to the modal language (German), and country of origin is set to the modal country in the respective subset (Italy for the full data and subset A, Spain for subset B). Models 3 and 6 are singular fit.

A.2 ROBUSTNESS TESTS

A.2.1 *Partially Granted Appeals*

	Dependent Variable:					
	Case Outcome					
	Social Security		Immigration		Asylum	
	(1)	(2)	(3)	(4)	(5)	(6)
Data	Full	Red.	Full	Red.	Full	Red.
Judge RE	X	X	X	X	X	X
Language FE	–	–	X	X	X	X
Year FE	–	–	X	X	–	–
Country RE	X	X	X	X	X	X
YearXLang. FE	X	X	–	–	–	–
Observations	5,349	4,092	5,655	5,344	1,843	1,727
Parameters	43	41	18	18	5	5
Log-likelihood	−3386	−2523	−2738	−2233	−902	−754
$\chi^2(1)$	38.1	72.9	0.2	2	21.1	26.9
p	< 0.001	< 0.001	0.64	0.16	< 0.001	< 0.001
Inconsistency	0.039	0.054	0.004	0.009	0.041	0.044
Pref. Spread	0.320	0.421	0.028	0.056	0.180	0.201

Table A.8: Judge Models without Partially Granted Appeals

The table reports mixed model estimates for the full data and after dropping ("Red." means reduced) partially granted appeals (which amount to 23 % of cases in social security law, 5 % in immigration law, and 6 % in asylum law). "RE" means random effect, "FE" means fixed effect, "Pref." means preference. The χ^2 and p-values report a log-likelihood test for significance of the judge random effect. The specifications are the same as in the main analysis. The formula for the inconsistency rate is given in subsection 4.1.3. Preference spread is the difference between the predicted probability to grant an appeal of the most lenient judge minus the predicted probability to grant an appeal of the strictest judge. To estimate this number, year is set to the median year (2012), language is set to the modal language (German), and country of origin is set to the modal country (Italy for social security, Kosovo for immigration, and Iraq for asylum law).

	Dependent Variable:					
	Case Outcome					
	Social Security		Immigration		Asylum	
	(1)	(2)	(3)	(4)	(5)	(6)
Data	Full	Red.	Full	Red.	Full	Red.
Party RE	*X*	*X*	*X*	*X*	*X*	*X*
Language FE	–	–	–	–	*X*	*X*
Year FE	–	–	–	–	–	–
Country RE	*X*	*X*	*X*	*X*	*X*	*X*
YearXLang. FE	*X*	*X*	*X*	*X*	–	–
Observations	5,349	4,092	5,655	5,344	1,843	1,727
Parameters	43	41	44	41	5	5
Log-likelihood	−3402	−2552	−2720	−2192	−905	−762
$\chi^2(1)$	6.3	14.7	0.08	0	14.3	11.8
p	0.01	< 0.001	0.78	0.99	< 0.001	< 0.001
Pref. Spread	0.079	0.119	0.010	0.000	0.095	0.088

Table A.9: Party Models without Partially Granted Appeals

The table reports mixed model estimates for the full data and after dropping ("Red." means reduced) partially granted appeals (which amount to 23 % of cases in social security law, 5 % in immigration law, and 6 % in asylum law). "RE" means random effect, "FE" means fixed effect, "Pref." means preference. The χ^2 and p-values report a log-likelihood test for significance of the party random effect. The specifications are the same as in the main analysis. Preference spread is the difference between the predicted probability to grant an appeal of the most lenient party minus the predicted probability to grant an appeal of the strictest party. To estimate this number, year is set to the median year (2012), language is set to the modal language (German), and country of origin is set to the modal country (Italy for social security, Kosovo for immigration, and Iraq for asylum law). Model 4 is singular fit.

A.2.2 *Reassigned Panels*

	Dependent Variable:					
	Case Outcome					
	Social Security		Immigration		Asylum	
	(1)	(2)	(3)	(4)	(5)	(6)
Data	Full	Red.	Full	Red.	Full	Red.
Judge RE	*X*	*X*	*X*	*X*	*X*	*X*
Language FE	–	–	*X*	*X*	*X*	*X*
Year FE	–	–	*X*	*X*	–	–
Country RE	*X*	*X*	*X*	*X*	*X*	*X*
YearXLang. FE	*X*	*X*	–	–	–	–
Observations	5,349	4,094	5,655	5,369	1,843	1,699
Parameters	43	43	18	18	5	5
Log-likelihood	−3386	−3078	−2738	−2548	−902	−818
$\chi^2(1)$	38.1	19.9	0.2	0	21.1	22.4
p	< 0.001	< 0.001	0.64	0.99	< 0.001	< 0.001
Inconsistency	0.039	0.031	0.004	0.000	0.041	0.044
Pref. Spread	0.320	0.209	0.028	0.000	0.180	0.194

Table A.10: Judge Models without Reassigned Panels

The table reports mixed model estimates for the full data and after dropping reassigned panels ("Red." means reduced). "RE" means random effect, "FE" means fixed effect, "Pref." means preference. The χ^2 and p-values report a log-likelihood test for significance of the judge random effect. The specifications are the same as in the main analysis. The formula for the inconsistency rate is given in subsection 4.1.3. Preference spread is the difference between the predicted probability to grant an appeal of the most lenient judge minus the predicted probability to grant an appeal of the strictest judge. To estimate this number, year is set to the median year (2012), language is set to the modal language (German), and country of origin is set to the modal country (Italy for social security, Kosovo for immigration, and Iraq for asylum law). Model 4 is singular fit.

	Dependent Variable:					
	Case Outcome					
	Social Security		Immigration		Asylum	
	(1)	(2)	(3)	(4)	(5)	(6)
Data	Full	Red.	Full	Red.	Full	Red.
Party RE	*X*	*X*	*X*	*X*	*X*	*X*
Language FE	–	–	–	–	*X*	*X*
Year FE	–	–	–	–	–	–
Country RE	*X*	*X*	*X*	*X*	*X*	*X*
YearXLang. FE	*X*	*X*	*X*	*X*	–	–
Observations	5,349	4,904	5,655	5,359	1,843	1,699
Parameters	43	43	44	448	5	5
Log-likelihood	−3402	−3087	−2720	−2532	−905	−822
$\chi^2(1)$	6.3	1.3	0.08	0	14.3	14.5
p	0.01	0.25	0.77	0.99	< 0.001	< 0.001
Pref. Spread	0.079	0.050	0.013	0.000	0.095	0.102

Table A.11: Party Models without Reassigned Panels

The table reports mixed model estimates for the full data and after dropping reassigned panels ("Red." means reduced). "RE" means random effect, "FE" means fixed effect, "Pref." means preference. The χ^2 and p-values report a log-likelihood test for significance of the party random effect. The specifications are the same as in the main analysis. Preference spread is the difference between the predicted probability to grant an appeal of the most lenient party minus the predicted probability to grant an appeal of the strictest party. To estimate this number, year is set to the median year (2012), language is set to the modal language (German), and country of origin is set to the modal country (Italy for social security, Kosovo for immigration, and Iraq for asylum law). Model 4 is singular fit.

A.2.3 *Judicial Experience and Gender*

	Dependent Variable:					
	Case Outcome					
	Social Security		Immigration		Asylum	
	(1)	(2)	(3)	(4)	(5)	(6)
Judge RE	X	X	X	X	X	X
Language FE	–	–	X	X	X	X
Year FE	–	–	X	X	–	–
Country RE	X	X	X	X	X	X
YearXLang. FE	X	X	–	–	–	–
Experience FE	–	X	–	X	–	X
Gender FE	–	X	–	X	–	X
Observations	5,349	5,349	5,655	5,655	1,843	1,843
Parameters	43	45	18	20	5	7
Log-likelihood	−3386	−3380	−2738	−2737	−902	−897
$\chi^2(1)$	38.1	38.3	0.2	0.2	21.1	23.8
p	< 0.001	< 0.001	0.64	0.67	< 0.001	< 0.001
Inconsistency	0.039	0.039	0.006	0.004	0.041	0.043
Pref. Spread	0.320	0.267	0.019	0.028	0.180	0.235

Table A.12: Judge Models with Experience and Gender Controls

The table reports estimates from mixed models under the specification in the main analysis and after adding experience and gender fixed effects. "RE" means random effect, "FE" means fixed effect, "Pref." means preference. Experience is a binary indicator for the years of professional experience as a judge of the chair judge at the time of the verdict (= 1 if the judge has more experience than the median judge). Gender is a binary indicator for the gender of the chair judge (= 1 if the judge is male). The χ^2 and p-values report a log-likelihood test for significance of the judge random effect. The formula for the inconsistency rate is given in subsection 4.1.3. Preference spread is the difference between the predicted probability to grant an appeal of the most lenient judge minus the predicted probability to grant an appeal of the strictest judge. To estimate this number, year is set to the median year (2012), language is set to the modal language (German), and country of origin is set to the modal country (Italy for social security, Kosovo for immigration, and Iraq for asylum law).

	Dependent Variable:					
	Case Outcome					
	Social Security		Immigration		Asylum	
	(1)	(2)	(3)	(4)	(5)	(6)
Party RE	*X*	*X*	*X*	*X*	*X*	*X*
Language FE	–	–	–	–	*X*	*X*
Year FE	–	–	–	–	–	–
Country RE	*X*	*X*	*X*	*X*	*X*	*X*
YearXLang. FE	*X*	*X*	*X*	*X*	–	–
Experience FE	–	*X*	–	*X*	–	*X*
Gender FE	–	*X*	–	*X*	–	*X*
Observations	5,349	5,349	5,655	5,655	1,843	1,843
Parameters	43	45	44	46	5	7
Log-likelihood	−3402	−3394	−2720	−2720	−905	−904
$\chi^2(1)$	6.3	9.8	0.08	0	14.3	10.3
p	0.012	0.002	0.777	1	< 0.001	0.001
Pref. Spread	0.079	0.095	0.013	0.000	0.095	0.087

Table A.13: Party Models with Experience and Gender Controls

The table reports estimates from mixed models under the specification in the main analysis and after adding experience and gender fixed effects. "RE" means random effect, "FE" means fixed effect, "Pref." means preference. Experience is a binary indicator for the years of professional experience as a judge of the chair judge at the time of the verdict (= 1 if the judge has more experience than the median judge). Gender is a binary indicator for the gender of the chair judge (= 1 if the judge is male). The χ^2 and p-values report a log-likelihood test for significance of the party random effect. Preference spread is the difference between the predicted probability to grant an appeal of the most lenient party minus the predicted probability to grant an appeal of the strictest party. To estimate this number, year is set to the median year (2012), language is set to the modal language (German), and country of origin is set to the modal country (Italy for social security, Kosovo for immigration, and Iraq for asylum law). Model 4 is singular fit.

A.2.4 *Linear Probability Models*

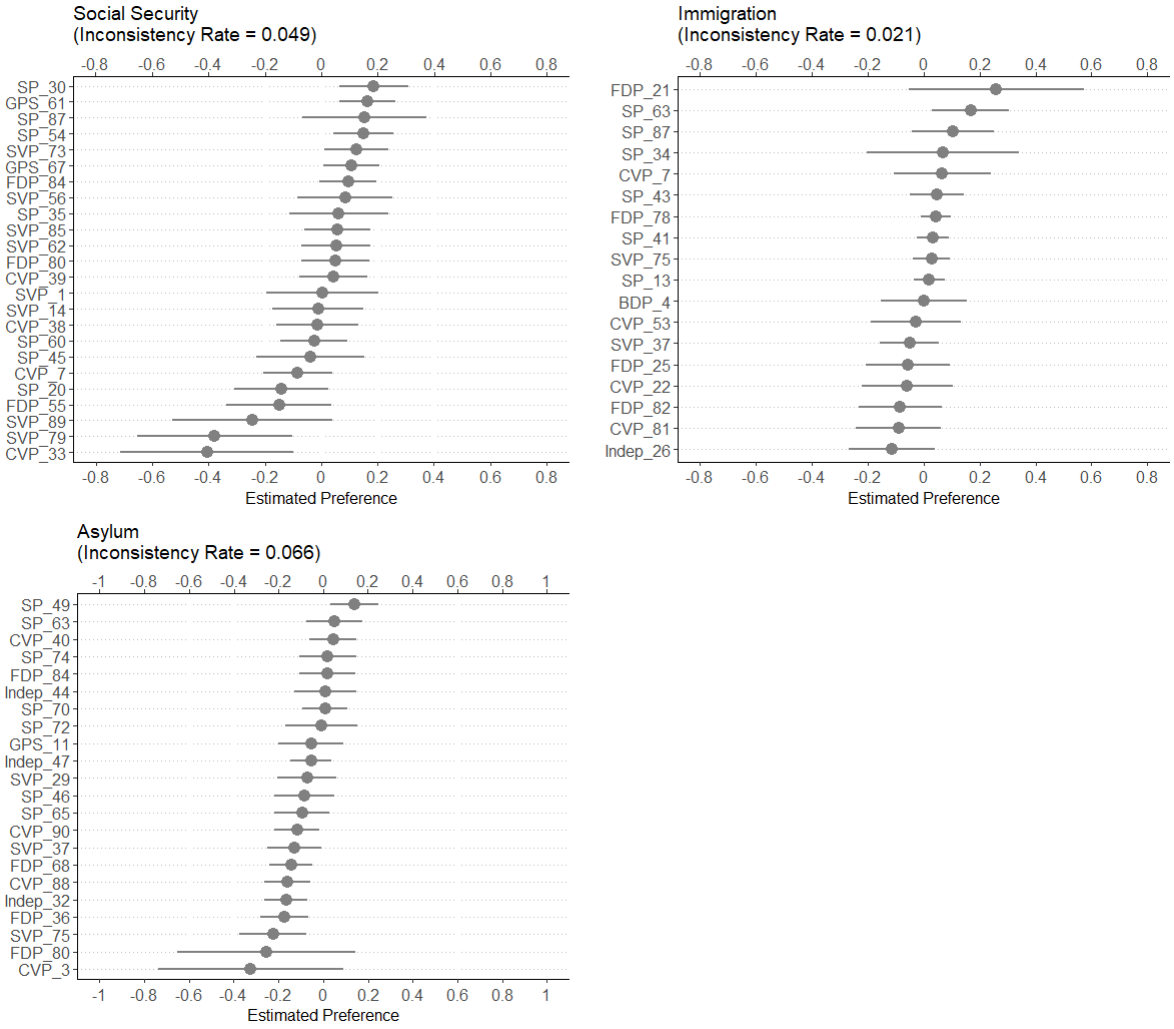


Figure A.1: Judicial Preferences via OLS

The figure shows OLS-estimates for the chair judge fixed effects. Intercepts are omitted and the distributions are centered on the median judge. Error bars are 95 % confidence intervals. Judges with fewer than 10 observations or two-sided confidence intervals > 1.4 are omitted (12 judges in social security law, 5 in immigration law, and 12 in asylum law).

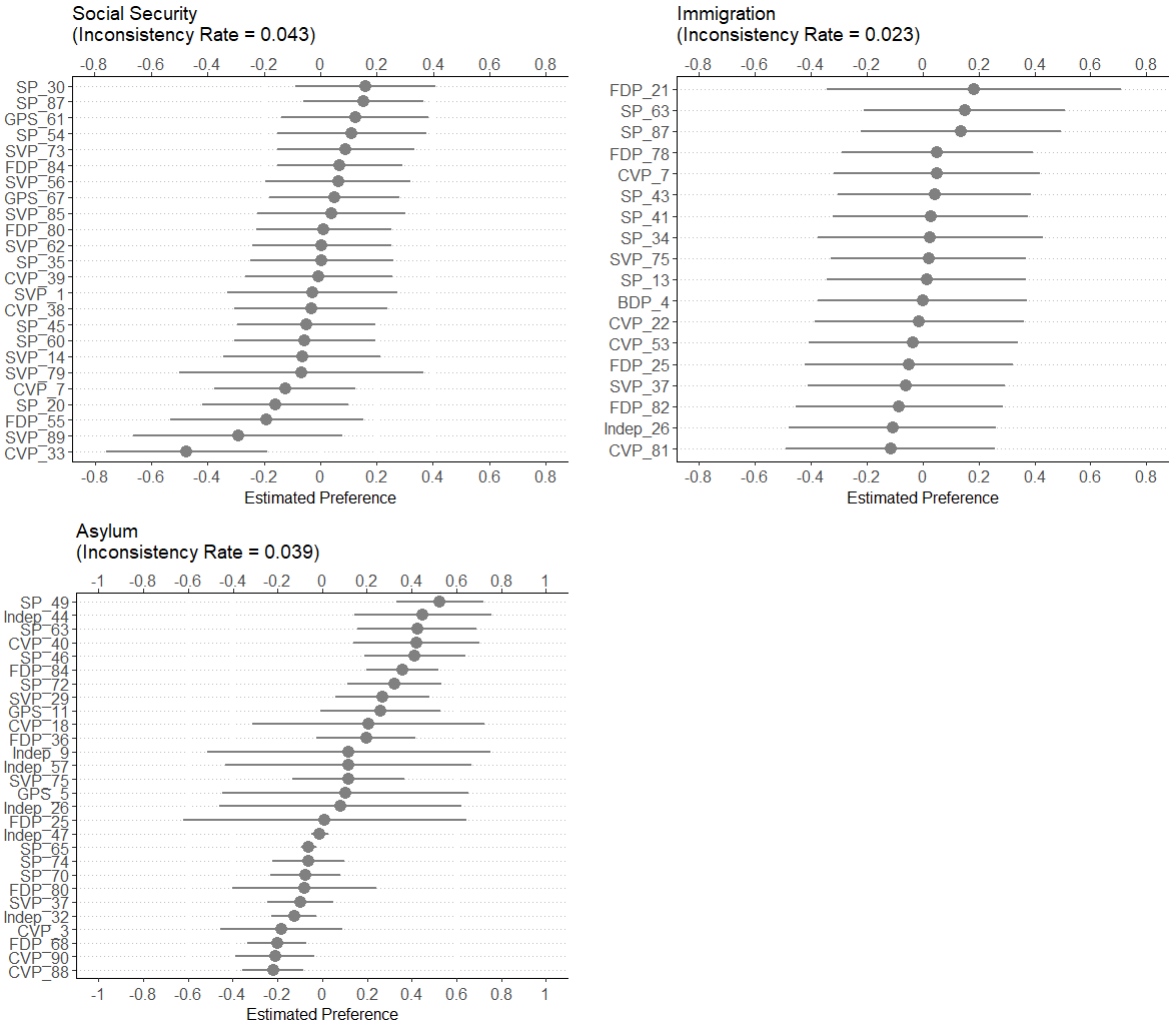


Figure A.2: Judicial Preferences via OLS (Controlling for Panel Composition)

The figure shows OLS-estimates for the chair judge fixed effects, controlling for the full panel composition. Intercepts are omitted and the distributions are centered on the median judge. Error bars are 95 % confidence intervals. Judges with fewer than 10 observations or two-sided confidence intervals > 1.4 are omitted (12 judges in social security law, 5 in immigration law, and 6 in asylum law).

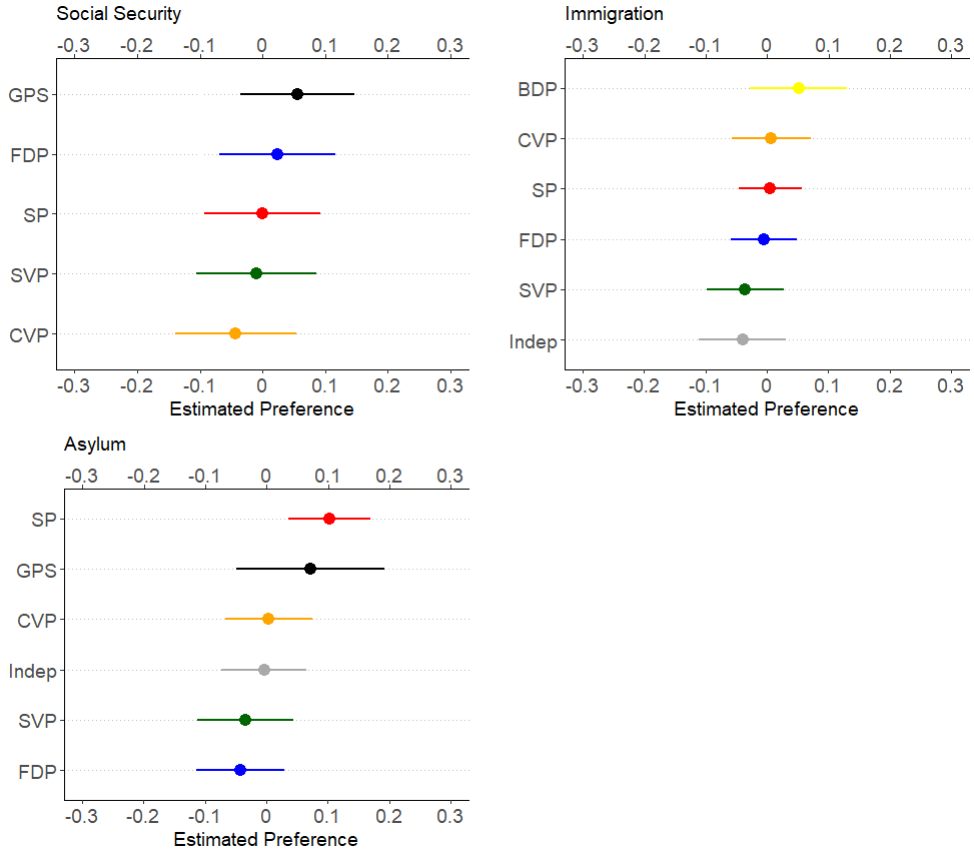


Figure A.3: Party Preferences via OLS

The figure shows OLS-estimates for the party fixed effects. Intercepts are omitted and the distributions are centered on the median party. Error bars are 95 % confidence intervals. "Indep" are independent judges.

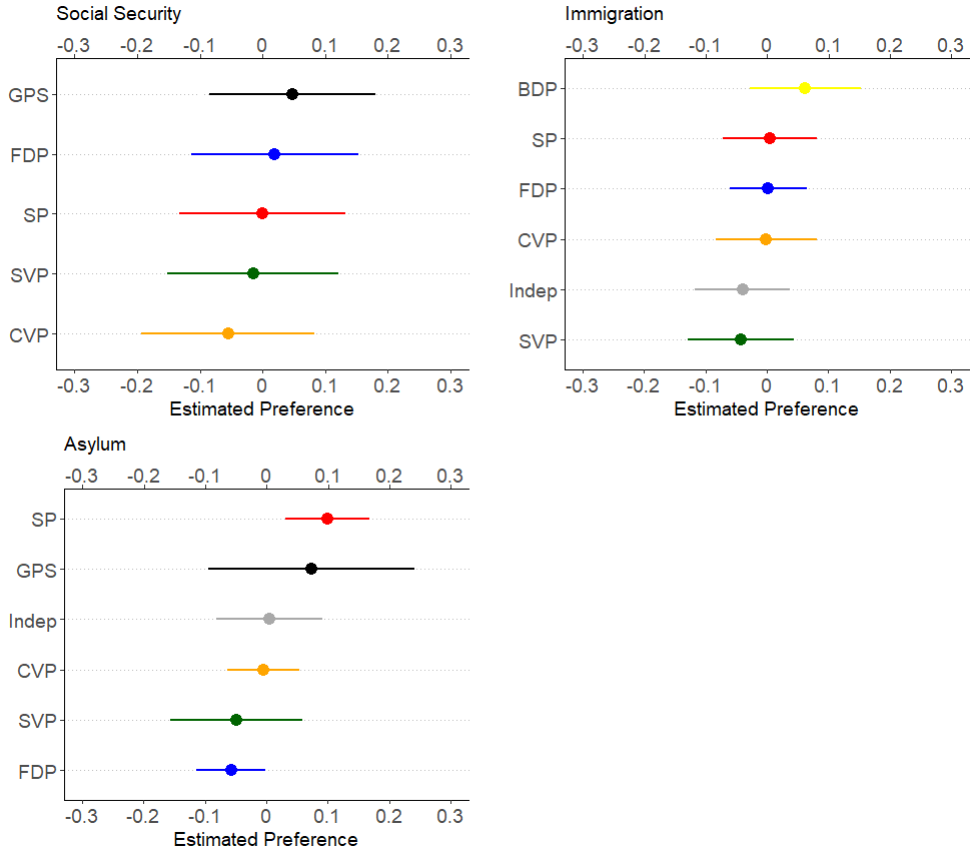


Figure A.4: Party Preferences via OLS (Controlling for Panel Composition)

The figure shows OLS-estimates for the party fixed effects, controlling for the full panel composition in terms of party membership. Intercepts are omitted and the distributions are centered on the median party. Error bars are 95 % confidence intervals. "Indep" are independent judges.

B

APPENDIX PART III

B.1 ADDITIONAL FIGURES AND TABLES

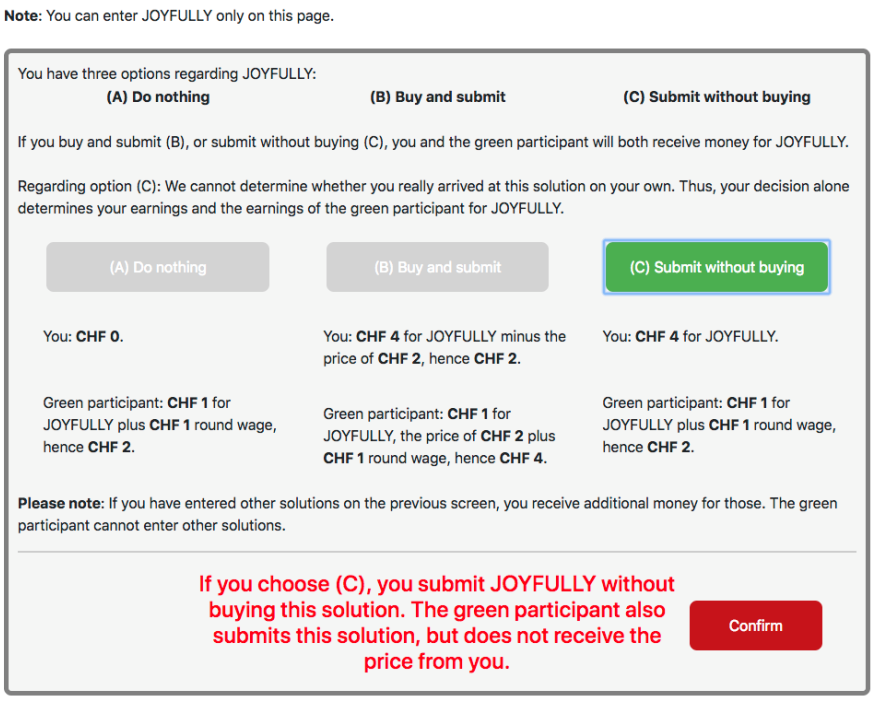


Figure B.1: Do Nothing, Buy, or Submit? (Non-rival Treatment)

The figure shows the screen of the user in the non-rival treatment facing the decision between (*A*) Do nothing, (*B*) Buy, and (*C*) Submit. In the example shown, the owner has found the long solution JOYFULLY, and the user is selecting (*C*) Submit. After users have selected (*A*), (*B*), or (*C*), the red text reminds them of the consequences for the owner. If the user had chosen (*A*) Do nothing, the red confirmation text would be "If you choose (*A*), you neither buy JOYFULLY nor submit this solution without buying it," if she had chosen (*B*) Buy, the red text would be "If you choose (*B*) you buy JOYFULLY and submit this solution. The green participant also submits this solution and receives the price from you." To frame the experiment neutrally, the owner is referred to as the "green participant."

	Dependent variable:		
	Submit		
	(1)	(2)	(3)
Rival	−0.063 (0.053)	−0.064 (0.054)	−0.033 (0.048)
Supplem. Rival	−0.042 (0.058)	−0.042 (0.057)	−0.044 (0.046)
Male		0.048 (0.049)	0.061 (0.040)
Age		−0.006 (0.010)	−0.010 (0.008)
Non-Swiss		−0.059 (0.055)	−0.063 (0.045)
Monthly Budget			−0.00002 (0.00004)
Non-ETH Student			0.043 (0.050)
Law Student			0.173** (0.085)
Scrabble Ability			−0.004 (0.003)
Dictator Sharing			−0.343*** (0.041)
Social Approp.			0.064*** (0.024)
Observations	1,297	1,297	1,297
R^2	0.003	0.009	0.142
Adjusted R^2	0.002	0.005	0.133
Note:			*p<0.1; **p<0.05; ***p<0.01

Table B.1: Regression Results

The table presents OLS-results from linear probability models with the non-rival treatment as baseline. Model (1) only regresses on treatment fixed effects, model (2) includes key demographic covariates, and model (3) includes further covariates. The dependent variable is a binary variable indicating whether a participant did or did not choose (C) Submit in a given round, provided the owner had found the long solution. Each participant-round is one observation, standard errors are clustered on the participant level. Male equals 1 if the participant's gender is male and 0 otherwise. Age is participant age in years. Non-Swiss equals 1 if the participant's nationality is not Swiss and 0 otherwise. Monthly budget is the participant's monthly budget in USD, excluding rent. Non-ETH students are students at other institutions than the Federal Institute of Technology (ETH), primarily at the University of Zurich, relative to the baseline of ETH students. Law students are compared to the baseline of STEM students, while the coefficients for students whose field is unknown and for non-students are omitted. Scrabble ability is the total number of short solutions (five to seven letters) submitted. Dictator sharing is the amount (out of an endowment of USD 2) transferred to the recipient in a standard dictator game. Social Appropriateness ("Social Approp.") is participant's judgment of how socially appropriate others view stealing (from 1 "very socially inappropriate" to 4 "very socially appropriate").

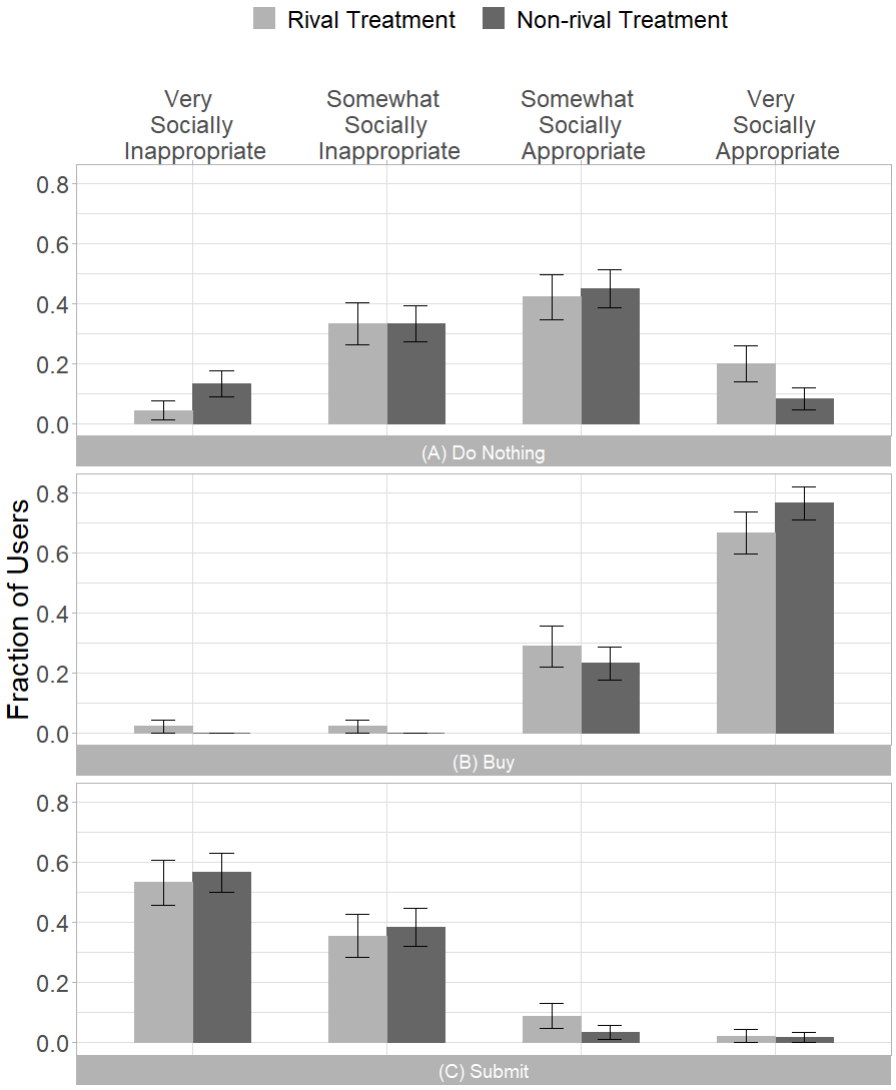


Figure B.2: Social Norms in the Rival and Non-rival Treatments

We measure participants' beliefs about how appropriate others view all three actions of the user (from 1 "very socially inappropriate" to 4 "somewhat socially appropriate"). The figure presents results for the rival and non-rival treatments. Given that we ask participants to judge the scenario where the user did not find the long solution on his own, action (C) Submit equals stealing. The error bars show standard errors.

B.2 SUPPLEMENTARY STUDY

The main study isolates intrinsic norms regarding rival versus non-rival goods per se. Hence the main study leaves open the question how behavior regarding rival versus non-rival goods differs when outcome-based preferences may also be present. In light of the null effect obtained in the main study, it is particularly interesting to check if outcome-based preferences, be it by themselves or through an interaction effect, yield a difference in behavior. In the supplementary study, we conduct a supplementary rival treatment where the endowment of the owner is equal to ω_L in both treatments (table B.2). The payoffs of the user are the same as in the main study.

The same procedure was followed as in the main study. Sessions lasted about 105 minutes for users, and their average earnings were about USD 60 per session or USD 34 per hour. Demographic characteristics are balanced across treatments. The fraction of users who are female is 0.58 ($SD = 0.50$) in the supplementary rival treatment and 0.60 ($SD = 0.49$) in the non-rival treatment. The mean age, rounded to one year, is 22 in both treatments ($SD = 2.7$ in both treatments). Users' median monthly budgets (without rent) are USD 400 in both treatments ($SD = 487$ in supplementary rival, $SD = 380$ in non-rival). None of these differences are statistically significant in two-sided Wilcoxon tests (gender: $W = 1320, p = 0.82$; age: $W = 1227, p = 0.42$; income: $W = 1261, p = 0.56$).

We cannot reject the null hypothesis that behavior is the same in the supplementary rival and the non-rival treatments (figure B.3). The p-value essentially equals 1 for each round, independent of the method used to adjust for multiple hypothesis testing. Hence, there is no evidence that our main findings can be explained by outcome-based preferences. We again use Bayesian factor analysis. All ten rounds provide evidence in favor of the null hypothesis that there is no treatment effect over the alternative that there is. Specifically, in round 4 the null has a likelihood that is about six times higher than the alternative, in two rounds (3 and 10) the null is about five times likelier, in four rounds (1, 3, 7 and 9) the null is about four times likelier, and in three rounds (2, 6 and 8) it is between one and two times likelier. Regarding social norms, stealing is, on average, rated as 1.47 ($SD = 0.50$) in the supplementary rival treatment, which is not statistically significantly different from the rating in the non-rival treatment in a two-sided Wilcoxon

test ($W = 1337, p = 0.92$). The same results in a two-sided t-test ($t(103) = 0.3, p = 0.77$). Using Bayesian factor analysis, we estimate that it is 80 times likelier that there is no difference in participants' rating of (C) Submit across treatments than the alternative that there is a difference. (A) Do nothing is rated as 2.84 ($SD = 0.85$) and (B) Buy is rated as 3.71 ($SD = 0.48$) (figure B.4).

	(A) Do nothing	(B) Buy	(C) Submit
Supplem. Rival	$(0, v_o + \omega_L)$ $= (0, 2)$	$(v_U - p, p + \omega_L)$ $= (2, 3)$	(v_U, ω_L) $= (4, 1)$
Non-rival	$(0, v_o + \omega_L)$ $= (0, 2)$	$(v_U - p, v_o + p + \omega_L)$ $= (2, 4)$	$(v_U, v_o + \omega_L)$ $= (4, 2)$

Table B.2: Payoffs as a Function of User Action

The first entry in the payoff vector is the user's payoff. The table gives the payoffs as a function of the user's action, given that the owner finds a long solution, and the resulting payoffs in USD. Observe that in the non-rival treatment, the owner keeps his induced valuation for the good, v_o, regardless of the user's action, while in the rival treatment the owner keeps his induced valuation only if the user chooses (A) Do nothing. The table does not include the user's earnings from short solutions, *ns*, which would be a constant added to the user's payoff in every cell. In the study, $p = 2$, $v_U = 4$, $s = 1$, $v_o = 1$, $\omega_L = 1$, $\omega = 2$. As the study was conducted in Switzerland, participants received Swiss francs. The Swiss franc was at parity with the USD at the time of the study.

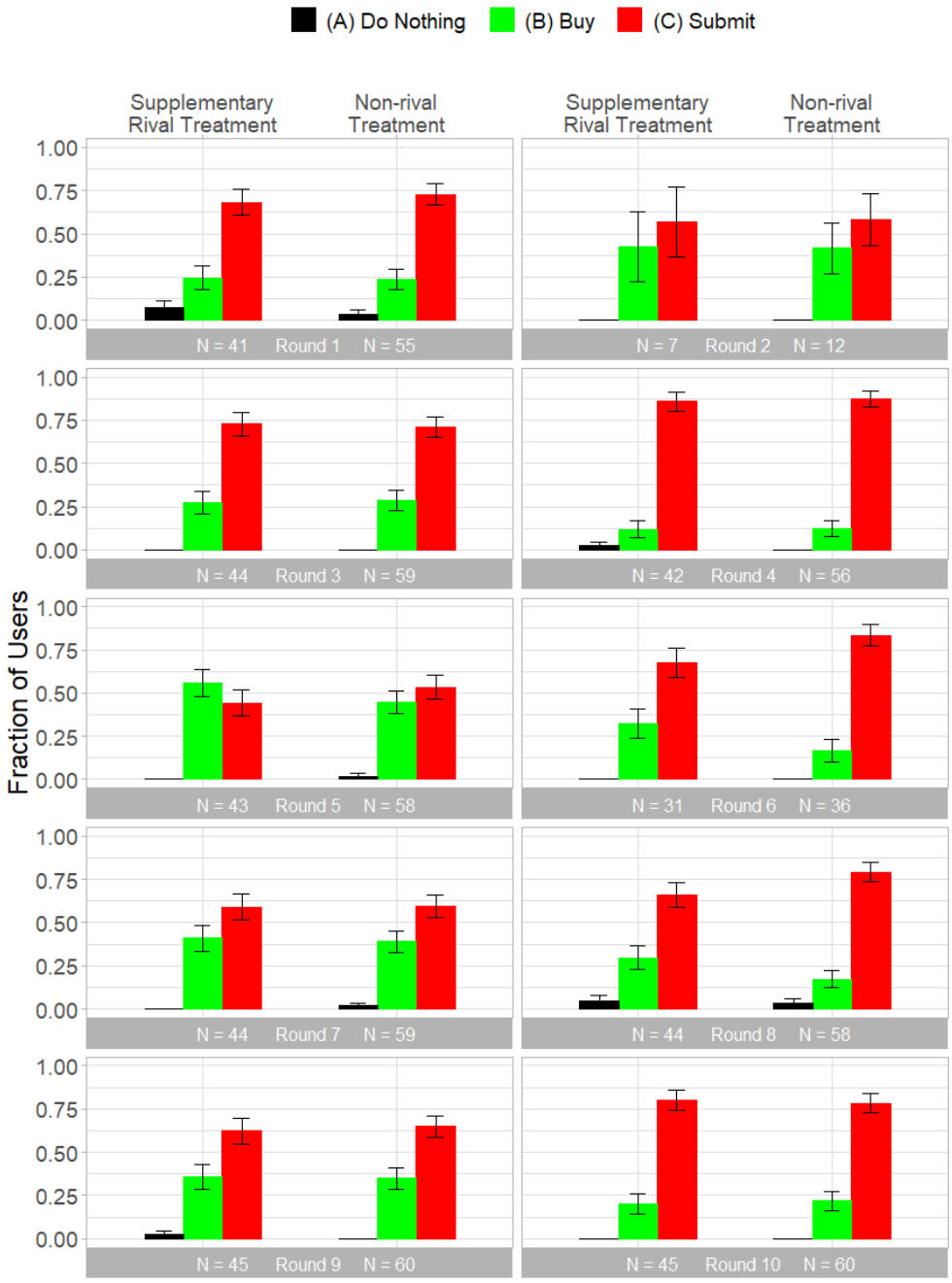


Figure B.3: Behavior in the Supplementary Rival and Non-rival Treatments

The figure presents user behavior by treatment. We only consider the case where a long solution of the owner is available. The error bars show standard errors.

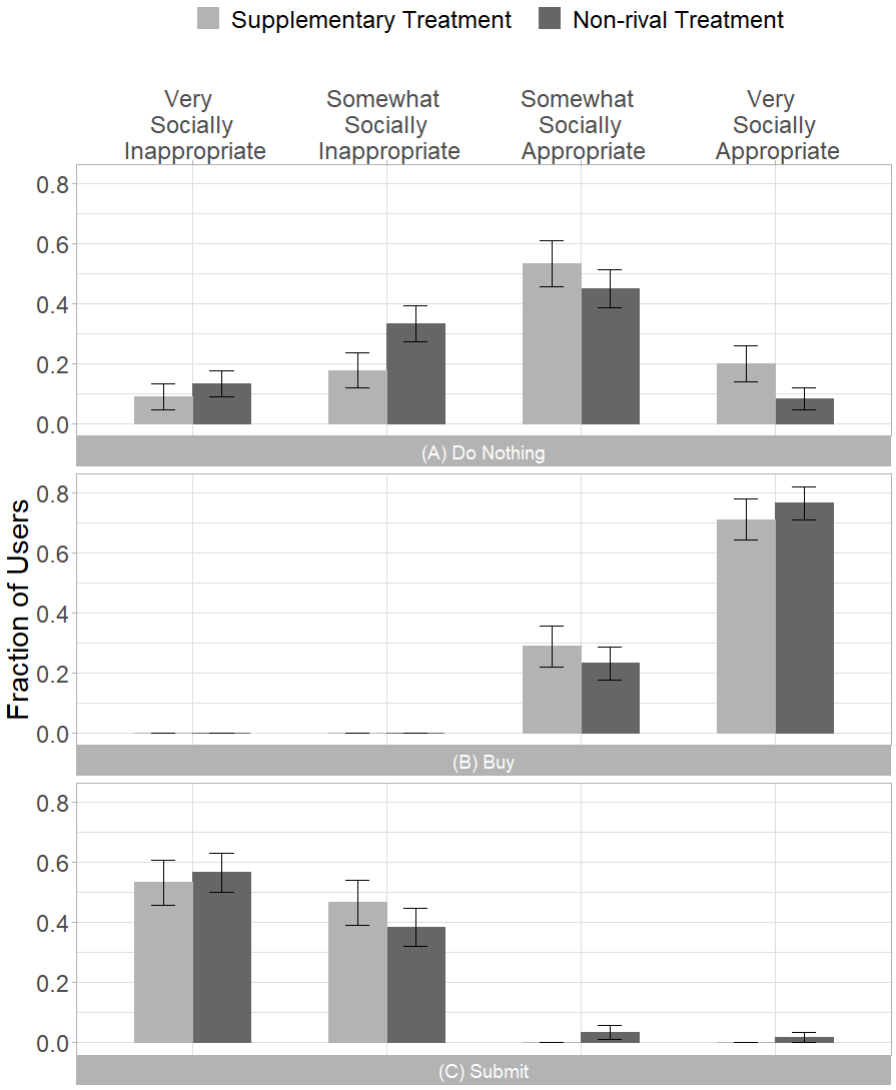


Figure B.4: Social Norms in the Supplementary Rival and Non-rival Treatments

We measure participants' beliefs about how appropriate others view all three actions of the user (from 1 "very socially inappropriate" to 4 "somewhat socially appropriate"). The figure presents results for the supplementary rival and non-rival treatments. Given that we ask participants to judge the scenario where the user did not find the long solution on his own, action (C) Submit equals stealing. The error bars show standard errors.

B.3 INSTRUCTIONS

This section gives the printed instructions used in the main study and in the supplementary study. A complete sequence of the screens displayed to the participants in the main study and in the supplementary study is documented in an online supplement. A complete sequence of the printed instructions and screens displayed to the participants in the calibration study is documented in a second online supplement. Both online supplements are available from me on request. All sessions were conducted in German. The instructions shown below are translations into English. The original German instructions and screens are available from me on request. In order to frame the context neutrally, the instructions refer to to the owner as the "green participant" and to the user as the "blue participant."

Handout 2

Scrabble Rules

Today's session consists of 10 rounds of Scrabble. In each round, you are given a Scrabble task, where you construct words from a set of letters. Your task is to form words that are as long as possible. You can earn money by submitting solutions. At the end of the session, all the money you have earned across all 10 rounds combined will be paid out to you in cash.

We use simplified rules for Scrabble:

- Each task has 9 letters.
- For each task, limited time is available.
- You can use each letter only as many times as it appears in the 9 letters provided.
- Whether a word is valid or not is decided by the official dictionary by the German speaking Scrabble community. Proper names and last names are usually not valid. Typically, for each word the official dictionary contains plurals, declinations and conjugates, so e.g. in addition to SQUARE also SQUARES, SQUARED, SQUARING, etc.
- Without drawback, you can try out as many solutions as you want.

How much money do you earn for a valid solution?
To earn money, your solution needs to have at least 8 letters. For each valid solution with 8 or 9 letters you receive CHF 1.

Example:
You receive the 9 letters: Y F L L O Y J X U

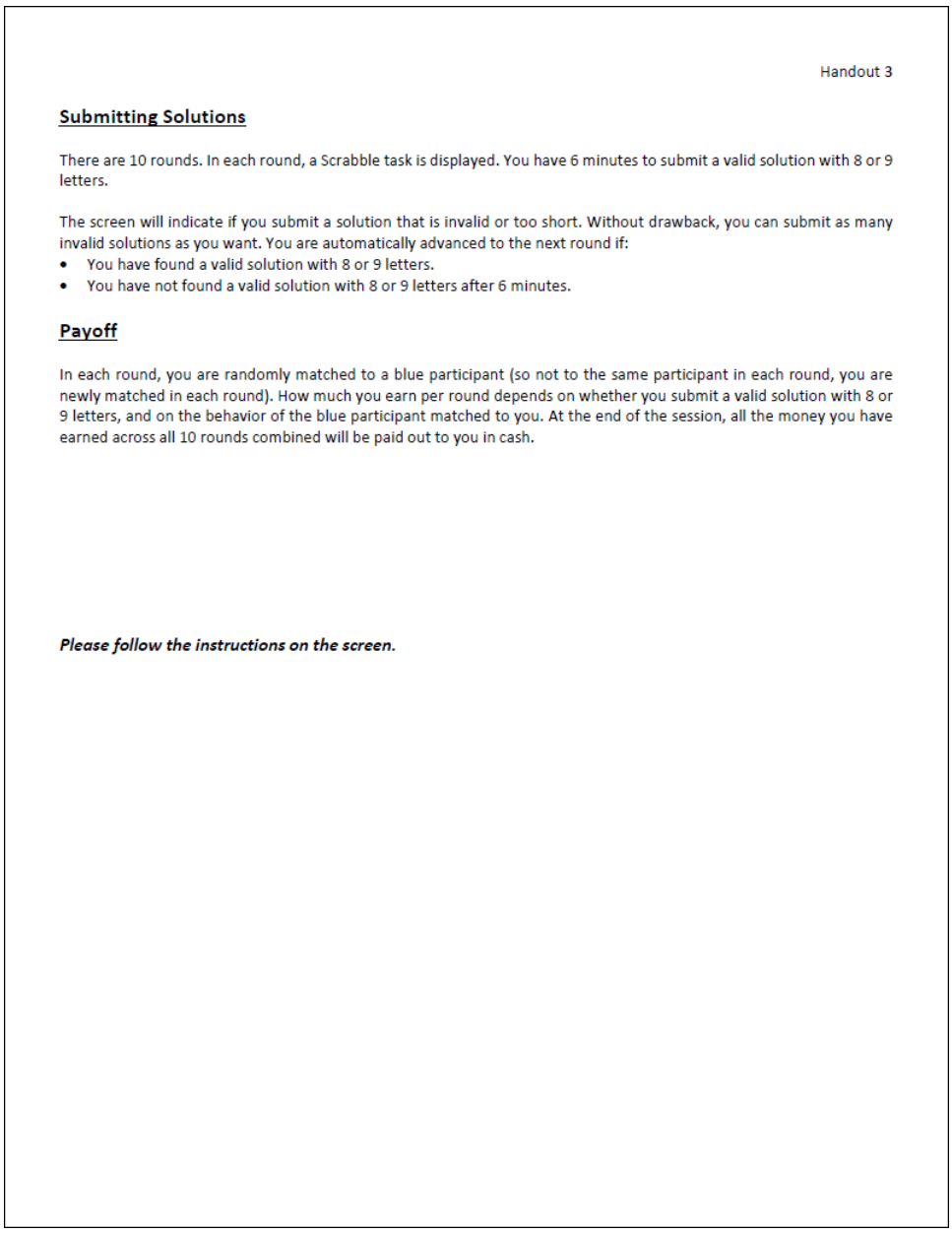
Solution	Payoff	Explanation
OLLY	CHF 0	Proper name.
FOOL	CHF 0	You only have one "O".
JOY	CHF 0	Only 4 letters, too short.
JOYFUL	CHF 0	Only 6 letters, too short.
JOYFULLY	CHF 1	Valid solution with 8 letters.

Hint: Long words often consist of multiple short words (such as JOYFULLY, consisting of JOY and FULLY). Thus, first try to build short words, then concatenate them to longer words.

Please follow the instructions on the screen now.

Figure B.5: Owner: Scrabble Rules (Handout 2)

After reading and signing the standard consent form of the lab (Handout 1), owners read Handout 2 before answering six comprehension questions regarding the Scrabble rules. Once owners have answered all questions correctly, they read Handout 3 below.



Handout 3

Submitting Solutions

There are 10 rounds. In each round, a Scrabble task is displayed. You have 6 minutes to submit a valid solution with 8 or 9 letters.

The screen will indicate if you submit a solution that is invalid or too short. Without drawback, you can submit as many invalid solutions as you want. You are automatically advanced to the next round if:

- You have found a valid solution with 8 or 9 letters.
- You have not found a valid solution with 8 or 9 letters after 6 minutes.

Payoff

In each round, you are randomly matched to a blue participant (so not to the same participant in each round, you are newly matched in each round). How much you earn per round depends on whether you submit a valid solution with 8 or 9 letters, and on the behavior of the blue participant matched to you. At the end of the session, all the money you have earned across all 10 rounds combined will be paid out to you in cash.

Please follow the instructions on the screen.

Figure B.6: Owner: Submitting Solutions (Handout 3)

Once owners have read Handout 3 on submitting solutions, the theft game begins.

Handout 2

Scrabble Rules

Today's session consists of 10 rounds of Scrabble. In each round, you are given a Scrabble task, where you construct words from a set of letters. Your task is to form words that are as long as possible. You can earn money by submitting solutions. At the end of the session, all the money you have earned across all ten rounds combined will be paid out to you in cash.

We use simplified Scrabble rules:

- Each task has 9 letters.
- You can use each letter only as many times as it appears in the 9 letters provided.
- Whether a word is valid or not is decided by the official dictionary by the German speaking Scrabble community. Proper names and last names are usually not valid. Typically, for each word the official dictionary contains plurals, declinations and conjugates, so e.g. other than SQUARE also SQUARES, SQUARED, SQUARING, etc.
- Without drawback, you can try out as many solutions as you want.
- There are long and short solutions: Long solutions have 8 or 9 letters. Short solutions have 5, 6, or 7 letters. Words with 4 or less letters are never valid solutions.

Differences between blue and green participants:

- Blue participants receive CHF 1 for short solutions, CHF 4 for long solutions.
- Green participants receive CHF 0 for short solutions, CHF 1 for long solutions.
- In each round, green participants have 6 minutes, blue participants 3 minutes.
- For each task, all (blue and green) participants receive the exact same 9 letters. The specific order of the letters differs for the blue and green participants such that it is easier for the green participant to find long solutions.
- In each round, green participants can at most submit one long solution. Blue participants can submit as many short and long solutions as they want.

Example:
You receive the 9 letters: Y F L L O Y J X U

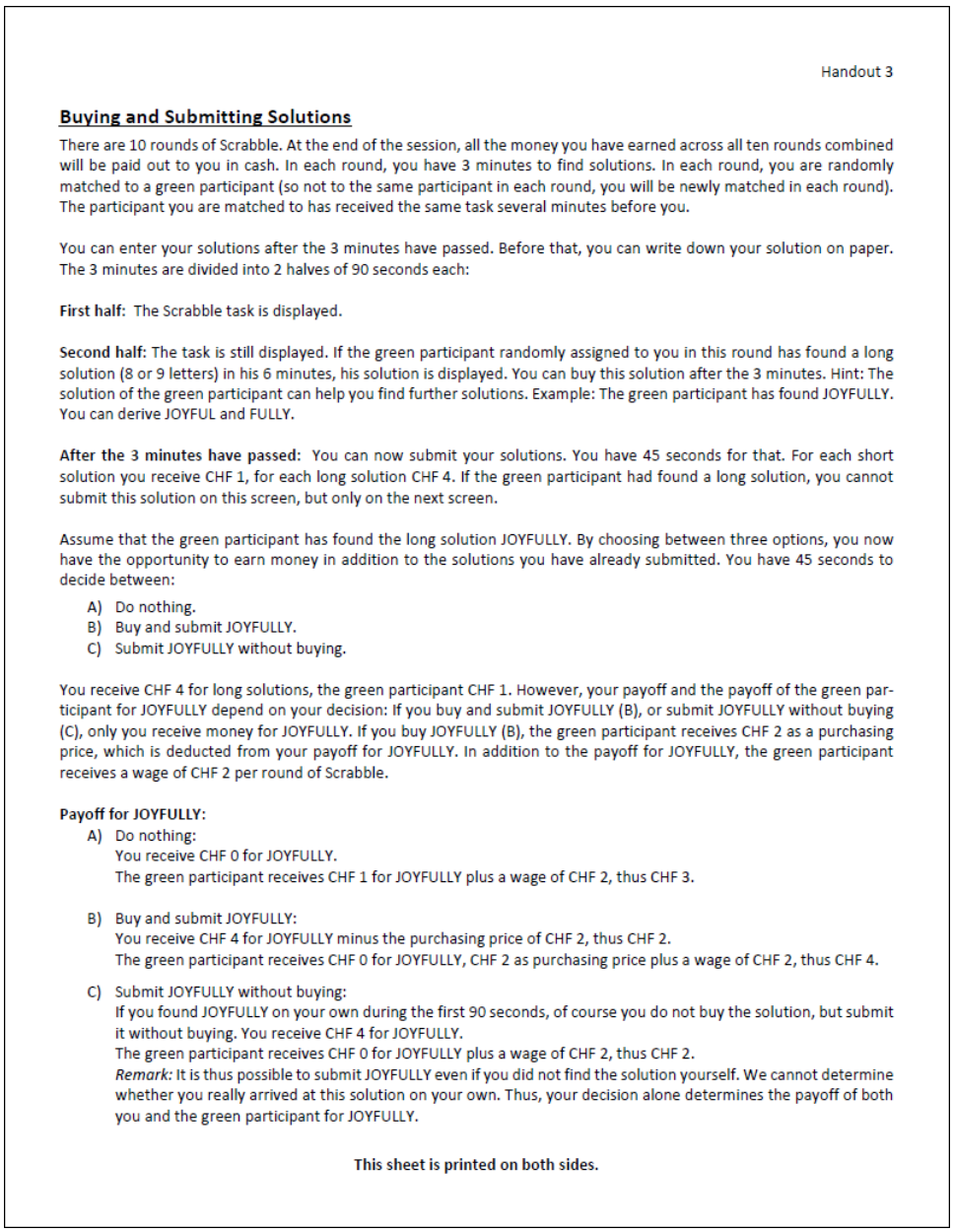
Solution	Blue participants	Green participants	Explanation
OLLY	CHF 0	CHF 0	Proper name.
FOOL	CHF 0	CHF 0	You only have one "O".
JOY	CHF 0	CHF 0	Only 4 letters, too short.
JOYFUL	CHF 1	CHF 0	Short solution, only blue participants receive money.
JOYFULLY	CHF 4	CHF 1	Respective payment for a long solution.

Hint: Long words often consist of multiple short words (such as JOYFULLY, consisting of JOY and FULLY). Thus, first try to build short words, then concatenate them to longer words.

Please follow the instructions on the screen now.

Figure B.7: User: Scrabble Rules (Handout 2)

After reading and signing the standard consent form of the lab (Handout 1), users read Handout 2 before answering three comprehension questions regarding the Scrabble rules. Once users have answered all questions correctly, they read Handout 3 below.



Handout 3

Buying and Submitting Solutions

There are 10 rounds of Scrabble. At the end of the session, all the money you have earned across all ten rounds combined will be paid out to you in cash. In each round, you have 3 minutes to find solutions. In each round, you are randomly matched to a green participant (so not to the same participant in each round, you will be newly matched in each round). The participant you are matched to has received the same task several minutes before you.

You can enter your solutions after the 3 minutes have passed. Before that, you can write down your solution on paper. The 3 minutes are divided into 2 halves of 90 seconds each:

First half: The Scrabble task is displayed.

Second half: The task is still displayed. If the green participant randomly assigned to you in this round has found a long solution (8 or 9 letters) in his 6 minutes, his solution is displayed. You can buy this solution after the 3 minutes. Hint: The solution of the green participant can help you find further solutions. Example: The green participant has found JOYFULLY. You can derive JOYFUL and FULLY.

After the 3 minutes have passed: You can now submit your solutions. You have 45 seconds for that. For each short solution you receive CHF 1, for each long solution CHF 4. If the green participant had found a long solution, you cannot submit this solution on this screen, but only on the next screen.

Assume that the green participant has found the long solution JOYFULLY. By choosing between three options, you now have the opportunity to earn money in addition to the solutions you have already submitted. You have 45 seconds to decide between:

A) Do nothing.
B) Buy and submit JOYFULLY.
C) Submit JOYFULLY without buying.

You receive CHF 4 for long solutions, the green participant CHF 1. However, your payoff and the payoff of the green participant for JOYFULLY depend on your decision: If you buy and submit JOYFULLY (B), or submit JOYFULLY without buying (C), only you receive money for JOYFULLY. If you buy JOYFULLY (B), the green participant receives CHF 2 as a purchasing price, which is deducted from your payoff for JOYFULLY. In addition to the payoff for JOYFULLY, the green participant receives a wage of CHF 2 per round of Scrabble.

Payoff for JOYFULLY:

A) Do nothing:
You receive CHF 0 for JOYFULLY.
The green participant receives CHF 1 for JOYFULLY plus a wage of CHF 2, thus CHF 3.

B) Buy and submit JOYFULLY:
You receive CHF 4 for JOYFULLY minus the purchasing price of CHF 2, thus CHF 2.
The green participant receives CHF 0 for JOYFULLY, CHF 2 as purchasing price plus a wage of CHF 2, thus CHF 4.

C) Submit JOYFULLY without buying:
If you found JOYFULLY on your own during the first 90 seconds, of course you do not buy the solution, but submit it without buying. You receive CHF 4 for JOYFULLY.
The green participant receives CHF 0 for JOYFULLY plus a wage of CHF 2, thus CHF 2.
Remark: It is thus possible to submit JOYFULLY even if you did not find the solution yourself. We cannot determine whether you really arrived at this solution on your own. Thus, your decision alone determines the payoff of both you and the green participant for JOYFULLY.

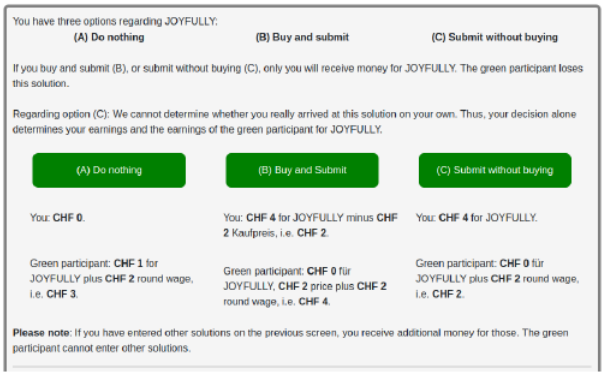
This sheet is printed on both sides.

Figure B.8: User: Buying and Submitting Solutions – *Rival* Treatment (Handout 3, page 1)

Users read Handout 3 before answering six comprehension questions regarding buying and submitting solutions. Once users have answered all questions correctly, the theft game begins.

Handout 3

You see a screenshot of the screen where you make your decision below. Please read it thoroughly. On the screen, you first click one of the buttons (A), (B) or (C), and then confirm your choice. Once you confirm your choice, you cannot change it anymore.



Examples

In the following examples we assume that you and the green participant receive the following combination of letters:
M F A Y N A L U L

Example 1:
The green participant submits the solution MANFULLY. You submit the solutions FULLY and MANUAL (i.e., you choose option A)
- You receive: CHF 1 for FULLY + CHF 1 for MANUAL = CHF 2.
- The green participant receives: CHF 1 for MANFULLY + a wage of CHF 2 = CHF 3.

Example 2:
The green participant submits the solution MANFULLY. You buy this solution (i.e., you choose option B), and in addition submit the solution MANUALLY.
- You receive: CHF 4 for MANFULLY – CHF 2 purchasing price + CHF 1 for MANUALLY = CHF 6.
- The green participant receives: CHF 0 for MANFULLY + CHF 2 purchasing price + a wage of CHF 2 = CHF 4.

Example 3:
The green participant submits the solution MANFULLY. You submit the solution MANFULLY without buying it (i.e., you choose option C), and in addition submit the solution FULLY.
- You receive: CHF 4 for MANFULLY + CHF 1 for FULLY = CHF 5.
- The green participant receives: CHF 0 for MANFULLY + a wage of CHF 2 = CHF 2.

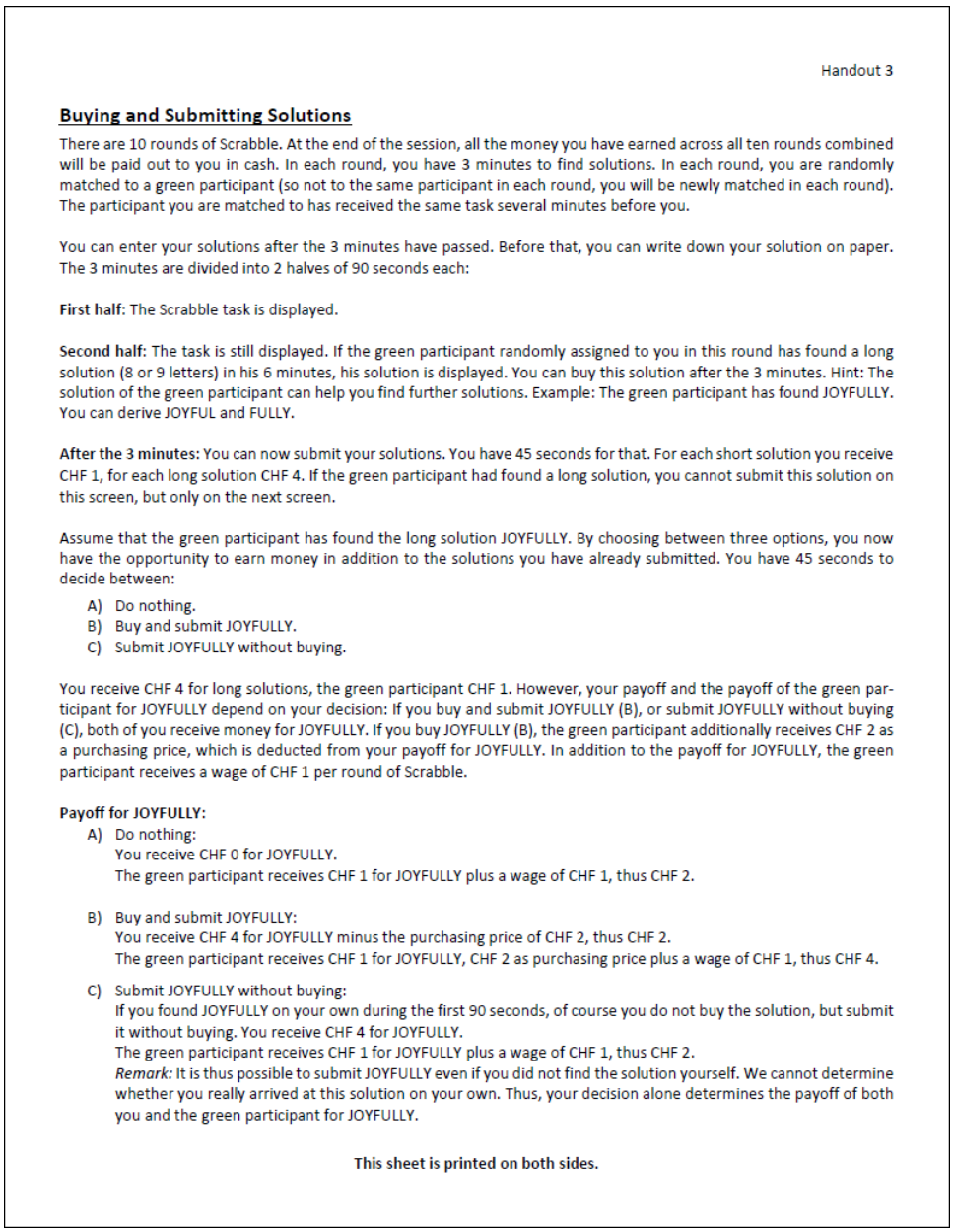
Please note: The green participant can only submit one solution per round, while you can submit as many as you want.

Please follow the instructions on the screen. More comprehension questions follow.

This sheet is printed on both sides.

Figure B.9: User: Buying and Submitting Solutions – *Rival* Treatment (Handout 3, page 2)

Users read Handout 3 before answering six comprehension questions regarding buying and submitting solutions. Once users have answered all questions correctly, the theft game begins.



Handout 3

Buying and Submitting Solutions

There are 10 rounds of Scrabble. At the end of the session, all the money you have earned across all ten rounds combined will be paid out to you in cash. In each round, you have 3 minutes to find solutions. In each round, you are randomly matched to a green participant (so not to the same participant in each round, you will be newly matched in each round). The participant you are matched to has received the same task several minutes before you.

You can enter your solutions after the 3 minutes have passed. Before that, you can write down your solution on paper. The 3 minutes are divided into 2 halves of 90 seconds each:

First half: The Scrabble task is displayed.

Second half: The task is still displayed. If the green participant randomly assigned to you in this round has found a long solution (8 or 9 letters) in his 6 minutes, his solution is displayed. You can buy this solution after the 3 minutes. Hint: The solution of the green participant can help you find further solutions. Example: The green participant has found JOYFULLY. You can derive JOYFUL and FULLY.

After the 3 minutes: You can now submit your solutions. You have 45 seconds for that. For each short solution you receive CHF 1, for each long solution CHF 4. If the green participant had found a long solution, you cannot submit this solution on this screen, but only on the next screen.

Assume that the green participant has found the long solution JOYFULLY. By choosing between three options, you now have the opportunity to earn money in addition to the solutions you have already submitted. You have 45 seconds to decide between:

A) Do nothing.
B) Buy and submit JOYFULLY.
C) Submit JOYFULLY without buying.

You receive CHF 4 for long solutions, the green participant CHF 1. However, your payoff and the payoff of the green participant for JOYFULLY depend on your decision: If you buy and submit JOYFULLY (B), or submit JOYFULLY without buying (C), both of you receive money for JOYFULLY. If you buy JOYFULLY (B), the green participant additionally receives CHF 2 as a purchasing price, which is deducted from your payoff for JOYFULLY. In addition to the payoff for JOYFULLY, the green participant receives a wage of CHF 1 per round of Scrabble.

Payoff for JOYFULLY:

A) Do nothing:
You receive CHF 0 for JOYFULLY.
The green participant receives CHF 1 for JOYFULLY plus a wage of CHF 1, thus CHF 2.

B) Buy and submit JOYFULLY:
You receive CHF 4 for JOYFULLY minus the purchasing price of CHF 2, thus CHF 2.
The green participant receives CHF 1 for JOYFULLY, CHF 2 as purchasing price plus a wage of CHF 1, thus CHF 4.

C) Submit JOYFULLY without buying:
If you found JOYFULLY on your own during the first 90 seconds, of course you do not buy the solution, but submit it without buying. You receive CHF 4 for JOYFULLY.
The green participant receives CHF 1 for JOYFULLY plus a wage of CHF 1, thus CHF 2.
Remark: It is thus possible to submit JOYFULLY even if you did not find the solution yourself. We cannot determine whether you really arrived at this solution on your own. Thus, your decision alone determines the payoff of both you and the green participant for JOYFULLY.

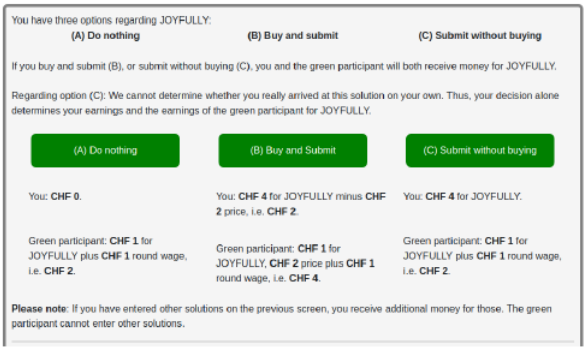
This sheet is printed on both sides.

Figure B.10: User: Buying and Submitting Solutions – *Non-rival* Treatment (Handout 3, page 1)

Users read Handout 3 before answering six comprehension questions regarding buying and submitting solutions. Once users have answered all questions correctly, the theft game begins.

Handout 3

You see a screenshot of the screen where you make your decision below. Please read it thoroughly. On the screen, you first click one of the buttons (A), (B) or (C), and then confirm your choice. Once you confirm your choice, you cannot change it anymore.



Examples

In the following examples, we assume that you and the green participant receive the following combination of letters:
M F A Y N A L U L

Example 1:
The green participant submits the solution MANFULLY. You submit the solutions FULLY and MANUAL (i.e., you choose option A).
- You receive: CHF 1 for FULLY + CHF 1 for MANUAL = CHF 2.
- The green participant receives: CHF 1 for MANFULLY + a wage of CHF 1 = CHF 2.

Example 2:
The green participant submits the solution MANFULLY. You buy this solution (i.e., you choose option B), and in addition submit the solution MANUALLY.
- You receive: CHF 4 for MANFULLY – CHF 2 purchasing price + CHF 4 for MANUALLY = CHF 6.
- The green participant receives: CHF 1 for MANFULLY + CHF 2 purchasing price + a wage of CHF 1 = CHF 4.

Example 3:
The green participant submits the solution MANFULLY. You submit the solution MANFULLY without buying it (i.e., you choose option C), and in addition submit the solution FULLY.
- You receive: CHF 4 for MANFULLY + CHF 1 for FULLY = CHF 5.
- The green participant receives: CHF 1 for MANFULLY + a wage of CHF 1 = CHF 2.

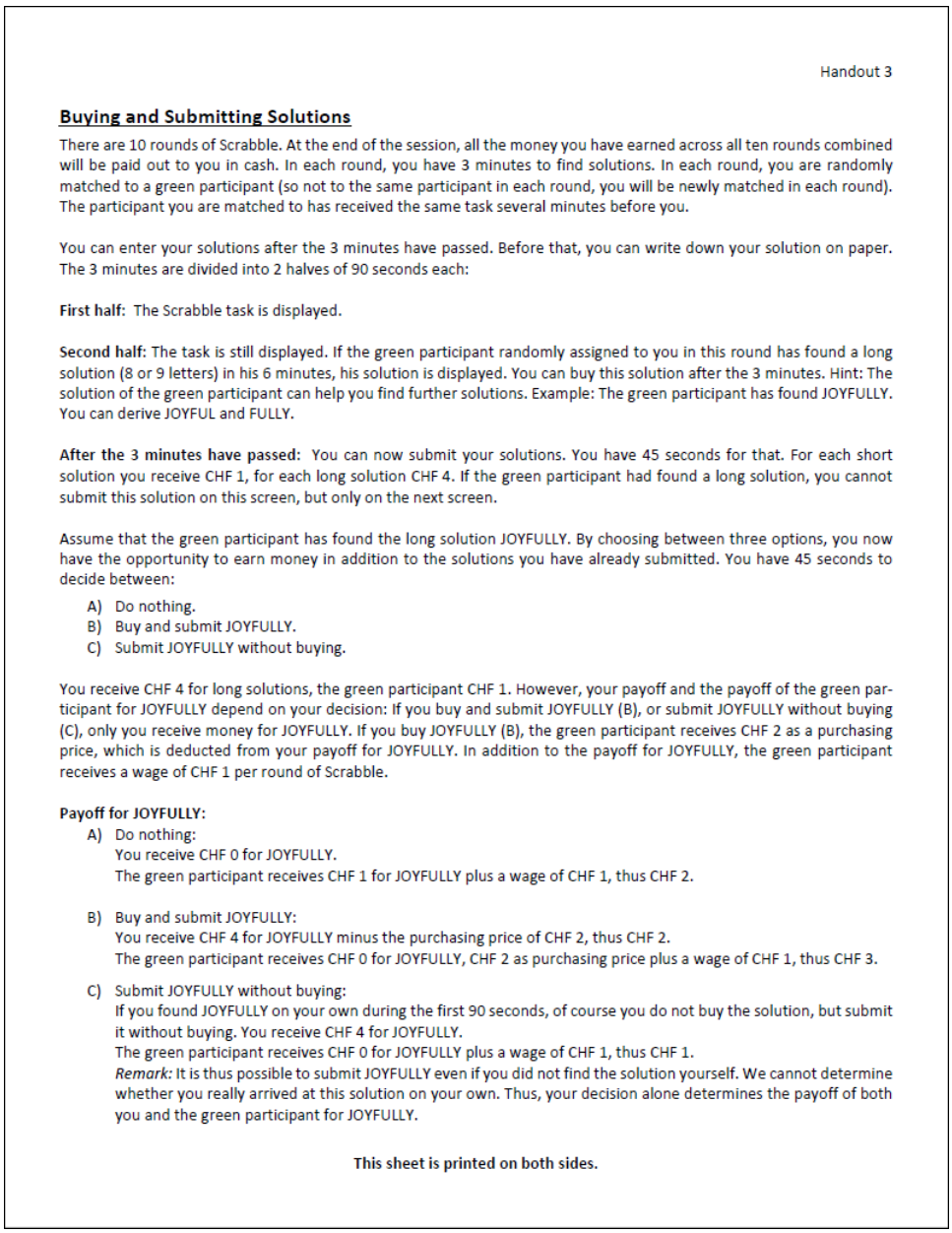
Please note: The green participant can only submit one solution per round, while you can submit as many as you want.

Please follow the instructions on the screen. Further understanding questions follow.

This sheet is printed on both sides.

Figure B.11: User: Buying and Submitting Solutions – *Non-rival* Treatment (Handout 3, page 2)

Users read Handout 3 before answering six comprehension questions regarding buying and submitting solutions. Once users have answered all questions correctly, the theft game begins.



Handout 3

Buying and Submitting Solutions

There are 10 rounds of Scrabble. At the end of the session, all the money you have earned across all ten rounds combined will be paid out to you in cash. In each round, you have 3 minutes to find solutions. In each round, you are randomly matched to a green participant (so not to the same participant in each round, you will be newly matched in each round). The participant you are matched to has received the same task several minutes before you.

You can enter your solutions after the 3 minutes have passed. Before that, you can write down your solution on paper. The 3 minutes are divided into 2 halves of 90 seconds each:

First half: The Scrabble task is displayed.

Second half: The task is still displayed. If the green participant randomly assigned to you in this round has found a long solution (8 or 9 letters) in his 6 minutes, his solution is displayed. You can buy this solution after the 3 minutes. Hint: The solution of the green participant can help you find further solutions. Example: The green participant has found JOYFULLY. You can derive JOYFUL and FULLY.

After the 3 minutes have passed: You can now submit your solutions. You have 45 seconds for that. For each short solution you receive CHF 1, for each long solution CHF 4. If the green participant had found a long solution, you cannot submit this solution on this screen, but only on the next screen.

Assume that the green participant has found the long solution JOYFULLY. By choosing between three options, you now have the opportunity to earn money in addition to the solutions you have already submitted. You have 45 seconds to decide between:

A) Do nothing.
B) Buy and submit JOYFULLY.
C) Submit JOYFULLY without buying.

You receive CHF 4 for long solutions, the green participant CHF 1. However, your payoff and the payoff of the green participant for JOYFULLY depend on your decision: If you buy and submit JOYFULLY (B), or submit JOYFULLY without buying (C), only you receive money for JOYFULLY. If you buy JOYFULLY (B), the green participant receives CHF 2 as a purchasing price, which is deducted from your payoff for JOYFULLY. In addition to the payoff for JOYFULLY, the green participant receives a wage of CHF 1 per round of Scrabble.

Payoff for JOYFULLY:

A) Do nothing:
You receive CHF 0 for JOYFULLY.
The green participant receives CHF 1 for JOYFULLY plus a wage of CHF 1, thus CHF 2.

B) Buy and submit JOYFULLY:
You receive CHF 4 for JOYFULLY minus the purchasing price of CHF 2, thus CHF 2.
The green participant receives CHF 0 for JOYFULLY, CHF 2 as purchasing price plus a wage of CHF 1, thus CHF 3.

C) Submit JOYFULLY without buying:
If you found JOYFULLY on your own during the first 90 seconds, of course you do not buy the solution, but submit it without buying. You receive CHF 4 for JOYFULLY.
The green participant receives CHF 0 for JOYFULLY plus a wage of CHF 1, thus CHF 1.
Remark: It is thus possible to submit JOYFULLY even if you did not find the solution yourself. We cannot determine whether you really arrived at this solution on your own. Thus, your decision alone determines the payoff of both you and the green participant for JOYFULLY.

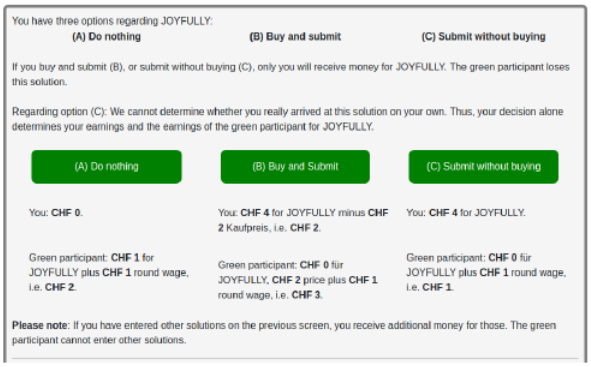
This sheet is printed on both sides.

Figure B.12: User: Buying and Submitting Solutions – *Supplementary Non-rival* Treatment (Handout 3, page 1)

Users read Handout 3 before answering six comprehension questions regarding buying and submitting solutions. Once users have answered all questions correctly, the theft game begins.

Handout 3

You see a screenshot of the screen where you make your decision below. Please read it thoroughly. On the screen, you first click one of the buttons (A), (B) or (C), and then confirm your choice. Once you confirm your choice, you cannot change it anymore.



Examples

In the following examples we assume that you and the green participant receive the following combination of letters:
M F A Y N A L U L

Example 1:
The green participant submits the solution MANFULLY. You submit the solutions FULLY and MANUAL (i.e., you choose option A)
- You receive: CHF 1 for FULLY + CHF 1 for MANUAL = CHF 2.
- The green participant receives: CHF 1 for MANFULLY + a wage of CHF 1 = CHF 2.

Example 2:
The green participant submits the solution MANFULLY. You buy this solution (i.e., you choose option B), and in addition submit the solution MANUALLY.
- You receive: CHF 4 for MANFULLY – CHF 2 purchasing price + CHF 1 for MANUALLY = CHF 6.
- The green participant receives: CHF 0 for MANFULLY + CHF 2 purchasing price + a wage of CHF 1 = CHF 3.

Example 3:
The green participant submits the solution MANFULLY. You submit the solution MANFULLY without buying it (i.e., you choose option C), and in addition submit the solution FULLY.
- You receive: CHF 4 for MANFULLY + CHF 1 for FULLY = CHF 5.
- The green participant receives: CHF 0 for MANFULLY + a wage of CHF 1 = CHF 1.

Please note: The green participant can only submit one solution per round, while you can submit as many as you want.

Please follow the instructions on the screen. More comprehension questions follow.

This sheet is printed on both sides.

Figure B.13: User: Buying and Submitting Solutions – *Supplementary Non-rival* Treatment (Handout 3, page 2)

Users read Handout 3 before answering six comprehension questions regarding buying and submitting solutions. Once users have answered all questions correctly, the theft game begins.

BIBLIOGRAPHY

Abrams, David S., Marianne Bertrand, and Sendhil Mullainathan (2012). "Do Judges Vary in Their Treatment of Race?" In: *Journal of Legal Studies* 41.2, pp. 347–383 (cit. on p. 35).

Aizer, Anna and Joseph J. Doyle (2015). "Juvenile Incarceration, Human Capital, and Future Crime: Evidence from Randomly Assigned Judges." In: *Quarterly Journal of Economics* 130.2, pp. 759–803 (cit. on p. 35).

Altwicker, Tilmann (2011). *Menschenrechtlicher Gleichheitsschutz*. Heidelberg: Springer (cit. on pp. 5, 6).

– (2018). "Statistikbasierte Argumentation im Verwaltungsrecht." In: *Schweizerisches Zentralblatt für Staats- und Verwaltungsrecht* 119.12, pp. 619–642 (cit. on p. 111).

– (2019). "Evidenzbasiertes Recht und Verfassungsrecht." In: *Zeitschrift für Schweizerisches Recht* 138.I, pp. 181–202 (cit. on p. 91).

Amaral-Garcia, Sofia, Nuno Garoupa, and Veronica Grembi (2009). "Judicial Independence and Party Politics in the Kelsenian Constitutional Courts: The Case of Portugal." In: *Journal of Empirical Legal Studies* 6.2, pp. 381–404 (cit. on pp. 31, 33, 112).

Amoos Piguet, Mihaela (2013). "L'élection partisane des juges – une entorse au principe de la séparation des pouvoirs?" In: *Justice* 1 (cit. on p. 25).

Armstrong, Ann, Joseph Mueller, and Tim Syrett (2014). *The Smartphone Royalty Stack: Surveying Royalty Demands for the Components Within Modern Smartphones*. URL: www.wilmerhale.com/en/insights/publications/the-smartphone-royalty-stack (cit. on p. 118).

Arnold, Christian, Benjamin G. Engst, and Thomas Gschwend (2019). *Scaling Lower Court Opinions*. Working Paper (cit. on p. 60).

Ash, Elliott and W. Bentley MacLeod (2015). "Intrinsic Motivation in Public Service: Theory and Evidence from State Supreme Courts." In: *Journal of Law & Economics* 58.4, pp. 863–913 (cit. on p. 35).

Athey, Susan and Scott Stern (2015). "The Nature and Incidence of Software Piracy: Evidence from Windows." In: *Economic Analysis of the Digital Economy*. Ed. by Avi Goldfarb, Shane

M. Greenstein, and Catherine Tucker. Chicago: University of Chicago Press, pp. 443–477 (cit. on pp. 119, 120).

Autor, David H., Nicole Maestas, Kathleen J. Mullen, and Alexander Strand (2015). *Does Delay Cause Decay? The Effect of Administrative Decision Time on the Labor Force Participation and Earnings of Disability Applicants*. Working Paper 20840. National Bureau of Economic Research (cit. on p. 35).

Baer, Susanne (2012). "Equality." In: *The Oxford Handbook of Comparative Constitutional Law*. Ed. by Michel Rosenfeld and Andras Sajo. Oxford: Oxford University Press (cit. on p. 6).

Bar-Gill, Oren and Christoph Engel (2016). "Bargaining in the Absence of Property Rights: An Experiment." In: *Journal of Law & Economics* 59.2, pp. 477–495 (cit. on p. 121).

Barnett, Jonathan (2005). "Shopping for Gucci on Canal Street: Reflections on Status Consumption, Intellectual Property, and the Incentive Thesis." In: *Virginia Law Review* 91, pp. 1381–1423 (cit. on p. 118).

Baumann, Florian and Tim Friehe (2017). "Crime and Punishment under Evidentiary Uncertainty: Laboratory Evidence." In: *Supreme Court Economic Review* 25.1, pp. 65–104 (cit. on p. 121).

Bechtold, Stefan (2013). "Law and Economics of Copyright and Trademarks on the Internet." In: *The New Palgrave Dictionary of Economics*. London: Palgrave Macmillan (cit. on p. 14).

– (2015). "Urheber- und Markenrecht im digitalen Zeitalter." In: *Zeitschrift für Schweizerisches Recht* 134: II, pp. 73–121 (cit. on p. 14).

Bechtold, Stefan, Christopher Buccafusco, and Christopher J. Sprigman (2016). "Innovation Heuristics: Experiments on Sequential Creativity in Intellectual Property." In: *Indiana Law Journal* 91, pp. 1251–1307 (cit. on p. 123).

Bechtold, Stefan, Gabriel Gertsch, and Martin Schonger (2019). *Intrinsic Adherence to Law: Physical versus Intellectual Property*. Working Paper 01/2019. ETH Zurich Center for Law & Economics (cit. on pp. viii, x, xii, 117).

Becker, Gary S. (1968). "Crime and Punishment: An Economic Approach." In: *Journal of Political Economy* 76.2, pp. 169–217 (cit. on p. 119).

Beebe, Barton (2006). "An Empirical Study of the Multifactor Test for Trademark Infringement." In: *California Law Review* 94.6, pp. 1581–1654 (cit. on p. 92).

Berdejo, Carlos and Noam Yuchtman (2013). "Crime, Punishment, and Politics: An Analysis of Political Cycles in Criminal Sen-

tencing." In: *Review of Economics and Statistics* 95.3, pp. 741–756 (cit. on p. 35).

Black, Bernard, Eric French, Jeremy McCauley, and Jae Song (2017). *The Effect of Disability Insurance Receipt on Mortality*. Working Paper (cit. on p. 35).

Bonneau, Chris W., Thomas H. Hammond, Forrest Maltzman, and Paul J. Wahlbeck (2007). "Agenda Control, the Median Justice, and the Majority Opinion on the U.S. Supreme Court." In: *American Journal of Political Science* 51.4, pp. 890–905 (cit. on p. 37).

Boyd, Christina L., Lee Epstein, and Andrew D. Martin (2010). "Untangling the Causal Effects of Sex on Judging." In: *American Journal of Political Science* 54.2, pp. 389–411 (cit. on pp. 33, 37).

Brüggemann, Julia, Paolo Crosetto, Lukas Meub, and Kilian Bizer (2016). "Intellectual Property Rights Hinder Sequential Innovation: Experimental Evidence." In: *Research Policy* 45.10, pp. 2054–2068 (cit. on p. 123).

Brüggemann, Julia and Lukas Meub (2017). "Experimental Evidence on the Effects of Innovation Contests." In: *Information Economics and Policy* 39, pp. 72–83 (cit. on p. 123).

Brunner, Arthur (2021). "Verfassungsrechtliche Vorgaben an die Besetzung gerichtlicher Spruchkörper." In: *Schweizerisches Zentralblatt für Staats- und Verwaltungsrecht* (forthcoming) (cit. on p. 105).

Buccafusco, Christopher and Jonathan S. Masur (2013). "Innovation and Incarceration: An Economic Analysis of Criminal Intellectual Property Law." In: *Southern California Law Review* 87, pp. 275–334 (cit. on p. 119).

Buccafusco, Christopher and Christopher J. Sprigman (2019). "Experiments in Intellectual Property Law." In: *Research Handbook on the Economics of Intellectual Property Law*. Ed. by Ben Depoorter, Peter Menell, and David Schwartz. Cheltenham: Edward Elgar, pp. 579–604 (cit. on pp. 14, 119).

Buonanno, Paolo, Daniel Montolio, and Paolo Vanin (2009). "Does Social Capital Reduce Crime?" In: *Journal of Law & Economics* 52.1, pp. 145–170 (cit. on p. 120).

Burger, Martin (2020). "Richterwahl, Parteienproporz und Parteisteuern." In: *Schweizerisches Zentralblatt für Staats- und Verwaltungsrecht* 121.2, pp. 57–58 (cit. on pp. 25, 76, 114).

Canes-Wrone, Brandice, Tom S. Clark, and Jee-Kwang Park (2012). "Judicial Independence and Retention Elections." In:

Journal of Law, Economics & Organization 28.2, pp. 211–234 (cit. on p. 35).

Carrubba, Clifford J., Matthew Gabel, and Charles Hankla (2008). "Judicial Behavior under Political Constraints: Evidence from the European Court of Justice." In: *American Political Science Review* 102.4, pp. 435–452 (cit. on p. 33).

Casillas, Christopher J., Peter K. Enns, and Patrick C. Wohlfarth (2011). "How Public Opinion Constrains the U.S. Supreme Court." In: *American Journal of Political Science* 55.1, pp. 74–88 (cit. on p. 29).

Charness, Gary and Matthew Rabin (2002). "Understanding Social Preferences with Simple Tests." In: *Quarterly Journal of Economics* 117.3, pp. 817–869 (cit. on p. 122).

Chen, Daniel L. and Jess Eagel (2017). "Can Machine Learning Help Predict the Outcome of Asylum Adjudications?" In: *Proceedings of the 16th Edition of the International Conference on Articial Intelligence and Law*. ICAIL '17. London, United Kingdom: Association for Computing Machinery, pp. 237–240 (cit. on p. 36).

Chen, Daniel L., Tobias J. Moskowitz, and Kelly Shue (2016). "Decision Making Under the Gambler's Fallacy: Evidence from Asylum Judges, Loan Officers, and Baseball Umpires." In: *Quarterly Journal of Economics* 131.3, pp. 1181–1242 (cit. on pp. 36, 92).

Chen, Daniel L., Martin Schonger, and Chris Wickens (2016). "oTree – An Open-source Platform for Laboratory, Online, and Field Experiments." In: *Journal of Behavioral and Experimental Finance* 9, pp. 88–97 (cit. on p. 130).

Chilton, Adam S. and Marin K. Levy (2015). "Challenging the Randomness of Panel Assignment in the Federal Courts of Appeals." In: *Duke Law School* 101, p. 1 (cit. on p. 30).

Clark, Tom S. (2010). *The Limits of Judicial Independence*. Cambridge: Cambridge University Press (cit. on pp. 34, 114).

Clark, Tom S. and Benjamin E. Lauderdale (2010). "Locating Supreme Court Opinions in Doctrine Space." In: *American Journal of Political Science* 54.4, pp. 871–890 (cit. on p. 60).

Coase, Ronald H. (1960). "The Problem of Social Cost." In: *Journal of Law & Economics* 3, pp. 1–44 (cit. on p. 13).

Cohen, Alma and Crystal S. Yang (2019). "Judicial Politics and Sentencing Decisions." In: *American Economic Journal: Economic Policy* 11.1, pp. 160–91 (cit. on p. 33).

Cohen, Julie E. (2015). "Property as Institutions for Resources: Lessons from and for IP." In: *Texas Law Review* 94, pp. 1–57 (cit. on p. 139).

Contreras, Jorge (2019). "Technical Standards, Standard-setting Organizations and Intellectual Property: A Survey of the Literature." In: *Research Handbook on the Economics of Intellectual Property Law, Volume II*. Ed. by Peter Menell and David Schwartz. Vol. II. Cheltenham: Edward Elgar (cit. on p. 118).

Council of Europe (2010). *Judges: independence, efficiency and responsibilities*. Recommendation CM/Rec(2010)12 and explanatory Memorandum. URL: https://rm.coe.int/cmrec-2010-12-on-independence-efficiency-responsibilites-of-judges/16809f007d (cit. on p. 22).

– (2017). *Report on follow-up action by member states*. Recommendation CM/Rec(2010) on judges: Independence, Efficiency and Responsabilities. URL: https://rm.coe.int/1680702ca8 (cit. on p. 24).

– (2018). *European Judicial Systems: Efficiency and Quality of Justice*. CEPEJ Studies no. 26. URL: https://rm.coe.int/rapport-avec-couv-18-09-2018-en/16808def9c (cit. on pp. 23, 24).

Crosetto, Paolo (2010). "To Patent or Not to Patent: A Pilot Experiment on Incentives to Copyright in a Sequential Innovation Setting." In: *Open Source Software: New Horizons – 6th International IFIP WG 2.13 Conference on Open Source Systems, OSS 2010 Notre Dame*. Ed. by Pär Agerfalk, Cornelia Boldyreff, Jesus M. Gonzalez-Barahona, Gregory R. Madey, and John Noll. Springer, pp. 53–72 (cit. on p. 122).

Day, Gregory and Steven Udick (2019). "Patent Law and the Emigration of Innovation." In: *Washington Law Review* 94, pp. 119–170 (cit. on p. 117).

Dedrick, Jason and Kenneth Kraemer (2017). *Intangible Assets and Value Capture in Global Value Chains: the Smartphone Industry*. Economic Research Working Paper 41. World Intellectual Property Organization (cit. on p. 118).

Depoorter, Ben (2019). "Intellectual Property Enforcement Costs." In: *Research Handbook on the Economics of Intellectual Property Law*. Ed. by Ben Depoorter, Peter Menell, and David Schwartz. Cheltenham: Edward Elgar, pp. 407–423 (cit. on pp. 14, 139).

Depoorter, Ben and Alain Van Hiel (2015). "Copyright Alert Enforcement: Six Strikes and Privacy Harms." In: *Columbia Journal of Law and the Arts* 39, pp. 233–277 (cit. on pp. 120, 139).

Depoorter, Ben, Alain Van Hiel, and Sven Vanneste (2011). "Copyright Backlash." In: *Southern California Law Review* 84, pp. 1251–1292 (cit. on p. 139).

Depoorter, Ben and Sven Vanneste (2005). "Norms and Enforcement: The Case Against Copyright Litigation." In: *Oregon Law Review* 84, pp. 1127–1180 (cit. on p. 139).

Dienes, Zoltan (2011). "Bayesian Versus Orthodox Statistics: Which Side Are You On?" In: *Perspectives on Psychological Science* 6, pp. 274–290 (cit. on p. 133).

– (2014). "Using Bayes to Get the Most Out of Non-significant Results." In: *Frontiers in Psychology* 5.781, pp. 1–17 (cit. on p. 133).

Dobbie, Will, Jacob Goldin, and Crystal S. Yang (2018). "The Effects of Pretrial Detention on Conviction, Future Crime, and Employment: Evidence from Randomly Assigned Judges." In: *American Economic Review* 108.2, pp. 201–240 (cit. on pp. 35, 66).

Driver, G. R. and John C. Miles (1952). *The Babylonian Laws Vol. I: Legal Commentary*. Oxford: Clarendon Press (cit. on p. 4).

Dunn, Matt, Levent Sagun, Hale Sirin, and Daniel Chen (2017). "Early Predictability of Asylum Court Decisions." In: *Proceedings of the 16th Edition of the International Conference on Articial Intelligence and Law*. ICAIL '17. London, United Kingdom: Association for Computing Machinery, pp. 233–236 (cit. on p. 36).

Earle, Timothy (2017). "Property in Prehistory." In: *Comparative Property Law*. Ed. by Michele Graziadei and Lionel Smith. Research Handbooks in Comparative Law. Cheltenham: Edward Elgar, pp. 3–25 (cit. on p. 12).

Easterbrook, Frank H. (1990). "Intellectual Property is Still Property." In: *Harvard Journal of Law & Public Policy* 13.1, pp. 108–118 (cit. on p. 139).

Egli, Patricia (2002). *Drittwirkung von Grundrechten: zugleich ein Beitrag zur Dogmatik der grundrechtlichen Schutzpflichten im Schweizer Recht*. Zurich: Schulthess (cit. on p. 13).

Eichenberger, Kurt (1960). *Die richterliche Unabhängigkeit als staatsrechtliches Problem*. Bern: Stämpfli Verlag (cit. on p. 113).

Eichenberger, Reiner and Felix Oberholzer-Gee (1998). "Rational Moralists: The Role of Fairness in Democratic Economic Politics." In: *Public Choice* 94.1, pp. 191–210 (cit. on p. 121).

Ende, Martin van der, Joost Poort, Robert Haffner, Patrick de Bas, Anastasia Yagafarova, Sophie Rohlfs, and Harry van Til (2014). *Estimating Displacement Rates of Copyrighted Content in the EU*.

European Commission. URL: https://publications.europa.eu/en/publication-detail/-/publication/59ea4ec1-a19b-11e7-b92d-01aa75ed71a1 (cit. on p. 118).

Engel, Christoph (2014). "Behavioral Law and Economics: Empirical Methods." In: *The Oxford Handbook of Behavioral Economics and the Law*. Ed. by Eyal Zamir and Doron Teichman. Oxford University Press (cit. on pp. 10, 15).

– (2016). "A Random Shock is not Random Assignment." In: *Economics Letters* 145, pp. 45–47 (cit. on p. 121).

Engel, Christoph and Daniel Nagin (2015). "Who is Afraid of the Stick? Experimentally Testing the Deterrent Effect of Sanction Certainty." In: *Review of Behavioral Economics* 2.4, pp. 405–434 (cit. on p. 121).

Engel, Christoph and Keren Weinshall (2020). *Manna from Heaven for Judges: Judges' Reaction to a Quasi-Random Reduction in Caseload*. Working Paper 2020/1. Discussion Papers of the Max Planck Institute for Research on Collective Goods (cit. on p. 101).

Epstein, Lee, Daniel E. Ho, Gary King, and Jeffrey A. Segal (2005). "The Supreme Court During Crisis: How War Affects Only Non-war Cases." In: *New York University Law Review* 80.1, pp. 1–116 (cit. on p. 29).

Epstein, Lee and Jack Knight (2013). "Reconsidering Judicial Preferences." In: *Annual Review of Political Science* 16.1, pp. 11–31 (cit. on pp. 9, 33, 99).

Epstein, Lee, William M. Landes, and Richard A. Posner (2013). *The Behavior of Federal Judges*. Cambridge: Harvard University Press (cit. on pp. 9, 31, 33).

European Commission (2020). *The rule of law situation in the European Union*. 2020 Rule of Law Report. URL: https://ec.europa.eu/info/sites/info/files/communication_2020_rule_of_law_report_en.pdf (cit. on p. 24).

European Commission for Democracy through Law (2010). *Report on the Independence of the Judicial System - Part I: The Independence of Judges*. URL: www.venice.coe.int/webforms/documents/default.aspx?pdffile=CDL-AD(2010)004-e (cit. on p. 22).

Fabri, Marco and Philip M. Langbroek (2007). "Is There A Right Judge For Each Case? A Comparative Study of Case Assignment In Six European Countries." In: *European Journal of Legal Studies* 1.2, pp. 292–315 (cit. on p. 30).

Faillo, Marco, Matteo Rizzolli, and Stephan Tontrup (2018). "Thou Shalt Not Steal: Taking Aversion with Legal Property

Claims." In: *Journal of Economic Psychology* 71, pp. 88–101 (cit. on p. 121).

Fairphone (2015). *Cost Breakdown of the Fairphone 2*. URL: www.fairphone.com/wp-content/uploads/2015/09/Fairphone2-Cost-Breakdown.pdf (cit. on p. 118).

Falk, Armin and Urs Fischbacher (2002). "Crime in the Lab: Detecting Social Interaction." In: *European Economic Review* 46.4, pp. 859–869 (cit. on p. 121).

Farhang, Sean and Gregory Wawro (2004). "Institutional Dynamics on the U.S. Court of Appeals: Minority Representation under Panel Decision Making." In: *Journal of Law, Economics & Organization* 20.2, pp. 299–330 (cit. on p. 37).

Fast, Anne A., Kristina R. Olson, and Gregory N. Mandel (2017). "Intuitive Intellectual Property Law: A Nationally-representative Test of the Plagiarism Fallacy." In: *PLOS ONE* 12.9, pp. 1–11 (cit. on p. 119).

Feess, Eberhard, Hannah Schildberg-Hörisch, Markus Schramm, and Ansgar Wohlschlegel (2018). "The Impact of Fine Size and Uncertainty on Punishment and Deterrence: Theory and Evidence from the Laboratory." In: *Journal of Economic Behavior & Organization* 149, pp. 58–73 (cit. on p. 121).

Fehr, Ernst and Klaus M. Schmidt (1999). "A Theory of Fairness, Competition, and Cooperation." In: *Quarterly Journal of Economics* 114.3, pp. 817–868 (cit. on p. 122).

Feld, Lars P. and Stefan Voigt (2003). "Economic Growth and Judicial Independence: Cross-country Evidence Using a New Set of Indicators." In: *European Journal of Political Economy* 19.3. Economic Freedom, pp. 497–527 (cit. on p. 26).

Fischbacher, Urs and Franziska Föllmi-Heusi (2013). "Lies in Disguise – An Experimental Study on Cheating." In: *Journal of the European Economic Association* 11.3, pp. 525–547 (cit. on pp. 124, 126).

Fischman, Joshua B. (2011). "Estimating Preferences of Circuit Judges: A Model of Consensus Voting." In: *Journal of Law & Economics* 54.4, pp. 781–809 (cit. on p. 37).

– (2014). "Measuring Inconsistency, Indeterminacy, and Error in Adjudication." In: *American Law & Economics Review* 16.1, pp. 40–85 (cit. on p. 62).

Fischman, Joshua B. and David S. Law (2009). "What is Judicial Ideology, and How Should we Measure it?" In: *Washington University Journal of Law & Policy*. Working Paper Series 29, pp. 133–214 (cit. on p. 62).

Fleming, Piers, Melanie Parravano, and Daniel Zizzo (2016). *To Pay or Not to Pay? Determinants of Unlawful Product Acquisition*. CREATe Working Paper Series 2016/01 (cit. on p. 121).

Fleming, Piers, Steven Watson, Elisavet Patouris, Kimberley Bartholomew, and Daniel Zizzo (2017). "Why Do People File Share Unlawfully? A Systematic Review, Meta-Analysis and Panel Study." In: *Computers in Human Behavior* 72, pp. 535–548 (cit. on p. 120).

Frandsen, Brigham R., Lars J. Lefgren, and Emily C. Leslie (2019). *Judging Judge Fixed Effects*. Working Paper. National Bureau of Economic Research (cit. on p. 66).

Frankenreiter, Jens (2016). "Judges, Politics, and the Law." PhD thesis. Zurich: ETH Zurich (cit. on p. 9).

– (2018). "Are Advocates General Political? An Empirical Analysis of the Voting Behavior of the Advocates General at the European Court of Justice." In: *Review of Law & Economics* 14.1, pp. 1–43 (cit. on p. 33).

Frantziou, Eleni (2015). "The Horizontal Effect of the Charter of Fundamental Rights of the EU: Rediscovering the Reasons for Horizontality." In: *European Law Journal* 21.5, pp. 657–679 (cit. on p. 13).

Freedman, David A. (1991). "Statistical Models and Shoe Leather." In: *Sociological Methodology* 21, pp. 291–313 (cit. on p. 11).

French, Eric and Jae Song (2014). "The Effect of Disability Insurance Receipt on Labor Supply." In: *American Economic Journal: Economic Policy* 6.2, pp. 291–337 (cit. on pp. 35, 66).

Frowein, Jochen A. and Wolfgang Peukert (2009). *Europäische Menschenrechtskonvention: EMRK-Kommentar*. 3rd ed. Kehl am Rhein: N.P. Engel Verlag (cit. on p. 24).

Galasso, Alberto and Mark Schankerman (2014). "Patents and Cumulative Innovation: Causal Evidence from the Courts." In: *Quarterly Journal of Economics* 130.1, pp. 317–369 (cit. on p. 35).

Galetovic, Alexander, Stephan Haber, and Lew Zaretzki (2018). "An Estimate of the Average Cumulative Royalty Yield in the World Mobile Phone Industry: Theory, Measurement and Results." In: *Telecommunications Policy* 42.3, pp. 263–276 (cit. on p. 118).

Garoupa, Nuno, Marian Gili, and Fernando Gomez-Pomar (2012). "Political Influence and Career Judges: An Empirical Analysis of Administrative Review by the Spanish Supreme Court." In: *Journal of Empirical Legal Studies* 9.4, pp. 795–826 (cit. on p. 33).

Garoupa, Nuno and Tom Ginsburg (2009). "Guarding the Guardians: Judicial Councils and Judicial Independence." In: *American Journal of Comparative Law* 57.1, pp. 103–134 (cit. on p. 21).

Garoupa, Nuno, Fernando Gomez-Pomar, and Veronica Grembi (2013). "Judging under Political Pressure: An Empirical Analysis of Constitutional Review Voting in the Spanish Constitutional Court." In: *Journal of Law, Economics & Organization* 29.3, pp. 513–534 (cit. on pp. 33, 112).

Gazal-Ayal, Oren and Raanan Sulitzeanu-Kenan (2010). "Let My People Go: Ethnic In-Group Bias in Judicial Decisions: Evidence from a Randomized Natural Experiment." In: *Journal of Empirical Legal Studies* 7.3, pp. 403–428 (cit. on p. 33).

Gertsch, Gabriel (2021). "Richterliche Unabhängigkeit und Konsistenz am Bundesverwaltungsgericht: eine quantitative Studie." In: *Schweizerisches Zentralblatt für Staats- und Verwaltungsrecht* 122.1, pp. 34–56 (cit. on pp. xi, 59, 75, 89).

Glaser, Andreas (2018). "Die Justiz-Initiative: Besetzung des Bundesgerichts im Losverfahren?" In: *Aktuelle Juristische Praxis* 10, pp. 1251–1260 (cit. on p. 25).

Goel, Rajeev K. and Michael A. Nelson (2009). "Determinants of Software Piracy: Economics, Institutions, and Technology." In: *Journal of Technology Transfer* 34.6, pp. 637–658 (cit. on p. 120).

Gosepath, Stefan (2011). "Equality." In: *The Stanford Encyclopedia of Philosophy*. Ed. by Edward N. Zalta. Spring 2011. Metaphysics Research Lab, Stanford University (cit. on p. 5).

Grabenwarter, Christoph and Katharina Pabel (2016). *Europäische Menschenrechtskonvention*. 6th ed. München: C.H. Beck (cit. on p. 24).

Graham, Stuart and Saurabh Vishnubhakat (2013). "Of Smart Phone Wars and Software Patents." In: *Journal of Economic Perspectives* 27.1, pp. 67–86 (cit. on p. 118).

Gravert, Christina (2013). "How Luck and Performance Affect Stealing." In: *Journal of Economic Behavior & Organization* 93, pp. 301–304 (cit. on p. 124).

GRECO (2019). *Corruption prevention in respect of members of parliament, judges and prosecutors: Compliance Report Switzerland (Fourth Evaluation Round)*. GrecoRC4(2019)2. URL: https://rm.coe.int/fourth-evaluation-round-corruption-prevention-in-respect-of-members-of/168094e860 (cit. on p. 24).

Green, Stuart P. and Matthew B. Kugler (2010). "Community Perceptions of Theft Seriousness: A Challenge to Model Penal

Code and English Theft Act Consolidation." In: *Journal of Empirical Legal Studies* 7.3, pp. 511–537 (cit. on p. 120).
Greiner, Ben (2015). "Subject Pool Recruitment Procedures: Organizing Experiments with ORSEE." In: *Journal of the Economic Science Association* 1, pp. 114–125 (cit. on p. 130).
Grossman, Guy, Oren Gazal-Ayal, Samuel D. Pimentel, and Jeremy M. Weinstein (2016). "Descriptive Representation and Judicial Outcomes in Multiethnic Societies." In: *American Journal of Political Science* 60.1, pp. 44–69 (cit. on p. 33).
Grünstäudl, Georg (2018). *Richterauswahl und Richterausbildung im Systemvergleich: Österreich, Deutschland und die Schweiz seit 1945*. Bern: Stämpfli Verlag (cit. on p. 27).
Guidon, Patrick (2020). "Justiz-Initiative: Eckpunkte eines Gegenentwurfs der Schweizerischen Vereinigung der Richterinnen und Richter." In: *Justice* 4 (cit. on p. 25).
Gunel, Erdogan and James Dickey (1974). "Bayes Factors for Independence in Contingency Tables." In: *Biometrika* 61.3, pp. 545–557 (cit. on p. 133).
Guthrie, Chris, Jeffrey J. Rachlinksi, and Andrew J. Wistrich (2001). "Inside the Judicial Mind." In: *Cornell Law Review* 86.4, pp. 777–830 (cit. on p. 92).
– (2009). "The "Hidden Judiciary": an Empirical Examination of Executive Branch Justice." In: *Duke Law Journal* 58.7, pp. 1477–1530 (cit. on p. 92).
Hall, Bronwyn H. and Dietmar Harhoff (2012). "Recent Research on the Economics of Patents." In: *Annual Review of Economics* 4.1, pp. 541–565 (cit. on p. 14).
Hangartner, Dominik, Benjamin E. Lauderdale, and Judith Spirig (2020). *Inferring Individual Preferences from Group Decisions: Judicial Preference Variation and Aggregation on Collegial Courts*. Working paper (cit. on pp. 28, 29, 45, 54, 62, 63, 65, 66, 70, 77, 80, 86, 100, 103, 104).
Hanretty, Christopher (2012). "Dissent in Iberia: The ideal points of justices on the Spanish and Portuguese Constitutional Tribunals." In: *European Journal of Political Research* 51.5, pp. 671–692 (cit. on pp. 31, 33).
– (2020). *A Court of Specialists: Judicial Behaviour on the UK Supreme Court*. Oxford: Oxford University Press (cit. on p. 34).
Hanssen, Andrew F. (2004). "Is There a Politically Optimal Level of Judicial Independence?" In: *American Economic Review* 94.3, pp. 712–729 (cit. on p. 34).

Harbaugh, William T., Naci Mocan, and Michael S. Visser (2013). "Theft and Deterrence." In: *Journal of Labor Research* 34.4, pp. 389–407 (cit. on p. 121).

Harris, Allison P. and Maya Sen (2019). "Bias and Judging." In: *Annual Review of Political Science* 22.1, pp. 241–259 (cit. on pp. 9, 33).

Hayo, Bernd and Stefan Voigt (2007). "Explaining de facto Judicial Independence." In: *International Review of Law and Economics* 27.3, pp. 269–290 (cit. on p. 26).

– (2019). "The Long-term Relationship Between de jure and de facto Judicial Independence." In: *Economics Letters* 183, p. 108603 (cit. on p. 26).

Heller, Kevin Jon and Markus D. Dubber, eds. (2011). *The Handbook of Comparative Criminal Law*. Stanford: Stanford University Press (cit. on p. 13).

Hergueux, Jêrome and Dariusz Jemielniak (2019). "Should Digital Files be Considered a Commons? Copyright Infringement in the Eyes of Lawyers." In: *Information Society* 35.4, pp. 198–215 (cit. on p. 119).

Ho, Daniel E. and Kevin M. Quinn (2010). "How Not to Lie with Judicial Votes: Misconceptions, Measurement, and Models." In: *California Law Review* 98, pp. 813–876 (cit. on p. 62).

Hoffman, Elizabeth, Kevin McCabe, Shachat Keith, and Vernon Smith (1994). "Preferences, Property Rights, and Anonymity in Bargaining Games." In: *Games and Economic Behavior* 7.3, pp. 346–380 (cit. on p. 121).

Holmes, Oliver Wendell (1897). "The Path of the Law." In: *Harvard Law Review* 10, p. 457 (cit. on p. 9).

Hönnige, Christoph (2009). "The Electoral Connection: How the Pivotal Judge Affects Oppositional Success at European Constitutional Courts." In: *West European Politics* 32.5, pp. 963–984 (cit. on pp. 23, 33, 112).

Ishay, Micheline R. (2008). *The History of Human Rights*. Berkeley: University of California Press (cit. on pp. 4, 5, 12).

Jamil, Tahira, Alexander Ly, Richard D. Morey, Jonathon Love, Maarten Marsman, and Eric-Jan Wagenmakers (2017). "Default "Gunel and Dickey" Bayes Factors for Contingency Tables." In: *Behavior Research Methods* 49, pp. 638–652 (cit. on p. 133).

Johns, Claude H. W. (1926). *The Oldest Code of Laws in the World: The Code of Laws Promulgated by Hammurabi, King of Babylon, B.C. 2285-2242*. Edinburgh: T. & T. Clark (cit. on p. 4).

Kahneman, Daniel, Jack Knetsch, and Richard Thaler (1986). "Fairness as a Constraint on Profit Seeking: Entitlements in the Market." In: *American Economic Review* 76.4, pp. 728–41 (cit. on p. 122).

Kahneman, Daniel and Amos Tversky (1973). "On the Psychology of Prediction." In: *Psychological Review* 80.4, pp. 237–251 (cit. on p. 92).

Kajackaite, Agne and Uri Gneezy (2017). "Incentives and Cheating." In: *Games and Economic Behavior* 102, pp. 433–444 (cit. on p. 124).

Kang, Michael S. and Joanna M. Shepherd (2015). "Partisanship in State Supreme Courts: The Empirical Relationship between Party Campaign Contributions and Judicial Decision Making." In: *Journal of Legal Studies* 44.1, pp. 161–185 (cit. on p. 35).

Kastellec, Jonathan P. (2013). "Racial Diversity and Judicial Influence on Appellate Courts." In: *American Journal of Political Science* 57.1, pp. 167–183 (cit. on p. 37).

Kettner, Sara E. and Smarandita Ceccato (2014). *Framing Matters in Gender-paired Dictator Games*. Working Paper 557. University of Heidelberg, Department of Economics (cit. on p. 121).

Kettner, Sara E. and Israel Waichman (2016). "Old Age and Prosocial Behavior: Social Preferences or Experimental Confounds?" In: *Journal of Economic Psychology* 53, pp. 118–130 (cit. on p. 121).

Khadjavi, Menusch (2015). "On the Interaction of Deterrence and Emotions." In: *Journal of Law, Economics & Organization* 31.2, pp. 287–319 (cit. on p. 121).

– (2018). "Deterrence Works for Criminals." In: *European Journal of Law & Economics* 46.1, pp. 165–178 (cit. on p. 121).

Kiener, Regina (2001). *Richterliche Unabhängigkeit: Verfassungsrechtliche Anforderungen an Richter und Gerichte*. Bern: Stämpfli Verlag (cit. on pp. 21, 25, 42–44).

Klaushofer, Reinhard (2017). "Probleme bei der Ermittlung des Sachverhaltes." In: *Das Asylrecht als Experimentierfeld*. Ed. by Franz Merli and Magdalena Poschl. Zürich: Dike, pp. 147–174 (cit. on p. 91).

Klerman, Daniel (1999). "Nonpromotion and Judicial Independence: Judicial Independence and Accountability Symposium: Commentary." In: *Southern California Law Review* 72, p. 455 (cit. on p. 23).

Kneer, Anne (2020). *Das Asylverfahren als Spezialfall: die spezifischen Eigenschaften des Asylverfahrens als Erklärung für die*

Abweichungenen vom Allgemeinen Verwaltungsverfahren. Zürich: Dike (cit. on p. 91).

Kornhauser, Lewis A. (1992). "Modeling Collegial Courts. II. Legal Doctrine." In: *Journal of Law, Economics & Organization* 8.3, pp. 441–470 (cit. on pp. 60, 62).

Kornhauser, Lewis A. and Lawrence G. Sager (1986). "Unpacking the Court." In: *Yale Law Journal* 96, pp. 441–470 (cit. on pp. 22, 45).

Krawczyk, Michal, Joanna Tyrowicz, Anna Kukla-Gryz, and Wojciech Hardy (2015). "Piracy is Not Theft – Is it Just Students Who Think so?" In: *Journal of Behavioral and Experimental Economics* 54, pp. 32–39 (cit. on p. 119).

Krupka, Erin L. and Roberto A. Weber (2013). "Identifying Social Norms Using Coordination Games: Why Does Dictator Game Sharing Vary?" In: *Journal of the European Economic Association* 11.3, pp. 495–524 (cit. on p. 128).

Ladner, Andreas (2017). "Politische Parteien." In: *Handbuch der Schweizer Politik*. Ed. by Peter Knoepfel, Yannis Papadopoulos, Pascal Sciarini, Adrian Vatter, and Silja Häusermann. Zürich: NZZ Libro, pp. 361–390 (cit. on p. 76).

Landes, William M. and Richard A. Posner (2003). *The Economic Structure of Intellectual Property Law*. Cambridge: Harvard University Press (cit. on p. 117).

LaRose, Robert and Junghyun Kim (2007). "Share, Steal, or Buy? A Social Cognitive Perspective of Music Downloading." In: *Cyberpsychology & Behavior* 10.2, pp. 267–277 (cit. on p. 120).

LaRose, Robert, Ying Ju Lai, Ryan Lange, Bradley Love, and Yuehua Wu (2005). "Sharing or Piracy? An Exploration of Downloading Behavior." In: *Journal of Computer-Mediated Communication* 11.1, pp. 1–21 (cit. on p. 120).

Larsson, Olof and Daniel Naurin (2016). "Judicial Independence and Political Uncertainty: How the Risk of Override Affects the Court of Justice of the EU." In: *International Organization* 70.2, pp. 377–408 (cit. on p. 33).

Lauderdale, Benjamin E. and Tom S. Clark (2012). "The Supreme Court's Many Median Justices." In: *American Political Science Review* 106.4, pp. 847–866 (cit. on p. 62).

Lawless, Robert M., Jennifer K. Robbennolt, and Thomas S. Ulen (2016). *Empirical Methods in Law*. 2nd ed. New York: Wolters Kluwer (cit. on pp. 8, 10, 11, 16).

Lax, Jeffrey R. (2011). "The New Judicial Politics of Legal Doctrine." In: *Annual Review of Political Science* 14.1, pp. 131–157 (cit. on p. 60).

Leiter, Brian (2010). "American Legal Realism." In: *A Companion to Philosophy of Law and Legal Theory*. Ed. by Dennis Patterson. Blackwell, pp. 249–266 (cit. on p. 9).

Lemley, Mark A. (2014). "Taking the Regulatory Nature of IP Seriously." In: *Texas Law Review* 92, pp. 107–119 (cit. on p. 139).

Levitt, Steven D. and John A. List (2007). "What Do Laboratory Experiments Measuring Social Preferences Reveal About the Real World?" In: *Journal of Economic Perspectives* 21.2, pp. 153–174 (cit. on pp. 15, 121, 137, 138).

Li, Xigen and Nico Nergadze (2009). "Deterrence Effect of Four Legal and Extralegal Factors on Online Copyright Infringement." In: *Journal of Computer-Mediated Communication* 14.2, pp. 307–327 (cit. on p. 120).

Liao, Chechen, Hong-Nan Lin, and Yu-Ping Liu (2010). "Predicting the Use of Pirated Software: A Contingency Model Integrating Perceived Risk with the Theory of Planned Behavior." In: *Journal of Business Ethics* 91.2, pp. 237–252 (cit. on p. 120).

Lienhard, Andreas and Daniel Kettiger (2009). "Geschäftslastbewirtschaftung bei Gerichten: Methodik, Erfahrungen und Ergebnisse einer Studie bei den kantonalen Verwaltungs- und Sozialversicherungsgerichten." In: *Schweizerisches Zentralblatt für Staats- und Verwaltungsrecht* 110.8, pp. 413–441 (cit. on p. 28).

Lienhard, Andreas, Daniel Kettiger, and Hanspeter Uster (2015). "Combining a Weighted Caseload Study with an Organizational Analysis in Courts: First Experiences with a New Methodological Approach in Switzerland." In: *International Journal for Court Administration* 7.1, pp. 27–36 (cit. on p. 28).

Lijphart, Arend (1999). *Patterns of Democracy*. 2nd ed. New Haven: Yale University Press (cit. on p. 42).

Lim, Claire S. H., Jr. Snyder James M., and David Stromberg (2015). "The Judge, the Politician, and the Press: Newspaper Coverage and Criminal Sentencing across Electoral Systems." In: *American Economic Journal: Applied Economics* 7.4, pp. 103–135 (cit. on p. 28).

Linder, Wolf and Sean Mueller (2017). *Schweizerische Demokratie*. 4th ed. Bern: Haupt Verlag (cit. on pp. 42, 76, 77).

List, John A. (2007). "On the Interpretation of Giving in Dictator Games." In: *Journal of Political Economy* 115.3, pp. 482–493 (cit. on p. 138).

Livschitz, Mark (2002). *Die Richterwahl im Kanton Zürich: Ihre Faktizität am Obergericht und an den Bezirksgerichten als verfassungsrechtliches Problem*. Zürich: Schulthess (cit. on p. 27).

Ludewig, Revital, Juan LaLlave, and Bianca Gross-De Matteis (2015). "Einflussfaktoren bei Entscheidungen von Staatsanwälten: Zwischen Urteil und Vorurteil." In: *Schweizerische Zeitschrift für Kriminologie* 2, pp. 29–44 (cit. on p. 28).

Luminati, Michele and Filippo Contarini (2019). "Das Richterbild in der Schweiz: richterliche Unabhängigkeit auf dem Prüfstand." In: *Zeitschrift für Schweizerisches Recht* 138.II, pp. 201–289 (cit. on pp. 25, 27, 43, 44).

– (2021). "Die Bundesrichterwahlen im Wandel: "Kampfwahlen", "Denkzettel" und andere Eigentümlichkeiten." In: *Schweizerisches Zentralblatt für Staats- und Verwaltungsrecht* (forthcoming) (cit. on pp. 27, 41, 43, 98, 113).

Lysonski, Steven and Srinivas Durvasula (2008). "Digital Piracy of MP3s: Consumer and Ethical Predispositions." In: *Journal of Consumer Marketing* 25.3, pp. 167–178 (cit. on p. 119).

Maestas, Nicole, Kathleen J. Mullen, and Alexander Strand (2013). "Does Disability Insurance Receipt Discourage Work? Using Examiner Assignment to Estimate Causal Effects of SSDI Receipt." In: *American Economic Review* 103.5, pp. 1797–1829 (cit. on pp. 35, 36).

Mahon, Pascal and Roxane Schaller (2013). "Le système de réélection des juges: évidence démocratique ou épée de Damoclès?" In: *Justice* 1 (cit. on p. 25).

Malecki, Michael (2012). "Do ECJ judges all speak with the same voice? Evidence of divergent preferences from the judgments of chambers." In: *Journal of European Public Policy* 19.1, pp. 59–75 (cit. on pp. 31, 33).

Mallinson, Keith (2015). "Smartphone Revolution: Technology Patenting and Licensing Fosters Innovation, Market Entry, and Exceptional Growth." In: *IEEE Consumer Electronics Magazine* 4, pp. 60–66 (cit. on p. 118).

Maltzman, Forrest and Paul J. Wahlbeck (2004). "A Conditional Model of Opinion Assignment on the Supreme Court." In: *Political Research Quarterly* 57.4, pp. 551–563 (cit. on p. 61).

Mandel, Gregory N., Anne A. Fast, and Kristina R. Olson (2015). "Intellectual Property Law's Plagiarism Fallacy." In: *Brigham Young University Law Review*, pp. 915–984 (cit. on p. 119).

Manesh, Mohsen (2006). "The Immorality of Theft, the Amorality of Infringement." In: *Stanford Technology Law Review*, p. 5 (cit. on p. 118).

Marmor, Andrei (2007). *Law in the Age of Pluralism*. Ed. by Kimberley A. Neuendorf. Oxford: Oxford University Press (cit. on p. 22).

Marshaw, Jerry L., Charles J. Goetz, Frank I. Goodman, Warren F. Schwartz, Paul R. Verkuil, and Milton F. Carrow (1978). *Social Security Hearings and Appeals: A Study of the Social Security Administration Hearing System*. Lexington Books (cit. on p. 35).

Martén, Linna (2015). *Political Bias in Court? Lay Judges and Asylum Appeals*. Working Paper Series 2015:2. Uppsala University, Department of Economics (cit. on p. 30).

Marti, Kathrin (2010). "Die Gerichtskommission der Vereinigten Bundesversammlung." In: *Justice* 1 (cit. on pp. 42, 43).

Mastronardi, Philippe (2009). *Angewandte Rechtstheorie*. Bern: Haupt Verlag (cit. on p. 9).

McAtee, Andrea and Kevin T. McGuire (2007). "Lawyers, Justices, and Issue Salience: When and How Do Legal Arguments Affect the U.S. Supreme Court?" In: *Law & Society Review* 41.2, pp. 259–278 (cit. on p. 29).

Melton, James and Tom Ginsburg (2014). "Does De Jure Judicial Independence Really Matter? A Reevaluation of Explanations for Judicial Independence." In: *Journal of Law and Courts* 2.2, pp. 187–217 (cit. on p. 26).

Merges, Robert P. (2018). "What Kind of Rights Are Intellectual Property Rights?" In: *The Oxford Handbook on Intellectual Property Law*. Ed. by Rochelle C. Dreyfuss and Justine Pila. Oxford University Press, pp. 57–94 (cit. on p. 139).

– (2019). "Philosophical Foundations of IP Law." In: *Research Handbook on the Economics of Intellectual Property Law*. Ed. by Ben Depoorter, Peter Menell, and David Schwartz. Cheltenham: Edward Elgar, pp. 72–97 (cit. on p. 117).

Merrill, Thomas W. and Henry E. Smith (2001). "What Happened to Property in Law and Economics?" In: *Yale Law Journal* 111.2, pp. 357–398 (cit. on p. 14).

Metz, Markus (2012). "5 Jahre Bundesverwaltungsgericht – ein Erfolg der Justizreform?" In: *Basler Juristische Mitteilungen*, pp. 237–254 (cit. on p. 99).

– (2013). "Koordination der Rechtsprechung und Ermessenskontrolle am Bundesverwaltungsgericht." In: *Brennpunkte im Verwaltungsprozess*. Ed. by Isabelle Häner and Bernhard Waldmann. Zürich: Schulthess, pp. 125–132 (cit. on p. 101).

Mikuli, Piotr (2018). "Separation of Powers." In: *Max Planck Encyclopedia of ComparativeConstitutional Law*. Ed. by Rainer

Grote, Frauke Lachenmann, and Rüdiger Wolfrum. March 2018. Oxford University Press (cit. on p. 5).
Montesquieu (1748). *The Spirit of Laws* (cit. on p. 5).
Morey, Richard D., Jeffrey N. Rouder, Tahira Jamil, Simon Urbanek, Karl Forner, and Alexander Ly (2018). *BayesFactor: Computation of Bayes Factors for Common Designs*. R package version 0.9.12-4.2 (cit. on p. 133).
Morrison, Fred LaMont (1967). *Judicial Process in Switzerland: a Study of the Swiss Federal Court*. Ann Arbor: University Microfilms (cit. on p. 27).
Moser, Petra (2019). "Patents and Innovation in Economic History." In: *Research Handbook on the Economics of Intellectual Property Law*. Ed. by Ben Depoorter, Peter Menell, and David Schwartz. Cheltenham: Edward Elgar, pp. 462–481 (cit. on p. 14).
Müller, Lydia Friederike (2015). *Richterliche Unabhängigkeit und Unparteilichkeit nach Art. 6 EMRK: Anforderungen der Europäischen Menschenrechtskonvention und spezifische Probleme in den östlichen Europaratsstaaten*. Berlin: Duncker & Humblot (cit. on pp. 6, 7, 24).
Mustard, David B. (2001). "Racial, Ethnic, and Gender Disparities in Sentencing: Evidence from the U.S. Federal Courts." In: *Journal of Law & Economics* 44.1, pp. 285–314 (cit. on p. 35).
Paik, Yongwook and Feng Zhu (2016). "The Impact of Patent Wars on Firm Strategy: Evidence from the Global Smartphone Industry." In: *Organization Science* 27.6, pp. 1397–1416 (cit. on p. 118).
Pecenka, Clinton J. and Godfrey Kundhlande (2013). "Theft in South Africa: An Experiment to Examine the Influence of Racial Identity and Inequality." In: *Journal of Development Studies* 49.5, pp. 737–753 (cit. on p. 121).
Peresie, Jennifer L. (2005). "Female Judges Matter: Gender and Collegial Decisionmaking in the Federal Appellate Courts." In: *Yale Law Journal* 114.7, pp. 1759–1790 (cit. on p. 37).
Peters, Anne and Tilmann Altwicker (2012). *Europäische Menschenrechtskonvention: Mit rechtsvergleichenden Bezügen zum deutschen Grundgesetz*. München: C.H. Beck (cit. on p. 24).
Philippe, Arnaud and Aurélie Ouss (2018). ""No Hatred or Malice, Fear or Affection": Media and Sentencing." In: *Journal of Political Economy* 126.5, pp. 2134–2178 (cit. on p. 29).
Plessis, Paul du (2015). "Property." In: *The Cambridge Companion to Roman Law*. Ed. by David Johnston. Cambridge Companions

to the Ancient World. Cambridge University Press, pp. 175–198 (cit. on p. 12).

Poltrack, Adam (2013). *Pirated TV: How It Works and Why It Can't Be Stopped*. Digital Trends. URL: www.digitaltrends.com/home-theater/pirated-tv-can-and-should-it-be-stopped/ (cit. on pp. 118, 130).

Posner, Richard A. (1993). "What Do Judges and Justices Maximize? (The Same Thing Everybody Else Does)." In: *Supreme Court Economic Review* 3, pp. 1–41 (cit. on pp. 9, 100).

– (2005). "Intellectual Property: The Law and Economics Approach." In: *Journal of Economic Perspectives* 19, pp. 57–73 (cit. on p. 14).

– (2009). *How Judges Think*. Harvard University Press (cit. on p. 100).

– (2011). *Economic Analysis of Law*. 8th ed. New York: Aspen Publishers (cit. on p. 14).

Pound, Roscoe (1910). "Law in Books and Law in Action." In: *American Law Review* 12.1, pp. 12–36 (cit. on pp. 9, 26).

Quidt, Jonathan de, Johannes Haushofer, and Christopher Roth (2018). "Measuring and Bounding Experimenter Demand." In: *American Economic Review* 108.11, pp. 3266–3302 (cit. on p. 121).

Rachlinksi, Jeffrey J., Andrew J. Wistrich, and Chris Guthrie (2013). "Altering Attention in Adjudication." In: *UCLA Law Review* 60.6, pp. 1586–1618 (cit. on p. 92).

Rachlinski, Jeffrey J. and Andrew J. Wistrich (2017). "Judging the Judiciary by the Numbers: Empirical Research on Judges." In: *Annual Review of Law and Social Science* 13.1, pp. 203–229 (cit. on pp. 9, 33, 92).

Racioppi, Giuliano (2017). "Die moderne "Paulette": Mandatssteuern von Richterinnen und Richtern." In: *Justice* 3 (cit. on pp. 23, 24).

Al-Rafee, Sulaiman and Timothy P. Cronan (2006). "Digital Piracy: Factors That Influence Attitude toward Behavior." In: *Journal of Business Ethics* 63, pp. 237–259 (cit. on p. 120).

Ramji-Nogales, Jaya, Andrew I. Schoenholtz, and Philip G. Schrag (2007). "Refugee Roulette: Disparities in Asylum Adjudication." In: *Stanford Law Review* 60.2, pp. 295–412 (cit. on pp. 31, 36).

Ramseyer, J. Mark and Eric B. Rasmusen (2001). "Why Are Japanese Judges so Conservative in Politically Charged Cases?" In: *American Political Science Review* 95.2, pp. 331–344 (cit. on p. 99).

Randazzo, Kirk A. (2008). "Strategic Anticipation and the Hierarchy of Justice in U.S. District Courts." In: *American Politics Research* 36.5, pp. 669–693 (cit. on p. 99).

Raselli, Niccolò (2011). "Richterliche Unabhängigkeit." In: *Justice* 3 (cit. on p. 25).

Rehaag, Sean (2008). "Troubling Patterns in Canadian Refugee Adjudication." In: *Ottowa Law Review* 39.2, pp. 335–365 (cit. on p. 36).

– (2012). "Judicial Review of Refugee Determinations: The Luck of the Draw?" In: *Queen's Law Journal* 38.1, pp. 1–58 (cit. on p. 36).

Rehavi, M. Marit and Sonja B. Starr (2014). "Racial Disparity in Federal Criminal Sentences." In: *Journal of Political Economy* 122.6, pp. 1320–1354 (cit. on p. 35).

Reichel, Hans (1919). *Bestellung und Stellung der Richter in der Schweiz und im künftigen Deutschland*. Tübingen: Mohr (cit. on pp. 27, 144).

Rhode, Deborah L. (2019). *Cheating: Ethics in Everyday Life*. Oxford: Oxford University Press (cit. on p. 118).

Rios-Figueroa, Julio and Jeffrey K. Staton (2012). "An Evaluation of Cross-National Measures of Judicial Independence." In: *The Journal of Law, Economics, and Organization* 30.1, pp. 104–137 (cit. on p. 26).

Rizzolli, Matteo and Luca Stanca (2012). "Judicial Errors and Crime Deterrence: Theory and Experimental Evidence." In: *Journal of Law & Economics* 55.2, pp. 311–338 (cit. on p. 121).

Rothmayr Allison, Christina and Frédéric Varone (2017). "Justiz." In: *Handbuch der Schweizer Politik*. Ed. by Peter Knoepfel, Yannis Papadopoulos, Pascal Sciarini, Adrian Vatter, and Silja Häusermann. Zürich: NZZ Libro, pp. 219–241 (cit. on p. 28).

Ryo, Emily (2016). "Detained: A Study of Immigration Bond Hearings." In: *Law & Society Review* 50.1, pp. 117–153 (cit. on p. 36).

Salzberger, Eli and Paul Fenn (1999). "Judicial Independence: Some Evidence from the English Court of Appeal." In: *Journal of Law & Economics* 42.2, pp. 831–847 (cit. on p. 99).

Schabas, William A. (2015). *The European Convention on Human Rights: A Commentary*. Oxford: Oxford University Press (cit. on p. 24).

Schanzenbach, Max M. and Emerson H. Tiller (2007). "Strategic Judging under the U.S. Sentencing Guidelines: Positive Political Theory and Evidence." In: *Journal of Law, Economics & Organization* 23.1, pp. 24–56 (cit. on p. 99).

Schildberg-Hörisch, Hannah and Christina Strassmair (2012). "An Experimental Test of the Deterrence Hypothesis." In: *Journal of Law, Economics & Organization* 28.3, pp. 447–459 (cit. on p. 121).

Schindler, Benjamin (2003). "Wer wacht über die Wächter des Rechtsstaates? Das Bundesgericht im Spannungsfeld zwischen Unabhängigkeit und Verantwortlichkeit." In: *Aktuelle Juristische Praxis*, pp. 1017–1025 (cit. on p. 43).

– (2017). "Das Asylrecht als Experimentierfeld: Der Blick aus der Schweiz." In: *Das Asylrecht als Experimentierfeld*. Ed. by Franz Merli and Magdalena Poschl. Dike, pp. 189–204 (cit. on p. 91).

Schuppisser, Alexander (2007). "Vorausbestimmte Spruchkörbesetzung am Bundesverwaltungsgericht." In: *Justice* 2 (cit. on p. 55).

Schweizer, Mark (2005). *Kognitive Täuschungen vor Gericht: eine empirische Studie*. Zürich (cit. on p. 28).

– (2015). *Beweiswürdigung und Beweismass: Rationalität und Intuition*. Tübingen: Mohr Siebeck (cit. on pp. 28, 92).

Schwenkel, Christof (2016). *Der Einfluss kantonaler Justizsysteme auf das Vertrauen der Bevölkerung in die Gerichte*. Bern: Stämpfli Verlag (cit. on pp. 27, 114).

Scott, Ryan W. (2010). "Inter-Judge Sentencing Disparity After 'Booker': A First Look." In: *Stanford Law Review* 63.1, pp. 1–66 (cit. on p. 35).

Segal, Jeffrey A. and Harold J. Spaeth (1993). *The Supreme Court and the Attitudinal Model*. New York: Cambridge University Press (cit. on p. 9).

– (2002). *The Supreme Court and the Attitudinal Model Revisited*. New York: Cambridge University Press (cit. on p. 9).

Seville, Catherine (2018). "The Emergence and Development of Intellectual Property Law in Western Europe." In: *The Oxford Handbook of Intellectual Property Law*. Ed. by Rochelle C. Dreyfuss and Justine Pila. Oxford: Oxford University Press, pp. 171–197 (cit. on pp. 13, 119).

Shapiro, Martin (1981). *Courts: A Comparative and Political Analysis*. Chicago/London: The University of Chicago Press (cit. on p. 21).

Shaw, Alex, Vivian Li, and Kristina R. Olson (2012). "Children Apply Principles of Physical Ownership to Ideas." In: *Cognitive Science* 36, pp. 1383–1403 (cit. on p. 119).

Shayo, Moses and Asaf Zussman (2011). "Judicial Ingroup Bias in the Shadow of Terrorism." In: *Quarterly Journal of Economics* 126.3, p. 1447 (cit. on pp. 28, 33).

Shepherd, Joanna M. (2009). "The Influence of Retention Politics on Judges' Voting." In: *Journal of Legal Studies* 38.1, pp. 169–206 (cit. on p. 35).

Sidak, J. Gregory (2016). "What Aggregate Royalty Do Manufacturers of Mobile Phones Pay to License Standard-Essential Patents?" In: *Criterion: Journal on Innovation* 1, pp. 701–719 (cit. on p. 118).

Smith, Henry E. (2007). "Intellectual Property as Property: Delineating Entitlements in Information." In: *Yale Law Journal* 116, pp. 1742–1822 (cit. on p. 139).

– (2017). "Economics of Property Law." In: *The Oxford Handbook of Law and Economics: Volume 2: Private and Commercial Law*. Ed. by Franceso Parisi. Oxford University Press (cit. on p. 14).

Solow, Robert M. (1987). *Growth Theory and After*. Nobel Prize Lecture. URL: www.nobelprize.org/prizes/economic-sciences/1987/solow/lecture/ (cit. on p. 117).

Sonderegger, Linus and Anne Kneer (2016). "Das asylrechtliche Beschwerdeverfahren: Unter besonderer Berücksichtigung des Grundsatzes der Schriftlichkeit." In: *Jusletter* 14. März 2016 (cit. on pp. 45, 53).

Spaeth, Harold J. and Jeffrey A. Segal (1999). *Majority Rule or Minority Will: Adherence to Precedent on the U.S. Supreme Court*. Cambridge: Cambridge University Press (cit. on p. 29).

Spamann, Holger, Lars Klöhn, Christophe Jamin, Vikramaditya S. Khanna, John Zhuang Liu, Pavan K. Mamidi, Alexander Morell, and Ivan Reider (2020). *Judges in the Lab: No Precedent Effects, No Common/Civil Law Differences*. Working Paper 1044. Harvard Law School John M. Olin Center Discussion Paper (cit. on p. 96).

Spirig, Judith (2020). *Bad News for Asylum Seekers: The Impact of Issue Salience on Judicial Decision Making*. Working paper (cit. on pp. 28, 96).

Spriggs, James F., Forrest Maltzman, and Paul J. Wahlbeck (1999). "Bargaining on the U.S. Supreme Court: Justices' Responses to Majority Opinion Drafts." In: *The Journal of Politics* 61.2, pp. 485–506 (cit. on p. 29).

Sprigman, Christopher J. (2017). "Copyright and Creative Incentives: What We Know (And Don't)." In: *Houston law Review* 55.2, pp. 451–478 (cit. on p. 14).

Stake, Jeffrey Evans (2004). "The Property 'Instinct'." In: *Philosophical Transactions of the Royal Society of London. Series B: Biological Sciences* 359.1451, pp. 1763–1774 (cit. on pp. 12, 119).

Steiner, Jürg (2009). "Interview mit Thomas Stadelmann, 'Rechtsstaatlichkeit ist als Standortfaktor wichtiger als das Bankgeheimnis'." In: *Justice* 4 (cit. on p. 25).

Stith, Kate A. and Jose A. Cabranes (1998). *Fear of Judging: Sentencing Guidelines in the Federal Courts*. Chicago: University of Chicago Press (cit. on p. 35).

Sunstein, Cass R., David Schkade, Lisa M. Ellman, and Andres Sawicki (2006). *Are Judges Political? An Empirical Analysis of the Federal Judiciary*. Washington, DC: Brookings Institution Press (cit. on pp. 9, 29, 31, 37).

Swart, Mia (2019). "Independence of the Judiciary." In: *Max Planck Encyclopedia of ComparativeConstitutional Law*. Ed. by Rainer Grote, Frauke Lachenmann, and Rüdiger Wolfrum. March 2019. Oxford University Press (cit. on p. 5).

Taal, Sandra (2016). *Working separately together: A quantitative study into the knowledge sharing behaviour of judges*. Bern: Stämpfli Verlag (cit. on p. 28).

Tanquerel, Thierry, Frédéric Varone, Arun Bolkensteyn, and Karin Byland (2011). *Le contentieux administratif judiciaire en Suisse: une analyse empirique*. Geneva: Schulthess (cit. on pp. 28, 47, 99).

Thomas, Robert (2006). "Assessing the Credibility of Asylum Claims: EU and UK Approaches Examined." In: *European Journal of Migration and Law* 8.1, pp. 79–96 (cit. on p. 91).

Tippenhauer, Laurent (2010). "Les Élites Judiciares Suisses: Des Commissions de Recours Fédérales au Tribunal Administratif Fédéral, entre Changement et Continuité." MA thesis. Université de Genève (cit. on p. 27).

Trechsel, Stefan (2006). *Human Rights in Criminal Proceedings*. Oxford: Oxford University Press (cit. on p. 6).

Tyler, Tom R. (1997). "Compliance with the Intellectual Property Laws: A Psychological Perspective." In: *New York University Journal of International Law & Politics* 29, pp. 219–235 (cit. on pp. 118, 139).

Unah, Isaac and Ange-Marie Hancock (2006). "U.S. Supreme Court Decision Making, Case Salience, and the Attitudinal Model." In: *Law & Policy* 28.3, pp. 295–320 (cit. on p. 29).

Van Houweling, Molly Shaffer (2019). "Intellectual Property as Property." In: *Research Handbook on the Economics of Intellectual*

Property Law. Ed. by Ben Depoorter, Peter Menell, and David Schwartz. Cheltenham: Edward Elgar, pp. 2–25 (cit. on p. 139).

Vanberg, Georg (2005). *The Politics of Constitutional Review in Germany*. Cambridge: Cambridge University Press (cit. on pp. 34, 114).

Vatter, Adrian and Maya Ackermann (2014). "Richterwahlen in der Schweiz: Eine empirische Analyse der Wahlen an das Bundesgericht von 1848 bis 2013." In: *Zeitschrift für Schweizerisches Recht* 133.5, pp. 517–537 (cit. on pp. 27, 41).

Vile, Maurice John Crawley (1967). *Constitutionalism and the Separation of Powers*. Oxford: Oxford University Press (cit. on p. 5).

Voeten, Erik (2007). "The Politics of International Judicial Appointments: Evidence from the European Court of Human Rights." In: *International Organization* 61.4, pp. 669–701 (cit. on pp. 31, 33).

Voigt, Stefan and Jerg Gutmann (2020). "Judicial Independence in the EU: a puzzle." In: *European Journal of Law and Economics* 49, pp. 83–100 (cit. on p. 114).

Voigt, Stefan, Jerg Gutmann, and Lars P. Feld (2015). "Economic growth and judicial independence, a dozen years on: Cross-country evidence using an updated Set of indicators." In: *European Journal of Political Economy* 38, pp. 197–211 (cit. on p. 26).

Waldfogel, Joel (1998). "Does Inter-Judge Disparity Justify Empirically Based Sentencing Guidelines?" In: *International Review of Law & Economics* 18.3, pp. 293–304 (cit. on p. 35).

Walt, André van der and Rachael Walsh (2017). "Comparative Constitutional Property Law." In: *Comparative Property Law*. Ed. by Michele Graziadei and Lionel Smith. Research Handbooks in Comparative Law. Cheltenham: Edward Elgar, pp. 193–215 (cit. on p. 12).

Wason, Peter (1968). "Reasoning about a Rule." In: *Quarterly Journal of Experimental Psychology* 20.3, pp. 273–278 (cit. on p. 92).

Watson, Steven, Daniel Zizzo, and Piers Fleming (2015). "Determinants of Unlawful File Sharing: A Scoping Review." In: *PLOS ONE* 10.6, pp. 1–23 (cit. on p. 120).

Weinshall, Keren (2011). "Attitudinal and Neo-Institutional Models of Supreme Court Decision Making: An Empirical and Comparative Perspective from Israel." In: *Journal of Empirical Legal Studies* 8.3, pp. 556–586 (cit. on p. 33).

Williams, Heidi L. (2017). "How Do Patents Affect Research Investments?" In: *Annual Review of Economics* 9, pp. 441–469 (cit. on p. 14).

Williams, Peter, David Nicholas, and Ian Rowlands (2010). "The Attitudes and Behaviours of Illegal Downloaders." In: *Aslib Proceedings* 62.6, pp. 283–301 (cit. on p. 120).

Wingrove, Twila, Angela L. Korpas, and Victoria Weisz (2011). "Why Were Millions of People Not Obeying the Law? Motivational Influences on Non-compliance with the Law in the Case of Music Piracy." In: *Psychology, Crime & Law* 17.3, pp. 261–276 (cit. on p. 119).

Winkler, Daniela (2020). *Fallgewichtung an schweizerischen Gerichten: Methodik von Studien der gewichteten Geschäftslast*. Bern: Stämpfli Verlag (cit. on p. 28).

Wistrich, Andrew J. and Jeffrey J. Rachlinksi (2013). "How Lawyers' Intuitions Prolong Litigation." In: *Southern California Law Review* 86.3, pp. 571–603 (cit. on p. 92).

World Intellectual Property Organization (2017). *Intangible Capital in Global Value Chains*. URL: www.wipo.int/publications/en/details.jsp?id=4225 (cit. on p. 118).

Yang, Crystal S. (2014). "Have Inter-Judge Sentencing Disparities Increased in an Advisory Guidelines Regime? Evidence from Booker." In: *New York University Law Review* 89.4, pp. 1268–1342 (cit. on p. 35).

Zizzo, Daniel (2010). "Experimenter Demand Effects in Economic Experiments." In: *Experimental Economics* 13, pp. 75–98 (cit. on p. 121).

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