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## Quantitative analysis of constitutions

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# Quantitative analysis of constitutions

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# Quantitative analysis of constitutions

Chapter prepared for

Research Methods in Constitutional Law: A Handbook

Jerg Gutmann & Stefan Voigt<sup>1</sup>

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## 1. Introduction

Since the time of the Protestant reformation, Western societies typically consider themselves not to be governed by divine law but based on a social contract. While all rules governing a society are part of this social contract, a country's written constitution is a central and possibly the most important manifestation of the social contract. Once it is accepted that the contents of a constitution are subject to human design, scholars interested in the organization of human societies will ask themselves how constitutions should look like. Or less normatively speaking, the question arises what consequences can be expected from the design of different elements of a constitution.

For a long time, (comparative) constitutional legal scholars have tried to evaluate the consequences of constitutional design by drawing on and comparing select country cases. Such a qualitative empirical research approach, however, has its limitations. While it might be suitable to generate theories of how constitutions work, it is difficult to assess whether these explanations are valid when applied to a larger set of constitutions (i.e., whether findings from a single or few countries can be generalized) and whether one theory potentially outperforms other theories in explaining differences across countries and time. Thanks to the ever-increasing availability of sophisticated statistics software, powerful personal computers, and well-trained researchers, quantitative analyses of constitutions have surged in recent decades.

Major challenges in the quantitative analysis of constitutions were the availability of reliable data as well as the statistical identification of causal effects. Chapters 2 and 17 in this volume deal with the former issue and Chapter 4 with the latter.<sup>2</sup> As we have outlined

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<sup>2</sup> Reference to Chapters 2, 4, 17 in this volume.

our own point of view elsewhere,<sup>3</sup> we will focus in this chapter on what we have learned rather than on how to conduct quantitative research on constitutions.

Our survey aims to give an overview of the quantitative empirical literature on constitutions.<sup>4</sup> This literature is spread across various disciplines – foremost legal studies, political science, and economics – with authors not always being aware of relevant contributions in their neighboring disciplines. While we will try to consider contributions even-handedly from all disciplines, our comparative advantage lies naturally with the field of economics and its research on constitutional (law &) economics. However, we consider this selection bias an advantage for a contribution to an edited volume that is rather targeting legal scholars and political scientists, as we would like to offer a bridge that will hopefully contribute to a better integration of the quantitative literature on constitutions across disciplinary boundaries. Readers interested in an up-to-date and more detailed introduction to the economists' take on constitutions are referred to a primer on the topic as well as to Chapter 10 in this volume.<sup>5</sup> The remainder of this chapter is structured as follows. Section 2 outlines what quantitative studies have taught us about constitutions themselves. Are there specific types of constitutions or is every constitution a unique social contract? How persistent, flexible, and verbose are constitutions and how can these traits be explained? Section 3 gives an overview of the many studies that have tried to measure the effects of constitutional design. It should be noted that we take a functionalist approach here and consider some rules in this survey, for example regarding the electoral system, that are

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<sup>3</sup> Stefan Voigt & Jerg Gutmann, Challenges in Estimating the Effects of Constitutional Design on Public Policy, in: Roger Congleton, Bernard Grofman & Stefan Voigt (eds.) *The Oxford Handbook of Public Choice* (vol. 2, OUP 2019) 438.

<sup>4</sup> However, we omit the topic of the determinants of constitutional choice and change due to space constraints. Stefan Voigt, Positive Constitutional Economics II: A Survey of Recent Developments, 146(1-2) *Public Choice* 205 (2011) is a survey focused on this topic.

<sup>5</sup> Stefan Voigt, *Constitutional Economics: A Primer* (CUP 2020); Reference to Chapter 10 in this volume.

part of the organization of the state, but not necessarily of its written constitution. In other words, we are summarizing the effects of the design of both the “small-c” and the “large-c” constitution.<sup>6</sup> Finally, Section 4 concludes and sketches some open questions for future research.

## 2. What have we learned about constitutions?

In this section, we report findings referring to the constitution itself – not its consequences. Three topics are explicitly dealt with, namely constitutional archetypes (“models”), the determinants of constitutional longevity, and the rules for producing constitutional amendment. It would have been interesting to include other topics, such as patterns regarding constitution-making processes, but very few insights in terms of quantitative evidence are currently available. Yet, scholars like Elster<sup>7</sup> or Widner<sup>8</sup> have dealt with the topic and have produced thought-provoking case studies.

Most of the research surveyed below follows a simple structure. A theory is formulated, and from this theory, testable hypotheses are derived. To test these hypotheses, characteristics of constitutions as well as other concepts of interest need to be quantified. Information about constitutions is coded either in binary indicators (also referred to as dummy variables) that indicate the presence or absence of a specific constitutional trait, or in the form of more nuanced indices that measure the extent to which constitutions show certain characteristics. Examples of the latter might include the length and rigidity

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<sup>6</sup> David S. Law, *Constitutions*, in: Peter Cane & Herbert M. Kritzer (eds.) *The Oxford Handbook of Empirical Legal Research* (OUP 2010) 376 on the relevance of this distinction.

<sup>7</sup> For example, Jon Elster, *Arguing and Bargaining in Two Constituent Assemblies*, 2 *University of Pennsylvania Journal of Constitutional Law* 344 (2000); Jon Elster, *The Optimal Design of a Constituent Assembly*, in: Helene Landemore & Jon Elster (eds.) *Collective Wisdom: Principles and Mechanisms* (CUP 2012) 148.

<sup>8</sup> For example, Jennifer Widner, *Constitution Writing and Conflict Resolution*, 94(381) *The Round Table: The Commonwealth Journal of International Affairs* 503 (2005); Jennifer Widner, *Constitution Writing in Post-Conflict Settings: An Overview*, 49 *Wm. & Mary L. Rev.* 1513 (2007).

of a constitution, as well as the extent to which the constitution guarantees property rights protection or basic human rights.

Finally, the researcher must conduct a statistical analysis to evaluate whether the data is consistent with the hypotheses. Typically, the preferred statistical technique is some type of regression model, most commonly linear regression models estimated by ordinary least squares (OLS). Such empirical studies have limitations, especially when it comes to establishing causality instead of mere correlation. Hence, more sophisticated statistical techniques, such as instrumental variable regressions or regression discontinuity designs, are increasingly used. An attractive alternative, in spite of having limitations of its own, is to test theories about constitutions using experimental methods.<sup>9</sup> In our survey of the empirical research on constitutions, we focus in the discussion of methods on highlighting studies that do not just use simple regression techniques.

### Models

Constitutions are not only characterized by rights granted to citizens, but also by prescribing organizational structures and mandates for various state representatives and rules for how the constitution can be changed. Frequently, constitutions also provide a justification for the existence of the state. These justifications are not just reflections of idiosyncratic national histories, but follow specific constitutional archetypes, as argued by Law.<sup>10</sup> He distinguishes three such models: (1) The liberal archetype is associated with the common law tradition and sees the concentration of authority in the state with skepticism. Its legitimacy is, therefore, contingent upon adherence to constitutional limits. Constitutions characterized by this archetype emphasize the imposition of limits upon government in the form of negative and procedural rights, as well as a strong and

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<sup>9</sup> Reference to Chapter 22 in this volume.

<sup>10</sup> David S. Law, *Constitutional Archetypes*, 95 *Texas Law Review* 153 (2016).

independent judiciary to make these limits effective. (2) The statist archetype is associated with the civil law tradition and considers the state a vehicle for the achievement of society's goals. The legitimacy of such a state rests upon the strength of the state's claim to represent the will of the citizens. If characterized by this archetype, constitutions emphasize the articulation of collective goals and positive rights that contemplate an active role for the state as well as an obligation for citizens to cooperate with the state in the pursuit of these collective goals. (3) The universalist archetype bases the legitimacy of the state upon the normative force of a global legal order that encompasses both constitutional law and international law. Corresponding constitutions share a commitment to supranational institutions and supranational law.

David Law uses automated text analysis methods to show that the preambles of constitutions consist of different combinations of the three archetypes. Interestingly, the statist archetype appears to be linked to both Islamic and Socialist constitutions. This raises the question to what extent this archetype is reflective of what Bernholz calls totalitarian constitutions. By this, he means constitutions that entrench supreme values, which are lexicographically superordinated to all other values and goals of society and may not be called into question.<sup>11</sup> Gouda and Gutmann show that the supreme values in both Islamic and Socialist constitutions are detrimental to the rights of religious minorities.<sup>12</sup> The archetypes identified by Law allow for interesting research. For example, Versteeg and Zackin have argued that constitutions are increasingly "untrenched".<sup>13</sup> In recent decades, constitutional documents have tended to become longer and less stable (in the sense that every individual country-year is more likely to

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<sup>11</sup> Peter Bernholz, Supreme Values, Totalitarianism, and Terrorism, in: Roger Congleton, Bernard Grofman & Stefan Voigt (eds.) *The Oxford Handbook of Public Choice* (vol. 1, OUP 2019) 848.

<sup>12</sup> Moamen Gouda & Jerg Gutmann, *Islamic Constitutions and Religious Minorities*, Public Choice (2020).

<sup>13</sup> Mila Versteeg & Emily Zackin, Constitutions Untrenched: Toward an Alternative Theory of Constitutional Design, 110(4) *American Political Science Review* 657 (2016).



see constitutional change). This suggests two questions: Which archetypes can be expected to dominate in longer constitutions? And which archetypes are linked to more constitutional stability? *Ad hoc*, one would think that constitutions heavily characterized by the liberal archetype should be more stable as they are supposed to provide reliable constraints on politicians.

In more recent work, Law has demonstrated further applications for computational linguistic analysis and topic modeling by demonstrating that two types of linguistic patterns exist in national constitutions' descriptions of protected rights. When applying this technique to the whole body of the constitution, he finds four patterns of topics that are, respectively, associated with British colonialism, French colonialism, Spanish colonialism, and socialism.<sup>14</sup> Future research might ask whether these linguistic subtleties are only informative about the creation of constitutional documents or whether they also have measurable consequences. Another interesting question concerns the link between Law's topic modeling and the work of Goderis and Versteeg on the global diffusion of constitutional rights.<sup>15</sup> They demonstrate that the decision of countries to adopt a right can be explained with the past adoption by their former colonizer or by countries with the same legal origin, the same main religion, the same former colonizer, and the same aid donor. It would be straightforward to repeat the analysis of the diffusion of rights for the diffusion of constitutional dialects.

### Longevity

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<sup>14</sup> David S. Law, Constitutional Dialects: The Language of Transnational Legal Orders, in: Gregory Shaffer, Tom Ginsburg & Terence C. Halliday (eds.) *Constitution-Making and Transnational Legal Order* (CUP 2019) 110; David S. Law, The Global Language of Human Rights: A Computational Linguistic Analysis, 12 *Law & Ethics of Human Rights* 111 (2018).

<sup>15</sup> Benedikt Goderis & Mila Versteeg, The Diffusion of Constitutional Rights, 39 *International Review of Law and Economics* 1 (2014).

Some of the most interesting quantitative work in recent years on the nature and evolution of constitutions is that by Elkins et al. who make use of the vast amounts of data produced by their “Comparative Constitutions Project” to answer the question how durable national constitutions actually are and what factors can contribute to their endurance.<sup>16</sup> A frequently cited number emerging from their work is the median lifespan of a constitution, which is at 19 years significantly shorter than many might have expected. Another provocative insight of their work is that constitutions are most likely to endure when they are flexible, detailed, and enjoy the support of many interest groups who stand to gain from the rules laid down in the constitution. But shouldn’t constitutions be rigid, very general, and void of rent-seeking opportunities? Elkins et al. argue that flexibility is needed for a constitution to remain relevant in a continuously changing environment. If a constitution is very specific, constitutions are more likely to be continuously updated in increments and less likely to be replaced at once and in total, which Elkins et al. evaluate positively. And the inclusiveness of constitutions, i.e., the fact that many groups have a stake in its endurance, makes it less likely that it becomes politically opportune to get rid of the constitution. Yet another interesting insight of Elkins et al. is the very limited relevance of environmental factors, even of political and economic crises, for the survival of the constitution.

#### Constitutional rigidity, unamendability and garrulity

Rasch and Congleton note that almost all constitutions specify procedures for their amendment.<sup>17</sup> A straightforward hypothesis is that the more stringent the amendment

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<sup>16</sup> Zachary Elkins, Tom Ginsburg & James Melton, *The Endurance of National Constitutions* (CUP 2009); see also Zachary Elkins, *Constitutional Transition*, in: Roger Congleton, Bernard Grofman & Stefan Voigt (eds.) *The Oxford Handbook of Public Choice* (vol. 2, OUP 2019) 177.

<sup>17</sup> Bjørn Erik Rasch & Roger Congleton, *Amendment Procedures and Constitutional Stability*, in: Roger Congleton & Birgitta Swedenborg (eds.) *Democratic Constitutional Design and Public Policy: Analysis and Evidence* (MIT Press 2006) 319.

procedures, the fewer (explicit) constitutional changes will occur. Lutz appears to confirm this hypothesis.<sup>18</sup> Ferejohn disaggregates Lutz's "difficulty-of-ratification index" and finds that the requirement of special majorities or separate majorities in different organs of government are key to explaining amendment rates.<sup>19</sup> Rasch and Congleton use the number of veto players needed for bringing about constitutional change as an alternative indicator and find that this number has a significant effect on constitutional amendment rates in 19 OECD countries.<sup>20</sup> More recently, Ginsburg and Melton have argued that all of the previous measures of constitutional rigidity have flaws and that their validity seems questionable because the correlations among them are very low. They propose to draw on a society's amendment culture as an important determinant of constitutional change.<sup>21</sup> Unfortunately, this is equivalent to abandoning the search for determinants of constitutional rigidity as long as a society's amendment culture cannot be determined independently of the observed number of constitutional changes. Moreover, these hurdles to constitutional change are not necessarily of an institutional nature, which limits the practical relevance of learning about them.<sup>22</sup>

A desideratum concerning future research is to deal with the question of whether more stringent amendment rules lead not only to less legal and explicit constitutional change, but also to more implicit or illegal constitutional change. If it is cheap to change the constitution, many changes can be expected, which will impact the uncertainty-reducing

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<sup>18</sup> Donald Lutz, *Toward a Theory of Constitutional Amendment*, 88(2) *American Political Science Review* 355 (1994).

<sup>19</sup> John Ferejohn, *The Politics of Imperfection: The Amendment of Constitutions*, 22 *Law and Social Inquiry* 501 (1997).

<sup>20</sup> Rasch & Congleton, *supra* note 17.

<sup>21</sup> Tom Ginsburg & James Melton, *Does the Constitutional Amendment Rule Matter at all? Amendment Cultures and the Challenges of Measuring Amendment Difficulty*, 13(3) *International Journal of Constitutional Law* 686 (2015).

<sup>22</sup> Christina Bucur & Bjørn Erik Rasch, *Institutions for Amending Constitutions*, in: Roger Congleton, Bernard Grofman & Stefan Voigt (eds.) *The Oxford Handbook of Public Choice* (vol. 2, OUP 2019) 156.

function of the constitution. However, if legal and explicit change is too expensive, it is not unlikely that at some point constitutional rules will be ignored altogether, also leading to a low degree of predictability. Thus, dealing with the tradeoff between rigidity and flexibility is a delicate balancing act.

The factors determining the length of constitutions (simply measured by the number of words) have been analyzed by Voigt. The two most significant determinants are having a British colonial history (associated with significantly longer constitutions), and being a Muslim dominated country (associated with significantly shorter constitutions).<sup>23</sup> Bjørnskov and Voigt show that average levels of social trust among the population are negatively associated with the length of countries' constitutions. Their interpretation is that low-trust societies need a more complete social contract to function, whereas competences and rights can be dealt with more flexibly in societies where trust levels are high.<sup>24</sup>

### 3. What have we learned about the effects of constitutions?

This entry surveys the most relevant empirical findings regarding (economic) consequences of different constitutional rules. To be brief, we refrain from explicitly spelling out the general theoretical foundations underlying the empirical tests as well as most of the potential transmission channels connecting a constitutional rule with observed outcomes. It is, hence, a “quick and dirty” survey.<sup>25</sup>

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<sup>23</sup> Stefan Voigt, Explaining Constitutional Garrulity, 29 International Review of Law and Economics 290 (2009).

<sup>24</sup> Christian Bjørnskov & Stefan Voigt, Constitutional Verbosity and Social Trust, 161(1-2) Public Choice 91 (2014).

<sup>25</sup> For an introduction to the theoretical foundation of the effects of constitutional rules, the reader may consult Stefan Voigt, Positive Constitutional Economics: A Survey, 90 Public Choice 11 (1997).

In the constitutional economics literature, the typical dependent variables of interest can be organized in two groups. The first group consists of:

- 1) Fiscal policy variables, i.e. government revenue and government expenditure but also government deficit.
- 2) Governance variables such as corruption and government efficiency;
- 3) Macroeconomic variables such as economic growth and productivity; and
- 4) Other outcome variables, such as the (perceived) legitimacy of the states and reported life satisfaction (a.k.a. “happiness”).

These outcomes largely follow the seminal work of Persson and Tabellini and have been used repeatedly by economists.<sup>26</sup> The second group, in turn, consists of other outcome variables that are less frequently employed by economists but have enjoyed greater popularity among political and legal scholars. They include the effective protection of basic human rights, the survival of constitutions, political regimes, and politicians in office, as well as attitudes of citizens.

To keep this survey brief, we simply summarize the most relevant empirical findings in a dozen brief sections, each representing a particular constitutional trait. We start with electoral systems and forms of government, which were the constitutional rules studied by Persson and Tabellini. From there, we move on to other organizational traits, such as the vertical separation of powers (federalism) and the degree to which citizens are directly involved in political decision-making (direct democracy). After dealing with a number of more detailed constitutional provisions, such as term limits and spending limits, we move on to individual rights, dealing in two separate sections with the prohibition of the death penalty as well as with environmental rights. Next, we deal with

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<sup>26</sup> Torsten Persson & Guido Tabellini, *The Economic Effects of Constitutions* (MIT Press 2003).

the effects of the rule of law and judicial independence. Finally, we move to constitutionalized emergency provisions and some considerations regarding the likelihood that *de jure* constitutional constraints are complied with.

### Electoral systems

Electoral systems are rarely defined in large-c constitutions. According to Elkins et al.,<sup>27</sup> only every fifth constitution specifies the details according to which parliament is to be elected. Yet, judged by their importance as a political institution, electoral systems do belong in a survey on constitutional rules, as they have important consequences for how societies make decisions, for example, regarding the provision of public goods.

Persson and Tabellini were the first to conduct a quantitative analysis based on a large sample of countries and a time period of almost four decades.<sup>28</sup> They focus on three dimensions of electoral systems, namely (1) majority rule (MR) vs. proportional representation (PR), (2) district magnitude, and (3) open vs. closed party lists (measured as the share of individually elected candidates). Persson and Tabellini find significant differences between countries with different electoral systems regarding various economic variables. In majoritarian systems, central government expenditures tend to be three percent of GDP lower than in otherwise comparable PR systems. Social expenditures (“the welfare state”) are two to three percentage points lower in majoritarian systems. The budget deficit in majoritarian systems is one to two percentage points below that of systems with PR. A higher proportion of individually elected candidates is associated with lower levels of (perceived) corruption. Countries with smaller electoral districts tend to have more corruption. A larger proportion of

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<sup>27</sup> Elkins et al., *supra* note 16, at 40.

<sup>28</sup> Persson and Tabellini, *supra* note 26.

individually elected candidates is linked to higher output per worker. And countries with smaller electoral districts tend to have a lower output per worker.

Blume et al. replicate and extend the analysis of Persson and Tabellini and find that district magnitude and the proportion of individually elected candidates, both substantively and statistically, have a more significant impact on various outcome variables than the electoral rule itself. Thus, more attention might have to be paid to these institutional details.<sup>29</sup>

In their study on electoral rules and fiscal policy, Funk and Gathmann focus on Switzerland, which avoids a potential problem of cross-country studies: unobserved differences between countries.<sup>30</sup> Although it is unclear to what extent their findings can be generalized to other countries, the case of Switzerland is interesting because of the numerous changes made to the electoral rule over the period covered in their analysis. In the first year of analysis, 1890, all cantons relied on MR. In the last year, 2000, all but two cantons had switched to PR.

Funk and Gathmann are not only interested in changes in overall expenditures and revenues on the cantonal level, but they ask more specifically whether a switch from MR to PR leads to changes in the composition of government spending. According to theory, one can expect such a switch to cause more spending on genuine public goods relative to targeted public goods that profit only narrow constituencies, because under proportional representation, a party gets parliamentary seats exactly in proportion to the popular vote received. Under MR, however, it pays to cater to the preferences of those whose vote is needed to win a particular district. Funk and Gathmann study expenditures on education

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<sup>29</sup> Lorenz Blume, Jens Müller & Stefan Voigt, *The Economic Effects of Direct Democracy: A First Global Assessment*, 140 *Public Choice* 431 (2009).

<sup>30</sup> Patricia Funk & Christina Gathmann, *How do Electoral Systems Affect Fiscal Policy? Evidence from Cantonal Parliaments, 1890-2000*, 11(5) *Journal of the European Economic Association* 1178 (2013).

and social welfare as proxies for genuine public goods, whereas expenditures on roads and subsidies for agriculture serve as indicators for targeted public goods. They find that after adopting PR, cantons spend 21 percent more on education and 42 percent more on social welfare. This is very strong evidence in favor of the argument that a switch to PR increases spending on genuine public goods. At the same time, the transition to PR in Switzerland did not lead to an increase in total government expenditure or revenue.

Iversen and Soskice are interested in the effects of electoral systems on redistribution. They note that this is not a trivial question to answer because three out of four governments under majoritarian systems between 1945 and 1998 were center-right, whereas three out of four governments under PR were center-left.<sup>31</sup> This is a reminder that electoral systems are not chosen randomly: More conservative societies might prefer MR, whereas more progressive societies might prefer PR. If that is the case, the observed differences in economic outcomes might not be due to the electoral system but caused by deeper factors determining both the type of electoral system and economic outcomes. Studies on the effects of electoral rules tend to employ regression models that heavily rely on cross-sectional variation. The obvious reason for this is that countries do not change their electoral systems frequently over time. A recent exception is the attempt by Pfeil to use synthetic control methods to quantitatively study four country cases in which the electoral system has been changed.<sup>32</sup>

### Form of government

The most common distinction between forms of government is that between parliamentary and presidential systems. Systems in which the head of government can

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<sup>31</sup> Torben Iversen & David Soskice, Electoral Institutions and the Politics of Coalitions: Why Some Democracies Redistribute More Than Others, 100 *American Political Science Review* 165 (2006).

<sup>32</sup> Christian F. Pfeil, Electoral System Change and Spending: Four Quantitative Case Studies, 16/06 Freiburg Discussion Papers on Constitutional Economics (2016).



only stay in office as long as she enjoys the support of a majority in parliament are called parliamentary; all others are referred to as non-parliamentary – or presidential. Persson and Tabellini rely on this dichotomy and derive the following results. Government spending is six percent of GDP lower in presidential systems compared to parliamentary systems. The size of the welfare state is some two to three percentage points lower in presidential systems. The influence of the form of government on the budget deficit is rather marginal. Presidential systems seem to have lower levels of corruption. There are no significant differences between the two forms of government in terms of government efficiency. Presidential systems appear to be a hindrance to productivity, but this result is significant only at the ten percent level.

These results are intriguing. Although government spending is less in presidential systems and they suffer less from corruption than parliamentary systems, parliamentary systems may have an advantage over presidential systems in terms of productivity.

In a study replicating and extending the estimates of Persson and Tabellini,<sup>33</sup> it turns out that some of their results are not robust, even to minor modifications. Increasing the number of observations from 80 to 92 makes the presidential dummy insignificant in explaining variation in central government expenditure. The same happens if a different delineation of presidential systems is used. There is also no effect on total (instead of central) government expenditure. If “graft” is measured for a longer and more recent time period or the number of observations is increased or a different definition of presidential systems is used, presidentialism again ceases to show an effect. Persson and Tabellini did not find an effect of presidentialism on productivity. Yet, if another indicator of

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<sup>33</sup> Blume et al., *supra* note 29.

presidentialism or total factor productivity is used, presidentialism appears to be related to lower productivity.

For the association between form of government and the quality of governance, it has been found that parliamentary systems suffer from less corruption than presidential ones.<sup>34</sup> Treisman, on the other hand, finds that presidentialism becomes insignificant as soon as one controls for Catholicism, or when a dummy for South America is included.<sup>35</sup> The differences in these results point to an important insight: to date, many of the effects supposedly induced by constitutional rules are not supported by robust empirical evidence. Findings may change depending on the coding of variables, the time period studied, the control variables accounted for, and so on. Fortunately, social scientists are increasingly paying attention to the issue of robustness and hands-on guidelines are being developed and refined.<sup>36</sup>

One of the first papers to take the heterogeneity within presidential and parliamentary systems explicitly into account is Ardanaz and Scartascini.<sup>37</sup> They argue that presidential governments are only associated with smaller government size when the rules according to which a country's budget is generated give little discretion to the executive, i.e., in a context of separation of powers. And indeed, they find that the presidential form of government is associated with smaller government size if executive discretion regarding the budget is low, but it vanishes when the executive's discretion over the budget process increases. This is another example of how important institutional details can be.

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<sup>34</sup> John Gerring & Strom Thacker, Political Institutions and Corruption: The Role of Unitarism and Parliamentarism, 34 *British Journal of Political Science* 295 (2004); Daniel Lederman, Norman Loayza & Rodrigo Soares, Accountability and Corruption, 17(1) *Economics & Politics* 1 (2005).

<sup>35</sup> Daniel Treisman, What have We Learned About the Causes of Corruption from Ten Years of Cross-National Empirical Research?, 10 *Annual Review of Political Science* 211 (2007).

<sup>36</sup> Eric Neumayer & Thomas Plümp, *Robustness Tests for Quantitative Research* (CUP 2017).

<sup>37</sup> Martin Ardanaz & Carlos Scartascini, The Economic Effects of Constitutions: Do Budget Institutions Make Forms of Government More Alike?, 25(3) *Constitutional Political Economy* 301 (2014).

## Federalism

For a long time, the evidence concerning the effects of federalism was mixed. It was, for instance, unclear whether federally constituted states had higher overall government spending or not. This has changed now. Rodden shows that in countries in which local and state governments had the competence to set the tax base total government expenditure was lower.<sup>38</sup>

Treisman shows that federal states as delineated by Elazar have, *ceteris paribus*, higher corruption levels than unitary states.<sup>39</sup> However, in later research Treisman himself calls this result into question by showing that it cannot be reproduced based on more recent data.<sup>40</sup> Persson and Tabellini find that federalism is not a good predictor of rent extraction (which they consider a proxy for corruption). The evidence on the link between federalism and corruption is, thus, inconclusive. With regard to productivity, Persson and Tabellini find that federalism can explain differences in both labor and total factor productivity across countries, with federations having higher levels of each.<sup>41</sup>

The empirical evidence concerning the effects of federalism on economic growth is ambiguous. Voigt and Blume try to tease more results out of existing data by relying on principal-component analysis.<sup>42</sup> They draw on up to 26 indicators that capture different dimensions of federalism (and decentralization). The principal component analysis produces six components that capture different aspects of federalism. Voigt and Blume's analysis shows that institutional detail matters. A simple federalism dummy is positively

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<sup>38</sup> Jonathan Rodden, *Reviving Leviathan: Fiscal Federalism and the Growth of Government*, 57 *International Organization* 695 (2003).

<sup>39</sup> Daniel Elazar, *From Statism to Federalism: A Paradigm Shift*, 25(2) *Publius* 417 (1995); Daniel Treisman, *The Causes of Corruption: A Cross-National Study*, 76 *Journal of Public Economics* 399 (2000).

<sup>40</sup> Treisman, *supra* note 35.

<sup>41</sup> Persson & Tabellini, *supra* note 26.

<sup>42</sup> Stefan Voigt & Lorenz Blume, *The Economic Effects of Federalism and Decentralization: A Cross-country Assessment*, 151(1-2) *Public Choice* 229 (2012).

associated with total government spending. When the principal factors are used instead, it shows that the right of lower government levels to a portion of overall government revenues and the fractionalization of parliament are responsible for this statistical relationship. In contrast, a federalism dummy is not significantly correlated with government deficits. However, drawing on more fine-grained indicators, one learns that the local election of municipal governments as well as the fractionalization of parliament are associated with higher government deficits, implying that the presence of these features leads to larger deficits. Overall, this study shows that it can be important to take institutional details into account and that simple dummy variables are often insufficient. Research on federalism has studied the phenomenon largely as a time-invariant country characteristic. However, in recent years datasets like the Database of Political Institutions or V-DEM have become available and would allow for empirical studies that take time seriously.

### Direct democracy

Empirical research into the effects of direct democracy can be divided into three phases. During the first phase, within-country studies were predominant, most of them dealing with the U.S. or Switzerland. Often, they relied on simple cross-sections of U.S. states or Swiss cantons and endogeneity problems were not a central concern. The main insight from these studies is that direct democracy is associated with smaller government. Matsusaka, for example, estimates the effect of the right to an initiative on fiscal policy in U.S. states. States with this right have lower expenditures and lower revenues than other states.<sup>43</sup> Regarding the quality of governance, Alt and Lassen find that U.S. states that

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<sup>43</sup> John Matsusaka, Fiscal Effects of the Voter Initiative: Evidence from the Last 30 Years, 102(2) Journal of Political Economy 587 (1995); John Matsusaka, For the Many or the Few: The Initiative, Public Policy, and American Democracy (UCP 2004).

allow for initiatives have significantly lower levels of perceived corruption than the remaining states.<sup>44</sup> Finally, Feld and Savioz find that per capita GDP in Swiss cantons with extended (direct) democracy rights is some 5 percent higher than in cantons without such rights.<sup>45</sup> Based on individual-level data and controlling for a host of variables, such as occupational status, marital status, health conditions, and so forth, Frey and Stutzer find that Swiss citizens who live in cantons with a high level of direct democracy report to be happier.<sup>46</sup>

One big question provoked by the first wave of research on the effects of direct democracy is whether the results obtained for the U.S. and Switzerland are valid beyond these two countries. In a second phase, cross-country studies dealt with this limitation. Endogeneity was still difficult to deal with in these studies. The main take away from these cross-country studies is that the effects of direct democracy crucially depend on the specific instruments being used (i.e. referendums or initiatives). Whereas the use of mandatory budget referendums is associated with smaller government size, the opposite is true for the number of initiatives used. The actual use of direct democratic institutions often has more significant effects than the sole possibility to use such instruments.

In a more recent study, Voigt and Blume take a closer look at the political consequences of direct democracy by trying to answer the questions whether voters are better informed, whether turnout for representative elections is higher, whether civic engagement is higher and whether direct democracy increases voters' confidence in government? Their answers are rather sobering: Voter turnout is not higher when direct

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<sup>44</sup> James Alt & David Dreyer Lassen, The Political Economy of Institutions and Corruption in American States, 5(3) *Journal of Theoretical Politics* 341 (2003).

<sup>45</sup> Lars P. Feld & Marcel Savioz, Direct Democracy Matters for Economic Performance: An Empirical Investigation, 50(4) *Kyklos* 507 (1997).

<sup>46</sup> Bruno Frey & Alois Stutzer, Happiness, Economy and Institutions, 110 *The Economic Journal* 918 (2000).

democracy is available or used; citizens do not express greater interest in politics; and citizens express lower trust in both government and political parties.<sup>47</sup>

In the third phase of empirical research on direct democracy, scholars have returned to country studies. But this time, identification problems are at the center of attention, resulting in research designs that rely on a wide range of methods from instrumental variables to differences-in-discontinuities approaches. In the studies of the third phase, some earlier findings were confirmed. For example, the use of initiatives does, indeed, cause government size to increase.

Most of the available empirical studies belonging to the third phase focus on the effects of direct democracy on fiscal policy. For example, Funk and Gathmann focus on the effect of direct democracy on government size in Switzerland. They rely on data covering all Swiss cantons over more than a century. They find that mandatory budget referendums reduce expenditures on the cantonal level by 12 percent.<sup>48</sup>

As so often, Swiss results do not necessarily carry over to other countries. Covering 13,000 German municipalities, Asatryan finds that each initiative causes an average expansion of local government by around 8 percent on both the expenditure and the revenue side, thus confirming the results from the cross-country study summarized above.<sup>49</sup> Articles using particular experiences in Sweden and Spain are more recent examples for the trend to study direct democracy in individual countries.<sup>50</sup>

### Term limits

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<sup>47</sup> Stefan Voigt & Lorenz Blume, Does Direct Democracy Make for Better Citizens? A Cautionary Warning Based on Cross-country Evidence, 41(1) Constitutional Political Economy 66 (2015).

<sup>48</sup> Patricia Funk & Christina Gathmann, Does direct Democracy Reduce the Size of Government? New Evidence from Historical Data, 1890-2000, 121(557) The Economic Journal 1252 (2011).

<sup>49</sup> Zareh Asatryan, The Indirect Effects of Direct Democracy: Local Government Size and Non-budgetary Voter Initiatives in Germany, 23(2) International Tax and Public Finance 580 (2016).

<sup>50</sup> Björn Tyrefors Hinnerich & Per Pettersson-Lidbom, Democracy, Redistribution, and Political Participation: Evidence from Sweden 1919-1938, 82(3) Econometrica 961 (2014); Carlos Sanz, Direct Democracy and Government Size: Evidence from Spain, Political Science Research and Methods (2019).

Many constitutions of presidential systems stipulate term limits for the president. Apparently, the constitutional assemblies establishing these limits were afraid that an unlimited number of terms could have negative effects. Ginsburg et al. have analyzed to what degree constitutional term limits are reneged upon. They point out that one advantage of presidential term limits is their clarity, which might increase the probability of compliance. Their empirical findings, nevertheless, show that of those leaders who stayed until the end of their maximum tenure more than 25 percent transgressed the term limit. Ginsburg et al. also show that the likelihood of overstaying is a lot higher in autocracies than in democracies.<sup>51</sup>

### Spending limits

For various reasons, governments are tempted to incur large deficits. Economists have argued that constitutionally entrenched spending limits can correct this bias.<sup>52</sup> With the Maastricht Treaty, Europe started a huge experiment with entrenched budget rules, setting maximum levels for both current deficits and aggregate debt. However, quite a few countries had already experimented with entrenched budget rules prior to the enactment of the treaty.

If spending limits are not in the (short-term) interest of politicians, they may simply ignore them. Spending limits, in other words, are not self-enforcing. Compliance with constitutional budget rules is, thus, only expected if noncompliance is heavily sanctioned. A number of studies have analyzed their effects on the incentives of politicians.

Kiewiet and Szakaly study constitutional limits on borrowing in U.S. states and find that the introduction of such limits induces attempts to circumvent the rules (in their case, to

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<sup>51</sup> Tom Ginsburg, James Melton & Zachary Elkins, On the Evasion of Executive Term Limits, 52 Wm. & Mary L. Rev. 1807 (2011).

<sup>52</sup> For example, James M. Buchanan & Richard Wagner, The Collected Works of James M. Buchanan (vol. 8, Liberty Fund 1977).

shift from guaranteed to nonguaranteed debt) and also that some devolution of debts can be observed (in the sense that lower debt at the state level is accompanied by higher debt at the communal level).<sup>53</sup> Bohn and Inman find tentative evidence in U.S. states that constitutional balanced budget rules are more effective than constraints based upon statutory provisions.<sup>54</sup>

In democracies, it is primarily the voter who can sanction deficit-making governments by refusing to reelect them. In their analysis of constitutionally entrenched spending limits, Blume and Voigt argue that voters require readily available information about the spending behavior of government for spending limits to have any actual constraining effect. This is why they analyze the effects of constitutional spending limits in conjunction with the amount of information publicly available regarding the budget. They find that spending limits are most likely to have a constraining effect on government spending if they are combined with a high level of transparency regarding the content of the budget, its generation, as well as the monitoring of its implementation.<sup>55</sup>

Asatryan et al. provide the most up-to-date analysis of the effects of constitutional-level balanced budget rules on fiscal outcomes. Using data that goes back to the nineteenth century they are able to show that the introduction of a constitutional budget rule leads to a reduced probability of experiencing a sovereign debt crisis. They furthermore estimate that the debt-to-GDP ratio decreases by eleven percentage points, with most of these consolidation being explained by decreasing expenditures rather than increasing revenues. When they run the same analysis for non-constitutional balanced budget rules,

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<sup>53</sup> Roderik Kiewiet & Kristin Szakaly, *Constitutional Limitations on Borrowing: An Analysis of State Bonded Indebtedness*, 12 *Journal of Law, Economics, & Organization* 62 (1996).

<sup>54</sup> Henning Bohn & Robert Inman, *Balanced-budget Rules and Public Deficits: Evidence from the U.S. Carnegie-Rochester Conference Series*, 45 *Public Policy* 13 (1996).

<sup>55</sup> Lorenz Blume and Stefan Voigt, *The Economic Effects of Constitutional Budget Institutions*, 29 *European Journal of Political Economy* 236 (2013).



Asatryan et al. find not effects.<sup>56</sup> The study by Asatryan et al. is exemplary for a modern approach to quantitatively studying constitutions, as they are not only carefully conducting a panel difference-in-differences analysis, but they complement this approach with the use of synthetic control methods to study a number of individual country cases where balanced budget rules were introduced.

### Individual rights

There is a sizable literature inquiring into whether economic rights have a significant effect on economic growth, Knack and Keefer being a seminal contribution on this topic. They show that guaranteeing economic rights promotes both investment and growth.<sup>57</sup> Voigt and Gutmann inquire more directly into constitutionally protected property rights.<sup>58</sup> They show that constitutional property rights protection as such is not linked to higher growth rates, but if a country has a sufficiently high level of judicial independence (to enforce property rights vis-à-vis the government), more extensive property rights protection in the constitution is indeed associated with higher growth rates. Although research on constitutions notoriously suffers from limited degrees of freedom, the study by Voigt and Gutmann shows that much can be gained from testing conditional hypotheses by means of including interaction terms in regression models. Even where constitutional rules might not be unconditionally effective, the presence of other factors, such as enforcement institutions, can imply that they are effective in particular settings. Conditional hypotheses, thus, deal with a common criticism of quantitative research: The

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<sup>56</sup> Zareh Asatryan, César Castellón & Thomas Stratmann, Balanced Budget Rules and Fiscal Outcomes: Evidence from Historical Constitutions, 167 *Journal of Public Economics* 105 (2018).

<sup>57</sup> Stephen Knack & Philip Keefer, Institutions and Economic Performance: Cross-Country Tests Using Alternative Institutional Measures, 7(3) *Economics and Politics* 207 (1995).

<sup>58</sup> Stefan Voigt & Jerg Gutmann, Turning Cheap Talk into Economic Growth: On the Relationship between Property Rights and Judicial Independence, 41(1) *Journal of Comparative Economics* 66 (2013).

fact that contextual or environmental factors fall victim to the formulation of simplified quantitative empirical models.

Bjørnskov studies the introduction of constitutional property rights protection in formerly communist countries in Central and Eastern Europe and the Caucasus after the fall of the iron curtain.<sup>59</sup> He argues that this setting came close to a natural experiment, because countries with similar historical experiences had to write new constitutions that were fundamentally different from the legal institutions they were familiar with. Bjørnskov finds no evidence of positive growth effects, but the data rather seems to suggest that the introduction of constitutional protection of property rights imposes costs during a period of institutional transition and implementation, which is proportional to the size of the constitutional change.

Chilton and Versteeg try to answer the question whether constitutional social rights cause governments to spend more resources on promised goods, such as education and health care. Their sobering result is that no significant increases in government spending in these areas can be detected.<sup>60</sup> This finding contradicts, for example, earlier research by Mäkinen, who claimed to have found a positive link between social rights and social spending in a small sample of OECD countries, but based on questionable model specifications and interpretations of interaction terms.<sup>61</sup> Bjørnskov and Mchangama are interested in the same question as the previous authors and distinguish social rights according to whether they are legally enforceable. Nevertheless, they also find no positive

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<sup>59</sup> Christian Bjørnskov, *Constitutional Property Rights Protection and Economic Growth: Evidence from the Post-communist Transition*, 26(3) *Constitutional Political Economy* 247 (2015).

<sup>60</sup> Adam Chilton & Mila Versteeg, *Rights without Resources: The Impact of Constitutional Social Rights on Social Spending*, 60(4) *The Journal of Law and Economics* 713 (2017).

<sup>61</sup> Amy Mäkinen, *Rights, Review, and Spending: Policy Outcomes with Judicially Enforceable Rights*, 39(1) *European Journal of Political Research* 23 (2001).

effects of constitutional social rights and, to the contrary, measure adverse medium-term effects on education and inflation.<sup>62</sup>

Chilton and Versteeg, in a related study, also ask the question whether constitutional political rights impact government behavior. They test the effectiveness of six political rights in constraining government behavior. Their main argument is that organizational constitutional rights increase *de facto* rights protection by creating organizations with the incentives and means to protect their rights, which renders these rights self-enforcing. Such organizations do not necessarily exist in the case of individual rights, which would make them less effective. And indeed, Chilton and Versteeg find that organizational rights are associated with increased *de facto* rights protection, while individual rights are not.<sup>63</sup> Chilton and Versteeg provide empirical evidence suggesting that also independent constitutional courts with the competence to do constitutional review might often not be able to improve the implementation of such rights.<sup>64</sup>

### Death penalty

Another constitutional innovation that has been rapidly spreading in recent decades is the abolition of the death penalty.<sup>65</sup> Aside from normative debates about the moral legitimacy of using the death penalty and concerns regarding its compatibility with international legal norms, two practical questions are of fundamental importance to the question whether the death penalty should be a legal instrument to punish criminals: Is

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<sup>62</sup> Christian Bjørnskov & Jacob Mchangama, Do Social Rights Affect Social Outcomes?, 63(2) American Journal of Political Science 452 (2019).

<sup>63</sup> Adam Chilton & Mila Versteeg, Do Constitutional Rights Make a Difference?, 60(3) American Journal of Political Science 575 (2016).

<sup>64</sup> Adam Chilton & Mila Versteeg, Courts' Limited Ability to Protect Constitutional Rights, 85(2) University of Chicago Law Review 293 (2018).

<sup>65</sup> Roger Hood & Carolyn Hoyle, The Death Penalty: A Worldwide Perspective (fifth edition, OUP 2015).

it effective in deterring crime?<sup>66</sup> And can it easily be abused by rulers to repress the population and get rid of political opponents?

The legal prohibition of the death penalty is special among physical integrity rights in that it enjoys particularly high levels of compliance. Law and Versteeg have documented full compliance of countries with the constitutional prohibition of the death penalty.<sup>67</sup> Not only is the prohibition of the death penalty effective, but it is also persistent. Not even a dozen countries have reinstated the death penalty since World War II after having abolished it. And even more, none of the countries which have entrenched this prohibition in their written constitution has reinstated the death penalty.<sup>68</sup>

Given that the prohibition of the death penalty is such a consequential decision (unlike, for example, the prohibition of torture, which according to Law and Versteeg<sup>69</sup> experiences little compliance), it is not surprising that empirical researchers have produced many studies to determine whether the death penalty can effectively deter crime and particularly homicides. Early research in this area was successful in showing a deterrence effect, as economists traditionally would have expected.<sup>70</sup> However, these studies had many limitations, and the robustness of their findings was soon challenged.<sup>71</sup> Many studies followed that have tried to provide more rigorous empirical evidence, but as Donohue and Wolfers summarize their reevaluation of the empirical evidence,

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<sup>66</sup> Cass Sunstein & Adrian Vermeule, *Is Capital Punishment Morally Required? Acts, Omissions, and Life-Life Tradeoffs*, 58(3) *Stanford Law Review* 703 (2005) have even argued that if the death penalty saved lives its use would be morally required.

<sup>67</sup> David S. Law & Mila Versteeg, *Sham Constitutions*, 101(4) *California Law Review* 863 (2013).

<sup>68</sup> Jerg Gutmann, *Pulling Leviathan's Teeth: The Political Economy of Death Penalty Abolition*, <<https://ssrn.com/abstract=2718323>> (2016).

<sup>69</sup> Law & Versteeg, *supra* note 68; see also Adam Chilton & Mila Versteeg, *The Failure of Constitutional Torture Prohibitions*, 44(2) *The Journal of Legal Studies* 417 (2015).

<sup>70</sup> For example, Isaac Ehrlich, *The Deterrent Effect of Capital Punishment: A Question of Life and Death*, 65(3) *American Economic Review* 397 (1975); Isaac Ehrlich, *Capital Punishment and Deterrence: Some Further Thoughts and Additional Evidence*, 85(4) *Journal of Political Economy* 741 (1977).

<sup>71</sup> Edward E. Leamer, *Let's Take the Con Out of Econometrics*, 73(1) *American Economic Review* 31 (1983).

estimated effects of capital punishment on homicide rates change dramatically even with small changes in econometric specifications. When taken together, it is entirely unclear whether the evidence suggests that the death penalty causes less (or even more) homicides to be committed.<sup>72</sup> The evidence on the deterrent effect of the death penalty remains inconclusive and it is, thus, not surprising that both proponents and opponents of capital punishment selectively refer to those empirical studies which best support their normative stance on the topic.<sup>73</sup>

### Environmental protection

Environmental rights, just like international environmental agreements, have been a success story in recent decades, if success is measured by their prevalence in national constitutions around the world. Given that societies with more forward-looking cultural traits were at the forefront of adopting these constitutional rules, one might also be optimistic that these rights were frequently implemented in practice.<sup>74</sup> Yet, our knowledge regarding the concrete effects of adopting constitutional environmental protection are limited and there is considerable scope for empirical research in this area. In an early and extensive study of this question, Boyd studies 193 constitutions as well as the laws and court decisions of more than 100 nations to show how the constitutional right to a healthy environment has been incorporated in legislation and is judicially enforced in practice.<sup>75</sup> He finds that nations with constitutional environmental protection

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<sup>72</sup> John Donohue & Justin Wolfers, Uses and Abuses of Empirical Evidence in the Death Penalty Debate, 58(3) Stanford Law Review 791 (2005).

<sup>73</sup> Aaron Chalfin & Justin McCrary, Criminal Deterrence: A Review of the Literature, 55(1) Journal of Economic Literature 5 (2017); Steven Durlauf, Chao Fu & Salvador Navarro, Assumptions Matter: Model Uncertainty and the Deterrent Effect of Capital Punishment, 102(3) American Economic Review 487 (2012); and Gebhard Kirchgässner, Econometric Estimates of Deterrence of the Death Penalty: Facts or Ideology?, 64(3) Kyklos 448 (2011).

<sup>74</sup> Sina Imhof, Jerg Gutmann & Stefan Voigt, The Economics of Green Constitutions, 7(3) Asian Journal of Law and Economics 305 (2016).

<sup>75</sup> David Boyd, The Environmental Rights Revolution: A Global Study of Constitutions, Human Rights, and the Environment (UBC Press 2011).

also have stronger environmental laws than nations without such provisions. Furthermore, Boyd provides empirical evidence for these countries showing a better environmental performance and reducing pollution faster than other countries.

Jeffords and Minkler question whether such findings can be interpreted as causal effects or whether countries which take steps to protect the environment might also be more likely to constitutionalize environmental rights.<sup>76</sup> Their instrumental variable regressions show that constitutions do indeed matter for environmental outcomes. Gellers argues that constitutional environmental rights might not always be adopted to protect the environment. He draws on an argument introduced by Farber and claims that governments may use environmental protection to signal their low discount rates to investors who might interpret this as a sign of a favorable investment climate.<sup>77</sup> Although Gellers cannot provide strong evidence for this provocative idea, the economic and political consequences of constitutional environmental protection are a promising field for future empirical research. But, also research on environmental effects leaves room for improvement, as causality has so far not been established in a convincing way. Properly conducted difference-in-differences analyses could show whether constitutional environmental protection is an effective legal constraint or merely an expression of intent by those countries who anyway invest more into the protection of their environment.

### Rule of law

Unlike most elements of constitutions that we have discussed so far, the rule of law is a very broad and abstract concept. There is some evidence that the rule of law contributes

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<sup>76</sup> Chris Jeffords & Lanse Minkler, Do Constitutions Matter? The Effects of Constitutional Environmental Rights Provisions on Environmental Outcomes, 69(2) *Kyklos* 294 (2016).

<sup>77</sup> Daniel Farber, Rights as Signals, 31(1) *The Journal of Legal Studies* 83 (2002); Joshua Gellers, Explaining the Emergence of Constitutional Environmental Rights: A Global Quantitative Analysis, 6(1) *Journal of Human Rights and the Environment* 75 (2015).

to economic growth.<sup>78</sup> But it has also been criticized, for example by Haggard and Tiede, that linking a multidimensional concept such as the rule of law to outcomes might not be very helpful if it is not understood what aspect of the rule of law causes these results.<sup>79</sup> Judicial independence is closely related to the rule of law and might be more relevant to the question how constitutions need to be designed to perform well. Several studies have already analyzed the relationship between judicial independence and economic and political outcomes. Feld and Voigt introduced two objective indicators of *de jure* and *de facto* judicial independence to determine whether it is the promise of judicial independence or its actual practice which is important for economic growth.<sup>80</sup> Since these indicators are objective and based on observable events, Feld and Voigt were able to rule out that positive economic performance had an effect on their indicator of judicial independence, for example, because experts evaluate institutions more favorably if the economy is doing well. The results of Feld and Voigt were not surprising at all. Promising judicial independence in the constitution does not automatically contribute to economic growth. Yet, where judges are actually independent, the economy tends to grow faster. A decade later, Voigt et al. collected new data on objective *de jure* and *de facto* judicial independence based on the same measurement approach. Although their data covered a different time period and a larger sample of countries, the point estimates of Voigt et al. were almost identical to those of Feld and Voigt.<sup>81</sup> Does this mean that protecting judicial

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<sup>78</sup> Dani Rodrik, Arvind Subramanian & Francesco Trebbi, Institutions Rule: The Primacy of Institutions Over Geography and Integration in Economic Development, 9(2) Journal of Economic Growth 131 (2004); Roberto Rigobon & Dani Rodrik, Rule of Law, Democracy, Openness, and Income: Estimating the Interrelationships, 13(3) The Economics of Transition 533 (2005).

<sup>79</sup> Stephan Haggard & Lydia Tiede, The Rule of Law and Economic Growth: Where are We? 39(5) World Development 673 (2011).

<sup>80</sup> Lars P. Feld & Stefan Voigt, Economic Growth and Judicial Independence: Cross-Country Evidence using a New Set of Indicators, 19(3) European Journal of Political Economy 497 (2003).

<sup>81</sup> Stefan Voigt, Jerg Gutmann & Lars P. Feld, Economic Growth and Judicial Independence, a Dozen Years on: Cross-country Evidence Using an Updated Set of Indicators, 38 European Journal of Political Economy 197 (2015).

independence in the constitution is without consequence? Hayo and Voigt provide empirical evidence that although *de jure* and *de facto* judicial independence are hardly correlated with each other, *de jure* judicial independence might still contribute to higher levels of *de facto* independence.<sup>82</sup> However, Melton and Ginsburg provide empirical evidence suggesting that constitutional rules governing the selection and removal of judges are the only *de jure* protections that enhance judicial independence in practice.<sup>83</sup>

### Emergency constitutions

Emergency constitutions are conservative documents in the sense that their supposed goal is to return to the status quo ante. However, it cannot be ruled out that politicians rather call a state of emergency to intimidate the population, to silence the opposition or simply to remain in power.

Assuming that one goal of using emergency constitutions in the aftermath of a natural disaster is to save as many lives as possible, Bjørnskov and Voigt (2017) study the number of casualties resulting from different natural disasters. Their astonishing result is that the more power the executive gains from calling a state of emergency in response to the natural disaster, the higher the number of fatalities.

In a related study, Bjørnskov and Voigt (2018) analyze the relationship between terrorist activities and states of emergency. Given that an act of terrorism was committed and a state of emergency has been declared, what are the effects thereof? On the basis of 79 countries with western-style constitutions, Bjørnskov and Voigt find that the occurrence of more terrorist incidents increases the likelihood that a state of emergency will be

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<sup>82</sup> Jerg Gutmann & Stefan Voigt, The Rule of Law: Measurement and Deep Roots, 54(C) European Journal of Political Economy 68 (2018); Bernd Hayo & Stefan Voigt, Explaining De Facto Judicial Independence, 27(3) International Review of Law and Economics 269 (2007).

<sup>83</sup> James Melton & Tom Ginsburg, Does De Jure Judicial Independence Really Matter? A Reevaluation of Explanations for Judicial Independence, 2(2) Journal of Law and Courts 187 (2014).



declared. Emergencies are less likely to be declared in election years, supposedly because governments believe them to be unpopular. Once a state of emergency has been declared, it generally leads to substantially higher levels of government repression. Finally, countries under a state of emergency are more likely to suffer from additional terrorist attacks, challenging the effectiveness of states of emergency.

Implementation: *de jure* vs *de facto* and the *de jure-de facto* gap

As we have indicated above, *de jure* and *de facto* rights, i.e., rights on the books versus practiced rights, can have very different consequences. However, *de facto* rights themselves can also be studied as a possible outcome of *de jure* rights. This implies the question under what conditions laws on the books will be implemented and practiced and in what situation they are empty promises. Although understanding what causes a gap between *de jure* and *de facto* rules promises to be hugely important, very few explicit attempts have been made to get to the bottom of it. In their study on “sham constitutions”, Law and Versteeg study three categories of constitutional rights, namely personal integrity rights, civil and political freedoms, and socioeconomic and group rights.<sup>84</sup> For *de jure* data, they code whether a particular right is mentioned in the constitution, for *de facto* information, they rely on a number of publicly available datasets. Law and Versteeg find that both the level of income and democracy are conducive to a small *de jure-de facto* gap. In contrast, experience with civil war, a large population, and a high degree of ethnic fractionalization all lead to a larger *de jure-de facto* gap. Law and Versteeg differentiate between a constitution that “contains only generic rights” and one that “also encompasses more esoteric provisions.” They refer to this difference as “comprehensiveness” and find that more comprehensive constitutions are likely to have a larger *de jure de facto* gap.

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<sup>84</sup> Law & Versteeg, *supra* note 68.

Despite these interesting results, our understanding of the reasons for a gap between constitutional text and constitutional reality remains in its infancy.<sup>85</sup>

#### 4. Outlook

We have tried to describe here how the quantitative research on constitutions has been progressing rapidly over the last couple of decades. Continuously improving data availability as well as more intensive cooperation between legal scholars, political scientists, and economists will hopefully lead to the generation of even more robust insights.

Due to natural limits regarding the production of observational data, there is at least some scope for using lab experiments to study the organization of social groups under different systems of rules. In spite of these limited degrees of freedom in empirical analysis, it seems important to take heterogeneity in the details of various constitutional rules more explicitly into account. Not all presidential systems, for example, are alike and not all federally structured states either. There are also still aspects of constitutions that have not been studied extensively or at all, such as the legitimacy of both the constitution-making process and the document itself.

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<sup>85</sup> Adam Chilton & Mila Versteeg, *How Constitutional Rights Matter* (CUP 2020); Stefan Voigt, *Mind the Gap: Analyzing the Divergence between Constitutional Text and Constitutional Reality*, forthcoming: *International Journal of Constitutional Law*.