Constitutional Rules as Determinants of Social Infrastructure

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Abstract: A vast literature has established the economic impact of social infrastructure, but the determinants of the latter have yet to be fully explored. Competing theories suggest different constitutional rules as determinants, yet empirical studies have not produced robust effects and constitutional proxies have been criticized for being subjective and excessively aggregated. We introduce a new dataset that codes political institutions directly from countries' constitutions, which allows us to dispose of potentially mismeasured constitutional proxies and omitted variable bias. In line with the theory, we find that constitutional rules pertaining to executive constraints are crucial for the development of sound economic institutions. We also identify effects of electoral systems, but find that they are more fundamental than those previously suggested; most prominently, the freedom to form parties and limits on campaign contributions. Moreover, our approach reveals an entirely new set of determinants of social infrastructure: constitutionally guaranteed individual rights (academic freedom, equal rights, separation of church and state).

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1. Introduction

The recent literature on development determinants assigns a key role to constitutional rules that shape economic institutions or *social infrastructure* (Hall and Jones, 1999).[1] Acemoglu et al. (2001) suggest that constitutionally-specified *constraints on the executive*[2] affect the *risk of expropriation*[3] of project investment so that "differences in institutions originating from different types of states" affect development outcomes. In subsequent work, Acemoglu et al. (2005) formally propose a *hierarchy of institutions* where political institutions (constitutions) set the stage for economic institutions (e.g., expropriation risk) to determine levels of development. Persson and Tabellini (2003) explicitly link constitutional features to development outcomes through electoral rules (proportional vs. majoritarian representation) and forms of government (presidential vs. parliamentary democracies). The authors hypothesize that electoral rules and forms of government determine political accountability, which fosters development through decreased diversion policies and increased public good provision.

The empirical literature testing the theoretical linkages between constitutional features and economic institutions produced inconclusive results that are sensitive to the type of theories examined and to the constitutional proxies employed.[4] Voigt (2011) notes that subjectively constructed constitutional proxies often contain a range of political information, making it difficult to identify the exact constitutional rule that exerts an effect on economic institutions. In addition, empirical studies usually focus on particular theories and seldom report results for all variables associated with competing theories. In this paper, we contribute to the literature by providing an exhaustive analysis of the effects of a wide range of constitutional determinants on social infrastructure. Our approach leverages a novel dataset with 156 unambiguous indicators of constitutional provisions and we employ a statistical methodology designed to comprehensively juxtapose competing theories.

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[1] Hall and Jones (1999, p. 84) define *social infrastructure* as "institutions and government policies that determine the economic environment within which individuals accumulate skills, and firms accumulate capital and produce output." In the political science literature, Putnam et al. (1994) first introduced asymmetries in social infrastructures as a determinant of divergent development patterns.

[2] Eckstein and Gurr (1975) subjectively code "institutional constraints on the decision-making powers of the chief executive." The variable aggregates 4 major subcategories that consist of 27 different measures.

[3] Their "expropriation risk" variable is a subjectively constructed index produced by Political Risk Services Group, Inc. staff under the label "contract viability." It is defined as "the risk of unilateral contract modification or cancellation and, at worst, outright expropriation of foreign owned assets."

[4] For surveys of the analysis of the economic effects of constitutional rules see Voigt (1997, 2011).

The detailed information on all dimensions of actual constitutions allows us to establish the exact impact of each constitutional rule on social infrastructure. Our dataset on constitutions covers not only detailed provisions regarding legislative rules or executive constraints, but also exhaustive information relating to individual and economic rights. These rights have received little attention to date, but they may well constitute crucial determinants since they shape voter participation and preferences over the quality of social infrastructure. Moreover, as suggested by Besley et al. (2010), our detailed constitution data includes fundamental electoral rights that can determine policy and economic outcomes through their impact on political competition.

The inclusion of actual constitutional rules improves the fit of social infrastructure regressions substantially. Once actual constitution data is utilized, Hall and Jones' (1999) highly significant determinants of social infrastructure no longer exert an effect.[5] The explanatory power of the original Hall and Jones determinants is instead absorbed by primary characteristics of constitutions. Moreover, of Persson and Tabellini's (2003) constitutional proxies,[6] only the age of a democracy remains effective, while aggregate proxies for electoral systems or executive constraints are dominated by the explanatory power of primary constitutional rules.

Our results show that rules governing elections, such as the freedom to form parties, the absence of legislative quotas, and restrictions on campaign contributions, are important contributors to the quality of economic institutions. Our findings also offer support for the hypothesis that executive constraints are crucial determinants of social infrastructure. While the previous literature includes aggregate measures for the competition in executive recruitment to approximate executive constraints, we obtain no support for this channel. Instead we find that constitutional provisions relating to expedient replacement procedures of the executive are key to high-quality institutions. Most important are, however, constraints on the executive's authority. Specifically, constitutional decision rules that govern the power to declare a state of emergency and the ability of the legislature to investigate the executive are critical in determining social infrastructure.

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[5] These variables include LATITUDE – the distance to the equator, ENGFRAC and EUROFRAC referring to the fraction of the population speaking English and Western European languages, respectively, and Frankel-Romer forecasted trade shares (FRANKROM).

[6] AGE - age of democracy, PRES - dummy identifying presidential regimes, PARL_DEMOC - Polity IV democracy score interacted with (1-PRES), MAJ - dummy for electoral systems which takes the value one if the lower house is elected under plurality rule, and FEDERAL - dummy identifying countries with federal political structures.

Our approach also reveals an entirely novel set of key contributors to economic institutions: constitutionally guaranteed individual rights. Equality before the law, separation of church and state, and intellectual freedom are all systematically linked with better social infrastructure. In contrast, constitutional rules referring to individual rights that are linked to economic entitlements (adequate living standards, health care) are shown to be associated with worse institutional quality. Similarly, we find that constitutional provisions which increase the accessibility of the judiciary, such as the requirement that trials have to be conducted in a language the accused understands and the right to redress for false imprisonment, are crucial factors in social infrastructure development.

Previous approaches to determinants of economic institutions commenced with Mauro (1995), who identified the effects of corruption on economic growth. Knack and Keefer (1995) first constructed a "property rights index" that combined assessments of corruption, rule of law, bureaucratic quality, and expropriation risk. Combining this measure with information on countries' trade openness, Hall and Jones (1999) then created the first index of social infrastructure and examined its impact on development, which has since become the benchmark in the economics literature with over 7000 citations. The idea of using political rules anchored in constitutions as a determinant of Hall and Jones' social infrastructure was first explored by Persson and Tabellini (2003, 2004) who regressed social infrastructure on constitutionally specified regime types (presidential versus parliamentary), electoral rules, and age of democracy.[7] Other constitutional features have received remarkably little attention to date, notably individual rights, with the exception of Feld and Voigt (2003, 2006). Knack and Keefer (1995, p. 223) previously examined civil liberties as potential determinants for "the quality of the institutions that protect property rights" and found that existing aggregate civil liberty indicators were "insufficient proxies." Barro (1997), on the other hand, estimates a positive effect of the degree of democracy on growth, which he shows to be highly correlated with civil liberties, but he does not specify the exact channel through which the latter operate.[8]

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[7] Aside from Persson and Tabellini (2003, 2004), Gerring and Thacker (2004), Blume et al. (2009), and Rockey (2012) also examine the impact of presidential versus parliamentary regimes.
[8] The civil liberties measure is an aggregated index that combines proxies for free speech, the right to organize or demonstrate, and the right to personal autonomy (freedom of religion, education, travel, and other personal rights), as specified by Gastil (1986–87).

Methodologically, our paper introduces a new econometric approach to isolating the effects of primary constitutional rules and previously suggested aggregate proxies on social infrastructure. As competing theories suggest a multitude of distinct determinants of economic institutions, traditional regression approaches inflate significance levels when ignoring the associated uncertainty surrounding the validity of a given theory. To resolve this issue, we leverage Iterative Bayesian Model Averaging (IBMA, Yeung et al., 2005) to identify the effect of distinct constitutional features on economic institutions. IBMA addresses model uncertainty and resolves the computational limitations of existing Bayesian Model Averaging (BMA) algorithms in the presence of a large set of candidate regressors.

The remainder of the paper is organized as follows. Section 2 discusses existing explanations of the impact of constitutional rules on policy outcomes. Section 3 presents our empirical approach, and section 4 discusses the data. Results are presented in section 5, while section 6 concludes.

2. Theories of Constitutional Rules and Economic Institutions

Two central elements have emerged in the literature that links the effects of constitutional rules to the quality of economic institutions (social infrastructure): *political accountability* and *representativeness*.[9] Accountability implies that voters can identify the policy makers responsible for policy choices. The threat of being voted out of office is thought to discipline executives and legislators resulting in decreased corruption and better public policy. Representativeness, on the other hand, indicates whether policy choices account for the preferences of large voter shares instead of minorities. Greater representativeness is thought to generate policies that benefit the broad population through increased public good provision while lowering the risk of providing favors to minorities of the electorate.

Representativeness is influenced by electoral rules and the resulting forms of government. The literature mainly focuses on proxies such as district size or electoral formulas

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[9] See, for example, Persson and Tabellini (2003, 2004), Cervellati et al. (2006), Acemoglu and Robinson (2008) and Eicher and Schreiber (2010).

(plurality versus proportional) to capture representativeness.[10] Proportional representation is thought to result in policies that better represent voters' preferences, while plurality implies greater accountability since it is easier to identify who is responsible for legislation when two rather than many parties occupy the legislative chambers. Proportional representation is thought to lead, however, to higher taxation and public spending as a result of negotiations and coalition formation within the chamber of representatives.[11] As a result, the impact of proportional representation on social infrastructure is ambiguous. More fundamental features of electoral rules reference the freedom to form parties, competitive elections through donation limits, and the protection of voting rights. These rules have received little attention in the literature although they are equally important for the resulting policy choices. Besley et al. (2010) discuss, for example, the impact of voting rights on electoral competition and its link to policy outcomes.

Accountability is thought to be affected by the form of government, in particular by the choice between a parliamentary and a presidential regime. Presidential regimes are thought to be more accountable as they concentrate executive powers in a single office which usually exhibits strong separation of powers through checks and balances. As a result, presidential regimes are expected to feature less rent extraction and better policies. Yet, identifying such an effect has proven elusive in the empirical literature; see Persson and Tabellini (2004). Parliamentary democracies, on the other hand, require cabinets and the confidence of a legislative majority. The confidence requirement fosters legislative cohesion and thus the pursuit of general interest policies and less targeted spending. From this perspective, presidential regimes may be more prone to corruption and preferential treatment of minority interest groups due to the lack of confidence requirements and legislative cohesion, which again renders ambiguous predictions.

The most prominent determinants of social infrastructure concerning accountability are proxies for constitutionally imposed executive constraints. These may be direct constraints (impeachment, term limits, separation of military and government) or they can be implicit in decree powers (e.g., limits on state of emergency declarations). Executive constraints are also commonly related to the competition in the executive's recruitment process and/or decision rules

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[10] Persson and Tabellini (2003) provide an overview. See, amongst others, Strömberg (2008), Milesi-Ferretti et al. (2002) and Stadelmann et al. (2014) on the role of district size, and Austen-Smith (2000) and Lizzeri and Persico (2001) on electoral formulas.
[11] The type of electoral system may also matter for more precise outcomes, such as whether a country benefits from an abundance of natural resources, as shown by Andersen and Aslaksen (2008).

that limit the power of the executive.[12] An executive subject to more checks and balances is, in general, thought to be linked to better economic institutions.

At the same time, the literature that examines the effects of constitutional provisions on social infrastructure has largely abstracted from individual rights and from the accessibility of the judiciary. Indeed, civil liberties are often assumed to be the outcome of a political institution and not the result of a constitutional rule. However, individual rights such as freedom of speech, access to education, and equality before the law can clearly determine both political and economic institutions through increased political competition and participation. The dataset we present below introduces these concepts to the literature and highlights that civil liberties are a key aspect of constitutions which often take a prominent role in these texts. Using this information, we are able to examine the impact of an exhaustive set of constitutionally-specified civil liberties on social infrastructure.

Finally, it has been shown that powerful legislatures strengthen democratization and political stability (Fish, 2006), which eventually are linked to better economic institutions. Stronger legislatures are thought to increase the executive's accountability by putting in place better checks and balances. Similarly, the literature emphasizes that a more equal distribution of power within countries via a federal structure is thought to provide better protections for minorities while also improving their representation (Stepan, 1999). At the same time, a more expanded government structure can lead to less accountability and more corruption,[13] implying an ambiguous relationship between constitutional provisions that strengthen federalism and the quality of economic institutions.

Below we will revisit actual constitutional rules relating to accountability and representativeness and the links of these concepts to social infrastructure as described in this section. We will use data on detailed constitutional provisions, ranging from executive constraints and civil liberties over legislative powers to forms of government and electoral rules, to discern their effect on the quality of economic institutions. To disentangle the impact of our exhaustive collection of constitutional regressors, we employ Iterative Bayesian Model Averaging, which we describe in the next section.

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[12] See Aidt and Shvets (2012) and Nogare and Ricciuti (2011) on term limits, and Besley et al. (2010) on electoral competition.
[13] See Treisman (2000).

3. Empirical Methodology: Juxtaposing Constitutional Data and Theories

The juxtaposition of diverse constitutional theories in order to elicit their effects on economic institutions poses an empirical challenge, especially when we contrast the effects of different data sources (primary and subjectively coded data). In the presence of competing theories and/or a multitude of alternative regressors, researchers encounter model uncertainty which results in overstated confidence intervals (Raftery, 1995). Bayesian Model Averaging (BMA) is designed to address model uncertainty surrounding any particular theory. The methodology reports the probability that a particular regressor associated with a particular theory exerts an effect on the variable of interest. In the presence of model uncertainty, the use of BMA is preferable to single-equation estimations since it minimizes the total error rate (sum of Type I and Type II error probabilities) and generates point estimates which have a lower mean-squared error than any single regression model. In addition, BMA results have a better predictive performance relative to single-equation approaches (Raftery and Zheng, 2003).

In the case of linear regression models, the BMA approach can be summarized as follows. Let Y be the dependent variable, the quality of economic institutions in our case, and let $X_1, X_2, X_3, ..., X_k$, be a set of candidate regressors that determine economic institutions. In our empirical approach, these regressors are constitutional rules and the potential determinants of economic institutions that have been previously suggested by Hall and Jones (1999), Acemoglu et al. (2001) and Persson and Tabellini (2003). Consider a subset $X_1, ..., X_p$ of the regressor space $X_1, X_2, X_3, ..., X_k$, and let a candidate model be

$$Y = \alpha + \sum_{j=1}^{p} \beta_j X_j + \varepsilon , \qquad (1)$$

where $\beta_1, \beta_2, ..., \beta_p$ are the coefficients to be estimated, α is a constant and ε is the error term. BMA proceeds in two steps. Given a dataset D, BMA first estimates a posterior distribution $P(\beta_r|D, M_m)$ for every candidate regressor r in every model M_m that includes the coefficient β_r, as well as each model's posterior probability, $P(M_m|D)$. The second step consists of combining all posterior distributions from the $\overline{m}$ models which include regressor r into the weighted averaged posterior distribution, $P(\beta_r|D)$, using as weights each model's posterior probability:

$$P(\beta_r|D) = \sum_{m=1}^{\overline{m}} P(\beta_r|D,M_m)P(M_m|D) \ . \tag{2}$$

The posterior probability of model M_m describes its likelihood to be the true empirical model, which is formally defined as the ratio of the marginal likelihood (denoted l) of model M_m to the sum of the marginal likelihoods over all possible models:[14]

$$P(M_m|D) \equiv l(D|M_m) \Big/ \sum_{n=1}^{2^K} l(D|M_n) \ . \tag{3}$$

These probabilities are also used as weights to compute the posterior mean and variance for each parameter:

$$\hat{\beta}_r^{BMA} \equiv E[\beta_r|D] = \sum_{m=1}^{\overline{m}} \hat{\beta}_{r,m} P(M_m|D) \tag{4}$$

$$\hat{\sigma}_r^{BMA} \equiv Var[\beta_r|D] = \sum_{m=1}^{\overline{m}} \left(Var\left[\hat{\beta}_{r,m}\big|D,M_m\right] + \hat{\beta}_{r,m} \right) P(M_m|D) - \left(\hat{\beta}_r^{BMA}\right)^2 . \tag{5}$$

The posterior inclusion probability for each regressor, which measures the importance of a variable, can then be obtained by summing the posterior model probabilities over all models that include regressor r,

$$P(\beta_r \neq 0|D) = \sum_{m=1}^{\overline{m}} P(M_m|D) . \tag{6}$$

The posterior inclusion probability indicates the likelihood that a regressor has an effect on the dependent variable. Effect thresholds for the inclusion of a particular regressor have been established by Jeffries (1961) and Kass and Raftery (1995): a posterior probability of less than 50% is seen as *evidence against* an effect; > 50% indicates that there is an effect, which in turn can be either *weak*, *positive*, *strong*, or *decisive* when lying within the following thresholds: 50–75%, 75–95%, 95–99%, and >99%, respectively. In what follows, we will refer to a regressor as being 'effective' if the posterior probability exceeds 50%.

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[14] The marginal likelihood is a function of priors. We follow Raftery (1995) and impose the diffuse Unit Information Prior (UIP) that can be derived from frequentist principles (Kass and Wasserman, 1995). The UIP is seen as a conservative prior that is sufficiently spread out over the relevant parameter values and reasonably flat over the area where the likelihood is substantial.

Given the size of the model space in our application, with over 150 candidate regressors, we employ the Iterative BMA (IBMA) algorithm developed by Yeung et al. (2005).[15] IBMA applies BMA iteratively on a reduced set of variables, $z = 40$ in our case, which is sufficiently small to be processed computationally. After the first z regressors have been processed, q variables whose posterior inclusion probabilities do not exceed a 0.1% threshold are removed from the regressor window and q unprocessed candidate regressors are added. BMA is then repeatedly applied until all regressors have been considered.

4. The Data

Our dependent variable is the social infrastructure index proposed by Hall and Jones (1999) that is comprised of proxies measuring law and order, bureaucratic quality, corruption, risk of expropriation, and government repudiation of contracts as well as the Sachs and Warner (1995) trade openness measure. Persson and Tabellini (2003) label the same index "structural policy" and variants of this index represent the most widely used measure of the quality of economic institutions in the literature (see also Rodrik, Subramanian and Trebbi, 2004, and Acemoglu et al., 2001, 2002).[16]

4.1 Previous Determinants of Social Infrastructure

Hall and Jones (1999) suggest Western European influence as a determinant for social infrastructure. To proxy for Western European influence, Hall and Jones introduce two language variables: the fraction of a country's population speaking a Western European language as a mother tongue (EUROFRAC), and the fraction speaking English as a mother tongue (ENGFRAC). Hall and Jones (1999) also include the distance from the equator (LATITUDE) and Frankel and Romer's (1999) predicted trade shares (FRANKROM). LATITUDE pays homage to Montesquieu's (1748) and Diamond's (1997) environmental/geographic determinism where climatic resource conditions are thought to explain differences in policies and customs. FRANKROM proxies for diversionary policies, as the divergence between actual and predicted trade shares implies distortive trade policies that generate political rents and breed corruption.

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[15] IBMA has since been applied in economics by, among others, Eicher et al. (2007) and Begun (2008).

[16] Acemoglu et al. (2001, 2002) and Acemoglu and Robinson (2012) also investigate the determinants of economic institutions. Since they focus only on former colonies, their proxy for economic institutions, settler mortality, is not included here.

Persson and Tabellini (2003) motivate five constitutional rules as determinants of social infrastructure. First, they hypothesize that more mature democracies adopt systematically different policies as it takes time to build public goods such as pension systems. Older democracies might also have a better system of checks and balances to fight corruption and abuse of power.[17] Hence the age of a democracy (AGE) is expected to positively affect social infrastructure. Second, an indicator of federalism (FEDERAL) is included, which is expected to induce a more equal treatment and improved economic outcomes across different regions (see Persson and Tabellini, 1996). Third is an electoral measure, majoritarian rule (MAJ), which takes the value one when the lower house is elected under plurality rule and zero if it is majoritarian. This variable is motivated by the comparative politics literature that portrays majoritarian and proportional elections as a trade-off between better accountability (less corruption) and representation; see Powell (2000). When candidates with the highest vote shares win every seat at stake (rather than seats proportional to vote shares), politicians are thought to target small and geographically concentrated interest groups (see Persson and Tabellini, 1999, Lizzeri and Persico, 2001, and Milesi-Feretti et al., 2002).

The fourth indicator motivated by Persson and Tabellini (2003) proxies for presidential versus parliamentary regimes; it is denoted PRES and takes the value one in the former case and zero otherwise. Presidential regimes are thought to provide more accountability because they concentrate the executive power in a single office that is directly responsible to voters. In addition, presidential systems are presumed to feature better separation of powers as well as checks and balances, which makes it harder for politicians to collude at the voters' expense (Persson et al., 1997, 2000). Weaker electoral accountability is then thought to result in greater rent extraction and higher taxes than in presidential regimes. Finally, Persson (2004) includes as fifth determinant of social infrastructure a measure of the degree of democracy in non-presidential regimes (PARL_DEMOC), which is the interaction of (1-PRES) and a country's democracy score from the Polity IV project.[18]

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[17] Measuring the age of democracy is not straightforward, as decisions have to be taken about how to account for possible breaks in a country's democratic history, e.g. the evolution of voting right restrictions or de facto seizures of power in countries that are nominally a democracy. An alternative measure of age of democracy has been proposed by Rockey (2012) who examined its impact on the size of government.

[18] In addition, we follow the literature and include regional controls (Africa – AFRICA, Latin America, Central America or the Caribbean – LAAM, and East Asia – ASIAE) as well as colonial origin controls (UK – COL_UKA, Spain – COL_ESPA, and colonists other than the UK or Spain – COL_OTHA).

At this stage, it is also helpful to discuss the notion of causality. Following the approaches by Hall and Jones and Persson and Tabellini, the literature on the determinants of social infrastructure is concerned with long term effects and assumes that variables in these regressions change very slowly. There is no notion that changes in one year will immediately translate into variation of the dependent variable. Hence the regressors do not necessarily need to predate the social infrastructure index. Often variables – such as information of the parliamentary system or the fraction of the population speaking English (ENGFRAC) – are taken without much temporal interest, since they are seen as proxies of deep and long-lasting foundations of social infrastructure.[19] Endogeneity is of course a related issue. For instance, better social infrastructure might have attracted migrants which in turn affects today's measure of ENGFRAC. However, we follow the unanimous approach in the literature and assume that the HJ and PT variables and hence also our constitutional variables are exogenous.[20] Lastly, note that our focus on actual constitutional data limits our approach to *de jure* and not *de facto* institutions. We do not have at our disposal a similar breadth of *de facto* regressors at our disposal, and are hence limited to testing whether an impact of *de jure* constitutional features is supported by the data.

4.2 Primary Constitutions Data

Our data on primary constitutional rules is based on Elkins et al. (2009, 2014), who collected information on all characteristics of written constitutions for 184 countries in 2006. Their data is an exhaustive sequence of coded constitutional questions that we converted into dichotomous variables. After excluding variables that are extraneous or ambiguous (see the Appendix for details) our dataset contains 156 constitutional rules as candidate determinants of social infrastructure. Variable names, detailed definitions and summary statistics are provided in Table 1.[21]

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[19] In particular, Hall and Jones (1999) construct the social infrastructure variable using information from 1950 to 1995.

[20] Elkins, Ginsburg and Melton (2009) discuss changes in constitutions, but what determines these changes has received little attention. An exception is Hayo and Voigt (2010) who examine the transition between presidential and parliamentary regimes; they find that political rather than economic factors are the main cause of transitions.

[21] For example, we omit questions such as 'in what language is the constitution written; who translated the constitution; what is the document title, does the constitution have a preamble; what is the length of the preamble; how many words does the constitution contain; how many documents does the constitution consist of; how many words are in the 'Rights' section of the constitution.' We also excluded variables that were ambiguously defined, such as questions that simply measure whether the constitution 'refers' to an issue without indication *how* the constitution dealt with the issue, for example 'does the constitution refer to the environment.' We document reasons for exclusion of each variable in the Appendix.

The constitutional variables can be distinguished along six important dimensions that pertain to the theories outlined in Section 2. There are 40 variables relating to *Executive Constraints,* distinguishing, among other things, between checks and balances for the head of government and the head of state. In general, the constitutional features in this category pertain to the executive selection process, (limits to) powers and dismissal mechanisms. Second, the dataset includes 24 variables on *Legislative Rules* covering legislative procedures, powers of the legislature and dismissal of lawmakers. Together the constitutional rules in the executive and legislative categories extensively cover the executive and legislative constraints discussed above. Indeed, they provide a much richer set of candidate regressors that pertain to executive constraints in constitutions than previous proxies.

The constitution dataset also contains detailed information on 23 *Judiciary Rules* covering constitutional design, legal processes and legal rights. The fourth category, *Federalism*, contains information on 6 constitutional rules which allow us to directly elicit different degrees of subnational government organizations as suggested by Persson and Tabellini (2003). This detailed information enables us to examine exactly which aspects of federalism (if any) affect social infrastructure. Among other measures, this category includes variables that cover the administration of autonomous and ethnic groups. In addition, the dataset includes 17 variables related to *Elections* that contain detailed descriptions of the electoral processes and of the rules that govern elections. Hence the dataset features direct measures that test the hypotheses put forward by Persson and Tabellini regarding electoral systems.

The most novel and perhaps most important category concerns *Individual and Human Rights* that are anchored in the constitution and which we capture with 46 different variables. These rules include mostly basic rights, such as free speech or academic freedom, equality before the law, and entitlements (living standard provisions).

5. Results

5.1 Determinants of Social Infrastructure

We present our results in two stages. First, we include only primary constitutions data as potential determinants of social infrastructure and subsequently, we add the variables suggested

by Hall and Jones (1999) – EURFRAC, ENGFRAC, LATITUDE and FRANKROM) – and Persson and Tabellini (2003) – PRES, MAJ, AGE, FEDERAL, PARL_DEMOC. Since we are processing over 150 regressors, we report only variables that exhibit at least a weak effect. Our final dataset includes 69 countries (see Table A.1 in the Appendix for a complete list). The drop in the number of observations compared to the constitution dataset arises due the more limited and in part also different set of countries covered by Hall and Jones (1999) and Persson and Tabellini (2003). While our dataset is smaller, OLS regressions of social infrastructure on the Hall and Jones/Persson and Tabellini variables reveal the same signs and similar magnitudes for the coefficient estimates as in the original datasets with larger sample sizes (see Table A.2 in the Appendix for details). Our data is therefore well suited to examine the role of traditional proxies for political institutions and constitutional rules as determinants of social infrastructure.

Panel 1 in Table 2 provides IBMA results when including our 156 primary constitutional rules as candidate regressors, as well as dummies for colonial and continental origin. We find that 26 constitutional regressors surpass the weak effect threshold and thus determine the quality of a country's social infrastructure. The second panel adds the Hall and Jones as well as the Persson and Tabellini constitutional proxies.[22] Of all variables that have been suggested by the previous literature, only one remains effective: AGE (the age of a democracy), which exhibits a 100% inclusion probability implying that it is a key determinant of social infrastructure. The positive sign and the magnitude of the posterior mean indicate that the quality of economic institutions substantially improves with the age of a democracy. Proxies previously employed to examine the effects of different types of democracy or electoral systems are not effective, which indicates that primary constitutional rules better capture particular features of democracies and electoral systems. The effects of all Hall and Jones (1999) variables are also absorbed by the primary constitutions data. Notably, even LATITUDE and the trade policy variable FRANKROM are no longer effective, as their explanatory power is superseded by the primary constitution determinants.

The models in both panels fit the social infrastructure data remarkably well, as measured by both the R-squared and the Bayesian Information Criterion (BIC). The adjusted R-squared is already high in the first panel at 0.95, indicating substantial explanatory power of the

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[22] Table 2 does not report results for variables which (i) were dropped by the IBMA algorithm when they fail to surpass the effect threshold of .1% inclusion probability, or (ii) have a posterior inclusion probability of 50% or less.

constitutional variables in regressions that usually feature fits of about 0.6 in the previous literature.[23] The explanatory power of the regression barely changes with the inclusion of the Hall and Jones and Persson and Tabellini variables, with the adjusted R-squared reaching 0.97 in our second specification.

Overall, there is a substantial overlap in the results from the two specifications, with half of the effective variables in panel 1 appearing also in panel 2. Nevertheless, we also observe important variations which indicate that the AGE of a democracy, a crucial determinant missing in panel 1, does not have an analog in the primary constitutions data − hence the observed difference in the best models. The inclusion of AGE in panel 2 improves the fit and eliminates some primary constitution regressors that are effective in panel 1. Intuitively, the introduction of AGE allows for a different set of models to be selected by the IBMA algorithm, which introduces alternative primary constitutional rules as determinants of social infrastructure.

In our discussion of the results we will focus on the specification in panel 2, which provides the best fit in terms of the Bayesian Information Criterion and the adjusted R-squared. Variables from each broad dimension of the dataset show an effect: *Elections*, *Executive Constraints*, *Federalism*, *Legislative Rules*, *Judiciary Rules* and *Individual and Human Rights*. We first note that electoral rules matter, but not the distinction between presidential and majoritarian systems. Using actual primary constitution data, we find that three features of the electoral system (*Elections*) have a crucial impact on social infrastructure: restrictions on campaign contributions (LimitsOnCampaignDonations) improve social infrastructure outcomes while quotas for minorities in the legislature (MinorityQuotaInLegislature) and limits on the freedom to organize in political parties (PartiesCanBeProhibited) have a detrimental effect. These three features of the electoral process are also among the most important constitutional rules in terms of the magnitude of their influence on social infrastructure, as indicated by their posterior mean.[24]

The most important constitutional rule pertaining to *Executive Constraints*, as measured by its posterior mean and inclusion probability, is the absence of the right for the legislature to investigate the executive (LegCannotInvestigateExecutive). The presence of this provision in the

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[23] See, for example, Persson and Tabellini (2003, Table 3.6) and table A.2.
[24] Since our constitutional variables are generally zero-one dummies, their coefficients can be easily compared.

constitution substantially lowers the quality of social infrastructure. This result is particularly noteworthy given that previous measures of executive constraints focused only on the electoral competition of the chief executive and limitations of his/her powers. While variables to that effect are included in our dataset of primary constitutional rules (see Table 1, for example HOSELECT or HOGIMM_2), none are found to be effective. In contrast, creating a balance of power between legislators and the executive is a crucial determinant of institutional quality. In line with this observation, the presence of a single executive (NumberOffExec=1) which is potentially equipped with the power to declare a state of emergency (ExecCanDeclareStateEmergency) and the fact that in an emergency the head of state is not expediently chosen (HOSReplace=NormalSelection) all have a negative impact on our dependent variable. At the same time, simply including the provision that violations by the head of state can lead to his/her dismissal (ReasonHOSDismissal=Violation) is not sufficient as an executive constraint to ensure high-quality economic institutions. Moreover, the ability of a country's legislature and executive to declare a state of emergency in times of general danger (ReasonStateEmergency=General) proves to be a positive impact on social infrastructure.

As previously discussed, *Federalism* is thought to be an important determinant of the quality of social infrastructure. In our data, we have 6 variables that speak to federalist rules in constitutions but only one effective determinant is suggested in panel 2: whether the constitution recognizes autonomous indigenous groups (FederalAutonomousIndigenous). The magnitude of this determinant is large in terms of the posterior mean and inclusion probability, and the negative coefficient indicates that federal governments can be costly in terms of economic efficiency. Three further constitutional rules that affect social infrastructure pertain to *Legislative Rules*. Most importantly, the possibility for legislators to be removed (IndivLegislatorsCanBeRemoved) enters with a 100% inclusion probability and has a large negative effect. This result is in line with the previously discussed prediction that more independent legislators create better policy outcomes. In addition, constitutional rules that require international organizations to be recognized (LegalProvisionsForIntOrgs), and new laws that require a supermajority in the legislature (NewLawsRequireSuperMajority) have a significant positive effect, indicating that both representativeness and openness improve the quality of economic institutions.

The constitutional rules concerning *Individual and Human Rights* are equally plentiful, and at times even more influential (in terms of posterior means). Indeed, two variables in this category exert the strongest observed effects of constitutional rules. The variable with the largest positive impact on social infrastructure is the absence of discrimination (EqualRights&NonDiscrimination), while the strongest negative effect results from constitutional rules stipulating that the state must provide for an adequate standard of living (AdequateLivingStandardProvision). The positive effect of the former is intuitive, while the negative impact of the latter is likely to be due to weak incentives which hamper economic activity. Several other human rights are also documented to exert decisive effects: rules that limit corruption (CounterCorruptionComission), the separation of church and state (SeparationChurch&State), and the guarantee of academic freedom (AcademicFreedom) all improve social infrastructure. On the other hand, we find that making rights provisions both binding for the state and private parties (AllRightsBinding), as well as constitutionally guaranteed healthcare (Healthcare) exert negative effects. Better healthcare is often related to better economic performance, but excessive entitlements anchored in the constitution might also signal excessive reach into the economic rights and affairs of individuals. Economic theories of entitlements have been developed by Sen (1983), who focused on abject poverty and famine, but we are unaware of entitlement theories being linked to social infrastructure or the protection of property rights, which is what our data indicate.

The final category of constitutional determinants that affect social infrastructure is *Judiciary Rules*. The constitutional guarantee of a redress mechanism for false imprisonment (FalseImprisonRedress), the requirements that trials are conducted in the defendant's mother tongue (TrialsInDefTongue) and in public (TrialPublic) are all effective determinants. The former two constitutional rules exert a positive and the latter a negative effect on the quality of economic institutions. It is also important to note that the absence of sufficiently stringent bankruptcy laws when debtors cannot be detained (DebtorsCannotBeDetained) exert a negative impact on social infrastructure, which highlights that the economic dimensions of social infrastructure are well captured by our dataset on primary constitutional rules.

5.2 Economic Effects of Constitutions

Having been concerned with the question of which constitutional rules affect social infrastructure, we next turn to a discussion of their economic effect. To gauge the economic impact of individual constitutional rules, we consider the posterior means in panel 2 of Table 2, which allow for a direct comparison given that all effective regressors (including AGE) are restricted to the zero-one range. Figure 1 ranks the effective variables based on the sign and magnitude of their respective posterior means (excluding locational and colonial controls).

While Persson and Tabellini's AGE variable has the greatest individual impact on the quality of a country's economic institutions, the simultaneous inclusion of a number of constitutional rules easily outpaces this effect. In particular, there are five constitutional provisions whose presence improves social infrastructure by .1 or more – a substantial effect given that our dependent variable is also confined to the zero-one range: EqualRights&NonDiscrimination, LimitsOnCampaignDonations, TrialsInAccusedLanguage, AcademicFreedom and the presence of a CounterCorruptionCommission.

But importantly, Figure 1 also highlights that there are a number of constitutional rules which have very detrimental effects on social infrastructure. That is, a country cannot only improve its economic institutions by including certain rules in its constitution but also by actively excluding others. In particular, our results indicate that there are 11 constitutional rules whose presence worsens the quality of economic institutions by .1 or more. The most negative effects are exercised by provisions that specify PartiesCanBeProhibited, IndivLegislatorsCanBeRemoved, fixed quotas in the legislature (MinorityQuotaInLegislature), autonomous governments for indigenous groups (FederalAutonomousIndigenous) and guaranteed minimum living standards (AdequateLivingStandardProvision). Hence, constitutional rules with a negative impact are at least as formative for the social infrastructure of a country as provisions with proven positive effects.

Going one step further, we examine next how close each country's constitution comes to the ideal constitution based on the panel 2 results in Table 2. For each country, we sum the posterior means for the rules which are present in the nation's constitution and have a positive impact on social infrastructure. We add to this number the sum of the posterior means (in absolute terms) of the rules which have a negative effect on social infrastructure and are not present in the country's constitution. An optimal constitution index is then obtained by dividing

17

the resulting figure by the index number of an artificial country whose constitution contains all provisions that have a positive impact and no rules with a negative impact on the quality of economic institutions. This weighted constitution index varies from zero (worst constitution) to one (best constitution); see Table A.3 in the Appendix for each country's index value. In Figure 2, we plot the weighted constitution index against the social infrastructure measure for all countries in our sample. As the fitted regression line shows, the weighted constitution index is, on average, a great predictor of social infrastructure. Countries feature particularly higher-quality economic institutions when their constitutions include several rules that we identify to have a positive effect while minimizing at the same time the presence of detrimental provisions.

6. Concluding Remarks

Although a vast literature has established the economic impact of social infrastructure, the determinants of the latter are still poorly understood. While competing theories advocate specific constitutional rules and suggest a variety of determinants that shape social infrastructure, empirical tests of these channels have been based on broad constitutional proxies that produced mixed results. On one hand, these measures lack precision to pinpoint exactly which institutions are relevant. On the other hand, the econometric approaches employed were not designed to juxtapose competing determinants of social infrastructure, which rendered results sensitive to the types of aggregate measures used, and unstable across specifications. Without an exhaustive set of clear constitutional rules, it has been difficult to discern whether a particular channel exerts an effect on social infrastructure, or whether a given proxy is assuming the predictive power of an omitted variable.

In this paper, we exploit a vast new dataset that codifies all dimensions of constitutional rules into 156 variables. As we juxtapose this new primary constitutions data with the proxies previously used in the literature, we find that most of the measures hitherto employed, except for the age of a democracy, have no explanatory power once detailed constitutional rules are introduced. The regression fit improves dramatically and it is clear that the primary data absorbs the effects previously attributed to broad measures of constitutional features. Our results indicate that distinguishing between aggregate constitutional proxies, such as majoritarian versus plurality elections and presidential versus parliamentary regimes, cannot explain the variation in

the observed quality of economic institutions. In contrast, more basic features of the electoral system matter, notably whether the constitution prohibits certain political parties.

We obtain two further important results. First, concerning executive constraints and legislative rules, our data indicates that, in line with existing work, thorough checks and balances result in better policies. The possibility to investigate the executive, the independence of legislators and requiring a supermajority to pass legislation enhance economic institutions, which is in line with theories that highlight the importance of representativeness. Second, a number of individual rights and equal access to the judiciary prove to be important. The separation of church and state, equality before the law, the right of a trial taking place in a language that the accused understands, and academic freedom are all positively correlated with good economic institutions. At the same time, constitutional guarantees of a standard of living have a negative impact on structural policies, indicating that the absence of personal economic responsibility results in less desirable economic outcomes.

Once we adequately control for all constitutional rules using primary constitution data, our results challenge the previous literature's broad conclusions and indicate that prior findings were an artifact of either limited controls (omitted variable bias) or imprecise constitutional proxies (errors in variables). In particular, our findings suggest that the vast majority of political, geographic and economic determinants of structural policies proposed in the literature lose their explanatory power once we control for the subtle details in the constitutional structure of countries. These variables therefore successfully capture the effect of countries' underlying political structure. The data we have used is rich and our results constitute only a first step in using it to analyze economic outcomes.

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Table 1: Variable Names, Definitions, Sources, Summary Statistics

Variable	Definition and source if other than Elkins et al. (2014)	Mean	SD	Min	Max
Legislative Rules					
AdoptAmendmentRequires>60%	What proportion of the vote is needed to approve a constitutional amendment? 345: 3/5 or 3/4 majority	0.07	0.26	0	1
AMNDAMAJ	Do constitutional amendments require more than a simple majority by the legislature to be approved?	0.66	0.48	0	1
ASSETS	Does the Constitution require that legislators disclose their earnings and/or assets?	0.10	0.30	0	1
HOUSENUM	How many chambers or houses does the Legislature contain?	0.48	0.50	0	1
IMMUNITY_2	Does the constitution provide for immunity for the members of the Legislature under some conditions? 2: limited immunity	0.79	0.41	0	1
IndivLegislatorsCanBeRemoved	Are there provisions for removing individual legislators?	0.72	0.45	0	1
INITIAT	Does the constitution provide for the ability of individuals to propose legislative initiatives (referenda from below)?	0.31	0.47	0	1
LegalProvisionsForIntLaws	Does the constitution contain provisions concerning the relationship between the constitution and international law?	0.76	0.43	0	1
LegalProvisionsForIntOrgs	Does the constitution contain provisions concerning international organizations?	0.63	0.49	0	1
LEGAPP_1	Who has the power to approve/reject legislation once it has been passed by the legislature (not including reviews for constitutionality)? 1: Head of State	0.86	0.35	0	1
LEGAPPDF_4	Which of the following describes the default mode for the approval of legislation? 4: Executive is required to take action: either sign/promulgate or return to the legislature	0.37	0.49	0	1
LEGAPPPT_123	Does the approving/vetoing actor have the power to approve/reject parts of the bill, the bill in its entirety, or both? 1: Can only veto parts of the bill (line-item veto), 2: Can only veto the bill in its entirety, 3: Can veto either specific parts or the bill in its entirety	0.41	0.50	0	1
NewLawsRequireSuperMajority	Is a supermajority needed for passing any legislation?	0.27	0.45	0	1
OVERPCT 2_3_3_5	What proportion of the vote is needed to override a veto? 2_3: 2/3 majority, 3_5: 3/5 majority	0.32	0.47	0	1
OVERPCT_1_2	What proportion of the vote is needed to override a veto? 1: Plurality, 2: majority	0.17	0.38	0	1
OVERRIDE	Can vetoes of legislation be overridden?	0.63	0.49	0	1
PUBMEET	Does the constitution prescribe whether or not the meetings of the Legislature are (generally) held in public?	0.45	0.50	0	1
PUBMIN	Is a record of the deliberations of the Legislature published?	0.18	0.39	0	1
SpecialLegProcessForBudgetBills	Does the constitution provide for any of the following special legislative processes? 2: budget bills	0.79	0.41	0	1
SpecialLegProcessForSpendingBills	Does the constitution provide for any of the following special legislative processes? 5: spending bills	0.32	0.47	0	1
SPECLEG_1	Does the constitution provide for any of the following special legislative processes? 1: organic law	0.21	0.41	0	1
SPECLEG_3	Does the constitution provide for any of the following special legislative processes? 3: tax bills	0.62	0.49	0	1
SPECLEG_4	Does the constitution provide for any of the following special legislative processes? 4: finance bills	0.44	0.50	0	1
UNAMEND	Are any parts of the constitution unamendable?	0.28	0.45	0	1
Elections					
LegChamber1IsElected	Does the constitution specify the electoral system for the first (or only) chamber? 1: Yes, one method, 2: Yes, two methods (a mixed system)	0.47	0.50	0	1
LegChamber2IsElected	Does the constitution specify the electoral system for the Second Chamber? 1: Yes, one method, 2: Yes, two methods (a mixed system), 3: Yes, but without providing any specific details	0.20	0.40	0	1
LHSELECT_3	How are members of the first (or only) chamber of the Legislature selected? 3: elected by citizens	0.97	0.17	0	1
LimitsOnCampaignDonations	Are there any provisions for limits on money used for campaigns?	0.12	0.32	0	1
MinorityQuotaInLegislature	Does the constitution stipulate a quota for representation of certain groups in the Second Chamber?	0.09	0.28	0	1
OVERSGHT_123	Does the constitution provide for an electoral commission or electoral court to oversee the election process? 1: electoral commission, 2: electoral court, 3: both	0.61	0.49	0	1
PartiesCanBeProhibited	Does the constitution prohibit one or more political parties? 2: Yes, certain parties, 3: Yes, certain types of parties	0.24	0.43	0	1
PARTRGHT	Does the constitution provide for a right to form political parties?	0.48	0.50	0	1
REFEREN	Does the constitution provide for the ability to propose a referendum (or plebiscite)?	0.65	0.48	0	1
UHAGE_UNDER22	Is the minimum age limit for eligibility to serve as a member of the Second Chamber of the Legislature 22 or under 22?	0.16	0.36	0	1

Variable	Definition and source if other than Elkins et al. (2014)	Mean	SD	Min	Max
UHSELECT_1	How are members of the Second Chamber selected? 1: appointed	0.16	0.36	0	1
UHSELECT_2	How are members of the Second Chamber selected? 2: elected by electors	0.16	0.36	0	1
UHSELECT_3	How are members of the Second Chamber selected? 3: elected by citizens	0.27	0.45	0	1
UHTERM_3_5	Is the maximum term length for members of the Second Chamber of the Legislature between 3 and 5 years?	0.24	0.43	0	1
VOTELIM_1	Besides age limits, which additional restrictions does the constitution place on voting? 1: must not be incapacitated (mentally or physically)	0.31	0.47	0	1
VOTERES	Does the constitution place any restrictions on the right to vote?	0.90	0.30	0	1
VOTEUN	Does the constitution make a claim to universal adult suffrage?	0.56	0.50	0	1
Executive Constraints					
ATGEN	Does the constitution provide for an attorney general or public prosecutor responsible for representing the government in criminal or civil cases?	0.73	0.45	0	1
BANK	Does the constitution contain provisions for a central bank?	0.45	0.50	0	1
BANKGOAL_1	What are the policy goals of the central bank? 1: Price stability alone	0.07	0.26	0	1
COMCHIEF_1	Who is the commander in chief of the armed forces? 1: head of state	0.73	0.45	0	1
DEPEXEC	Does the constitution specify a deputy executive of any kind (e.g., deputy prime minister, vice president)?	0.67	0.47	0	1
EMAPPR_1	Who approves a state of emergency? 1: does not need approval	0.16	0.36	0	1
EMCOND_2	Under which of the following circumstances can a state of emergency be called? 2: internal security	0.45	0.50	0	1
EMCOND_3	Under which of the following circumstances can a state of emergency be called? 3: national disaster	0.34	0.48	0	1
EMDECL_457	Who can declare a state of emergency? 4: government/cabinet, 5: first (or only) chamber of the legislature, 7: both chambers of the legislature are required	0.12	0.32	0	1
EMRIGHTS	Does the constitution provide for suspension or restriction of rights during states of emergency?	0.61	0.49	0	1
ExecCanDeclareStateEmergency	Who can declare state of emergency? 1: head of state, 3: either head of state or head of government	0.61	0.49	0	1
EXECINDP	Does the constitution contain an explicit declaration regarding the INDEPENDENCE of the central executive organ(s)?	0.13	0.34	0	1
HOGDEC	Does the Head of Government have decree power?	0.14	0.35	0	1
HOGIMM_2	Is the Head of Government provided with immunity from prosecution? 2: Yes, limmited immunity	0.10	0.30	0	1
HOGSUCC_12	Should the head of government need to be replaced before the normally scheduled replacement process, what is the process of replacement? 1: The normal selection process (whether it be election or appointment) is implemented, 2: The legislature appoints a successor	0.24	0.43	0	1
HOSCanDismissLegislature	Who, if anybody, can dismiss the legislature? 1: head of state	0.59	0.50	0	1
HOSDCOND_2	Under what grounds can the head of state be dismissed? 2: crimes and other issues of conduct	0.52	0.50	0	1
HOSDCOND_3	Under what grounds can the head of state be dismissed? 3: treason	0.21	0.41	0	1
HOSDCOND_5	Under what grounds can the head of state be dismissed? 5: incapacitated	0.35	0.48	0	1
HOSDEC	Does the Head of State have decree power?	0.55	0.50	0	1
HOSDISS	Are there provisions for dismissing the Head of State?	0.82	0.39	0	1
HOSELECT_1	How is the Head of State selected? 1: heredity/royal selection	0.17	0.38	0	1
HOSELECT_2	How is the Head of State selected? 2: elected by citizens	0.56	0.50	0	1
HOSELECT_3	How is the Head of State selected? 3: elected by elite group	0.24	0.43	0	1
HOSELSYS_1	Which of these best categorizes the electoral system for the Head of State? 1: plurality	0.09	0.28	0	1
HOSELSYS_4567	Which of these best categorizes the electoral system for the Head of State? 4: Majority, unspecified, 5: Majority, alternative vote method, 6: Majority, by two round method with popular run-off, 7: Majority, by two round method with assembly run-off	0.39	0.49	0	1
HOSReplace=NormalSelection	Should the head of state need to be replaced before the normally scheduled replacement process, what is the process of replacement? 1: normal selection process (whether it be election or appointment) is implemented	0.37	0.49	0	1
HOSSUCC_2	Should the head of state need to be replaced before the normally scheduled replacement process, what is the process of replacement? 2: the legislature appoints a succcessor	0.06	0.24	0	1
HOSSUCC_4	Should the head of state need to be replaced before the normally scheduled replacement process, what is the process of replacement? 4: A predetermined line of succession is followed	0.45	0.50	0	1
HOSTERM_UNDER5	Is the maximum term length of the Head of State 5 years or under?	0.63	0.49	0	1
LegCannotInvestigateExecutive	Does the legislature not have the power to investigate the activities of the executive branch?	0.06	0.24	0	1
NumberOfExec=1	One executive is specified in the constitution.	0.44	0.50	0	1
ReasonHOSDismissal=Unrestricted	Under what grounds can the Head of State be dismissed? 1: general	0.09	0.28	0	1

| Variable	Definition and source if other than Elkins et al. (2014)	Mean	SD	Min	Max
	dissatisfaction with the leadership (i.e., dismissal is fairly unrestricted)				
ReasonHOSDismissal=Violation	Under what grounds can the head of state be dismissed? 4: violations of the constitution	0.39	0.49	0	1
ReasonStateEmergency=Econ	Under which of the following circumstances can a state of emergency be called? 5: economic emergency	0.13	0.34	0	1
ReasonStateEmergency=General	Under which of the following circumstances can a state of emergency be called? 4: general danger	0.38	0.49	0	1
ReasonStateEmergency=War	Under which of the following circumstances can a state of emergency be called? 1: war/aggression	0.49	0.50	0	1
TERR	Does the constitution define the geographic borders/territory of the state?	0.18	0.39	0	1
WAR_13	Who has the power to declare war? 1: head of state, 3: the government/cabinet	0.42	0.50	0	1
WAR_47	Who has the power to declare war? 4: First (or only) Chamber of the Legislature, 7: Both Chambers, acting jointly	0.20	0.40	0	1
Judiciary Rules					
CAPPUN	Does the constitution universally prohibit the use of capital punishment?	0.32	0.47	0	1
CorporalPunishmentProhibited	Does the constitution universally prohibit the use of corporal punishment?	0.07	0.26	0	1
COUNS	Does the constitution provide the right to counsel if one is indicted or arrested?	0.65	0.48	0	1
DebtorsCannotBeDetained	Does the constitution forbid the detention of debtors?	0.21	0.41	0	1
DUEPROC	Does the constitution explicitly mention due process?	0.17	0.38	0	1
EXAMWIT_3	Does the constitution provide for the right to examine evidence or confront all witnesses? 3: both	0.06	0.24	0	1
EXPOST	Does the constitution prohibit punishment by laws enacted ex post facto?	0.79	0.41	0	1
FAIRTRI	Does the constitution provide the right to a fair trial?	0.47	0.50	0	1
FalseImprisonmentRedress	Does the constitution provide for the right of some redress in the case of false imprisonment, arrest, or judicial error?	0.37	0.49	0	1
HABCORP	Does the constitution provide for the right to protection from unjustified restraint (habeas corpus)?	0.85	0.36	0	1
ILLADMIN	Does the constitution contain provisions protecting the individual against illegal or ultra-vires administrative actions?	0.34	0.48	0	1
JC	Does the constitution contain provisions for a Judicial Council/Commission?	0.63	0.49	0	1
JREM	Are there provisions for dismissing judges?	0.82	0.39	0	1
JUDCRTS_1	For which of the following specialized courts does the constitution contain provisions? 1: administrative courts	0.38	0.49	0	1
JUDCRTS_2	For which of the following specialized courts does the constitution contain provisions? 2: constitutional court	0.37	0.49	0	1
PREREL	Does the constitution provide for the right/possibility of pre-trial release?	0.41	0.50	0	1
PRESINOC	Is there a presumption of innocence in trials?	0.58	0.50	0	1
RGHTAPP	Do defendants have the right to appeal judicial decisions?	0.29	0.46	0	1
RuleOfLaw(GermanRechtsStaat)	Does the constitution contain a general statement regarding rule of law, legality, or Rechtsstaat (the German equivalent)?	0.41	0.50	0	1
SPEEDTRI	Does the constitution provide for the right to a speedy trial?	0.54	0.50	0	1
TrialsArePublic	Does the constitution generally require public trials?	0.65	0.48	0	1
TrialsInAccusedLanguage	Does the constitution specify the trial has to be in a language the accused understands or the right to an interpreter if the accused cannot understand the language?	0.38	0.49	0	1
WOLAW	Does the constitution mention nulla poena sine lege or the principle that no person should be punished without law?	0.61	0.49	0	1
Federalism					
FEDERAL_1	Does the constitution recognize any of the following subnational governments? 1: Local/Municipal Government	0.75	0.44	0	1
FederalAutonomousIndigenous	Does the constitution recognize any of the following subnational governments? 3: Autonomous Indigenous Groups	0.13	0.34	0	1
FederalState/Region	Does the constitution recognize any of the following subnational governments? 2: Subsidiary units (regions, states, or provinces)	0.62	0.49	0	1
FEDREV	Does the constitution contain provisions allowing review of the legislation of the constituent units in federations by federal judicial or other central government organs?	0.17	0.38	0	1
FEDUNIT_12	Is the state described as either federal, confederal, or unitary? 1: federal, 2:confederal	0.17	0.38	0	1
FEDUNIT_3	Is the state described as either federal, confederal, or unitary? 3: unitary	0.23	0.42	0	1
Individual and Human Rights					
AcademicFreedom	Does the constitution guarantee academic freedom?	0.47	0.50	0	1
ACHIGHED_1	Does the constitution guarantee equal access to higher education? 1: Yes	0.17	0.38	0	1
ACHIGHED_2	Does the constitution guarantee equal access to higher education? 2: Yes, but qualified	0.18	0.39	0	1
AdequateLivingStandardProvision	Does the constitution provide for a right to an adequate or reasonable standard of living?	0.30	0.46	0	1

Variable	Definition and source if other than Elkins et al. (2014)	Mean	SD	Min	Max
AllRightsBinding	Are rights provisions binding on private parties as well as the state?	0.18	0.39	0	1
ASSEM	Does the constitution provide for freedom of assembly	0.90	0.30	0	1
ASSOCEXPRESSOPINION	Combination of ASSOC ('Does the constitution provide for freedom of association?'), EXPRESS ('Does the constitution provide for freedom of expression or speech?'), and OPINION ('Does the constitution provide for freedom of opinion, thought, and/or conscience?')	0.93	0.26	0	1
BUSINES	Does the constitution provide a right to conduct/establish a business?	0.38	0.49	0	1
CensorshipAllowed	Does the constitution prohibit censorship? 1: Yes, 2: Censorship allowed in exceptional cases (i.e. war, state of emergency, or in the interest of public safety, etc.)	0.49	0.50	0	1
CounterCorruptionComission	Does the constitution contain provisions for a counter corruption commission?	0.07	0.26	0	1
CULTRGHT	Does the constitution refer to a state duty to protect or promote culture or cultural rights?	0.63	0.49	0	1
ECONPLAN	Does the constitution mention the adoption of national economic plans?	0.17	0.38	0	1
EDCOMPFREE	Does the constitution stipulate that education be compulsory until at least some level? Or does the constitution stipulate that education be free, at least up to some level?	0.68	0.47	0	1
EqualRights&NonDiscrimination	Does the constitution refer to equality before the law, the equal rights of men, or non-discrimination?	0.96	0.21	0	1
ETHINCL	Does the constitution contain provisions concerning national integration of ethnic communities?	0.27	0.45	0	1
EXPCOND_137	Under what conditions or for what purposes can the state expropriate private property? 1: Infrastructure, public works, 3: national defense, 7: general public purpose	0.66	0.48	0	1
EXPCOND_2456	Under what conditions or for what purposes can the state expropriate private property? 2: redistribution to other citizens, 4: land, natural resource preservation, 5: exploitation of natural resources, 6: land reform	0.16	0.36	0	1
EXPRCOMP_1234	What is the specified level of compensation for expropriation of private property? 1: fair/just, 2: full, 3: appropriate, 4: adequate	0.55	0.50	0	1
EXPROP	Can the government expropriate private property under at least some conditions?	0.87	0.34	0	1
FREECOMP	Does the constitution provide the right to a free and/or competitive market?	0.21	0.41	0	1
FREEMOVE	Does the constitution provide for freedom of movement?	0.83	0.38	0	1
FREEREL	Does the constitution provide for freedom of religion?	0.94	0.24	0	1
GOVMED_2	How does the constitution address the state operation of print or electronic media? 2: State can operate media outlets	0.14	0.35	0	1
Healthcare	Does the constitution mention the right to health care?	0.38	0.49	0	1
HEALTHF	Does the constitution specify that healthcare should be provided by government free of charge?	0.18	0.39	0	1
HR	Does the constitution contain provisions for a human rights commission?	0.16	0.36	0	1
INFOACC	Does the constitution provide for an individual right to view government files or documents under at least some conditions?	0.35	0.48	0	1
INTPROP_1234	Does the constitution mention any of the following intellectual property rights? 1: patents, 2: copyrights, 3: trademark, 4: general reference to intellectual property	0.44	0.50	0	1
JOINTRDE	Does the constitution provide for the right to form or to join trade unions?	0.73	0.45	0	1
LIBEL	Does the constitution provide for the right of protection of one's reputation from libelous actions?	0.31	0.47	0	1
MEDCOM	Does the constitution mention a special regulatory body/institution to oversee the media market?	0.16	0.36	0	1
MEDMARK_12345	Does the constitution mention any of the following general principles about the operation of the media market? 1: no monopoly or oligopoly, 2: competitive, 3: pluralism, 4: balanced, 5: fair	0.20	0.40	0	1
OFFREL_1	Does the constitution contain provisions concerning a national or official religion or a national or official church? 1: Yes, national religion specified	0.16	0.36	0	1
OPGROUP	Does the constitution provide for positive obligations to transfer wealth to, or provide opportunity for, particular groups?	0.18	0.39	0	1
PROPRGHT	Does the constitution provide for a right to own property?	0.78	0.42	0	1
PROVHLTH	Does the constitution mention a state duty to provide health care?	0.37	0.49	0	1
RELTAX	Are religious organizations granted tax free status?	0.10	0.30	0	1
REMUNER	Does the constitution provide the right to just remuneration, fair or equal payment for work?	0.45	0.50	0	1
SCIFREE	Does the constitution provide for a right to enjoy the benefits of scientific progress?	0.13	0.34	0	1
SELFDET	Does the constitution provide for a people's right of self-determination?	0.17	0.38	0	1
SeparationChurch&State	Does the constitution contain an explicit decree of separation of church and state?	0.23	0.42	0	1
SHELTER	Does the constitution provide for the right to shelter or housing?	0.32	0.47	0	1

| Variable	Definition and source if other than Elkins et al. (2014)	Mean	SD	Min	Max
STRIKE_12	Does the constitution provide for a right to strike? 1: Yes, 2: Yes, but with limitations	0.48	0.50	0	1
TAXES	Does the constitution refer to a duty to pay taxes?	0.31	0.47	0	1
TORTURE_12	Does the constitution prohibit torture? 1: Universally Prohibited, 2: Prohibited Except in the Case of War	0.69	0.47	0	1
WORK	Does the constitution refer to a duty to work?	0.27	0.45	0	1
Location and Colony Controls					
AFRICA	Regional dummy variable, equal to 1 if a country is in Africa, 0 otherwise. Source: Persson and Tabellini (2003)	0.16	0.36	0	1
ASIAE	Regional dummy variable, equal to 1 if a country is in East Asia, 0 otherwise. Source: Persson and Tabellini (2003)	0.16	0.36	0	1
COL_ESPA	Spanish colonial origin, discounted by years since independence), and defined as COL_ESPA = COL_ESP*(250 − T_INDEP)/250. Source: Persson and Tabellini (2003)	0.07	0.14	0	0.79
COL_OTHA	Colonial origin other than Spanish or British, discounted by years since independence, and defined as COL_OTH*(250 − T_INDEP)/250. Source: Persson and Tabellini (2003)	0.16	0.30	0	0.96
COL_UKA	British colonial origin, discounted by years since independence, and defined as COL_UKA = COL_UK*(250 − T_INDEP)/250. Source: Persson and Tabellini (2003)	0.28	0.39	0	0.92
LAAM	Regional dummy variable, equal to 1 if a country is in Latin America, Central America or the Caribbean, 0 otherwise. Source: Persson and Tabellini (2003)	0.28	0.45	0	1
Hall and Jones/Persson and Tabellini Variables					
AGE	Age of democracy, defined as: AGE=(2000 − DEM_AGE)/200 and varying between 0 and 1, with US being the oldest democracy (value of 1). Source: Persson and Tabellini (2003)	0.22	0.22	0.03	1
ENGFRAC	The fraction of the population speaking English as a native language. Source: Hall and Jones (1999)	0.10	0.28	0	1
EURFRAC	The fraction of the population speaking one of the major languages of Western Europe: English, French, German, Portuguese, or Spanish. Source: Hall and Jones (1999)	0.38	0.43	0	1
FEDERAL	Dummy variable, equal to 1 if the country has a federal political structure, 0 otherwise. Source: Persson and Tabellini (2003)	0.17	0.38	0	1
FRANKROM	Natural log of the Frankel-Romer forecasted trade share, derived from a gravity model of international trade that only takes into account country population and geographical features. Source: Hall and Jones (1999)	2.81	0.82	0.94	5.64
LAT01	Latitude measure, normalized to lie between 0 and 1. Source: Hall and Jones (1999)	0.32	0.19	0	0.71
MAJ	Dummy variable for electoral systems. Equals 1 if all the lower house is elected under plurality rule, 0 otherwise. Only legislative elections (lower house) are considered. Source: Persson and Tabellini (2003)	0.35	0.48	0	1
PARL_DEMOC	Score for democracy from POLITY IV project interacted with (1-PRES). Source: Persson and Tabellini (2003)	4.68	4.74	-2	10
PRES	1 in presidential regimes, 0 otherwise. Regimes where the confidence of the assembly is not necessary for the executive (even if an elected president is not chief executive, or if there is no elected president) are included among presidential regimes. Most semi-presidential and premier-presidential systems are classified as parliamentary. Source: Persson and Tabellini (2003)	0.44	0.50	0	1
STRUCTURAL	Social infrastructure: average of years open and gadp. Source: Hall and Jones (1999)	0.58	0.25	0.16	1
Note: There are 69 observations. If answer to question is YES, dummy variables take value one, and zero otherwise.					

Table 2: Determinants of Economic Institutions

Dependent Variable: Hall and Jones (1999) Social Infrastructure		Primary Constitution Data			Primary, Hall and Jones & Persson and Tabellini Data		
Category	Variable	Post. Prob.	Post. Mean	Post. SD	Post. Prob.	Post. Mean	Post. SD
Constitution Data							
Elections	LimitsOnCampaignDonations				100	0.21	0.04
	PartiesCanBeProhibited	100	-0.12	0.03	100	-0.16	0.03
	MinorityQuotaInLegislature				100	-0.18	0.03
	LegChamber1IsElected				61	-0.02	0.02
	LegChamber2IsElected	99	-0.09	0.03			
Executive Constraints	ReasonStateEmergency=General	100	0.12	0.03	100	0.08	0.02
	NumberOfExec=1	100	-0.19	0.03	100	-0.10	0.02
	ExecCanDeclareStateEmergency	100	-0.10	0.03	100	-0.10	0.03
	HOSReplace=NormalSelection				100	-0.11	0.03
	LegCannotInvestigateExecutive				98	-0.12	0.04
	ReasonHOSDismissal=Violation	100	-0.17	0.03	98	-0.07	0.03
	ReasonStateEmergency=War	100	-0.14	0.03			
	ReasonStateEmergency=Econ	100	-0.15	0.04			
	ReasonHOSDismissal=Unrestricted	86	0.09	0.06			
	HOSCanDismissLegislature	100	-0.17	0.04			
Federalism	FederalAutonomousIndigenous				100	-0.19	0.04
	FederalState/Region	68	0.04	0.03			
Legislative Rules	IndivLegislatorsCanBeRemoved	100	-0.14	0.03	100	-0.17	0.02
	LegalProvisionsForIntOrgs				100	0.08	0.02
	NewLawsRequireSuperMajority				100	0.07	0.02
	LegalProvisionsForIntLaws	100	-0.15	0.03			
	SpecialLegProcessForBudgetBills	97	-0.15	0.05			
	AdoptAmendmentRequires>60%	87	-0.09	0.06			
	SpecialLegProcessForSpendingBills	51	0.03	0.04			
Individual and Human Rights	AdequateLivingStandardProvision	100	-0.17	0.03	100	-0.23	0.02
	AcademicFreedom	100	0.18	0.03	100	0.15	0.03
	EqualRights&NonDiscrimination	100	0.29	0.07	100	0.25	0.05
	AllRightsBinding				100	-0.14	0.03
	SeparationChurch&State				99	0.07	0.03
	CounterCorruptionComission	99	0.16	0.05	99	0.13	0.04
	Healthcare	97	-0.09	0.04	99	-0.09	0.03
	CensorshipAllowed	93	0.10	0.04			
Judiciary Rules	DebtorsCannotBeDetained	100	-0.22	0.04	100	-0.09	0.03
	TrialsArePublic	82	-0.05	0.04	100	-0.13	0.02
	FalseImprisonmentRedress				100	0.07	0.02
	TrialsInAccusedLanguage				100	0.18	0.03
	RuleOfLaw(GermanRechtsStaat)	88	-0.05	0.03			
	CorporalPunishmentProhibited	87	0.09	0.06			
Location and Colony Controls	AFRICA	100	-0.20	0.04	100	-0.17	0.05
	LAAM	96	-0.15	0.06	100	-0.20	0.04
	ASIAE				78	0.06	0.05
	COL_UKA				83	-0.07	0.05
Hall and Jones	EURFRAC						
	ENGFRAC						
	LATITUDE						
	FRANKROM						
Persson and Tabellini	AGE				100	0.33	0.06
	PARL_DEMOC						
	MAJ						
	PRES						
	FEDERAL						
	nobs		69			69	
	R2		0.952			0.968	
	BIC		-86.78			-110.48	

Figure 1: The Economic Effects of Constitutional Rules on Social Infrastructure
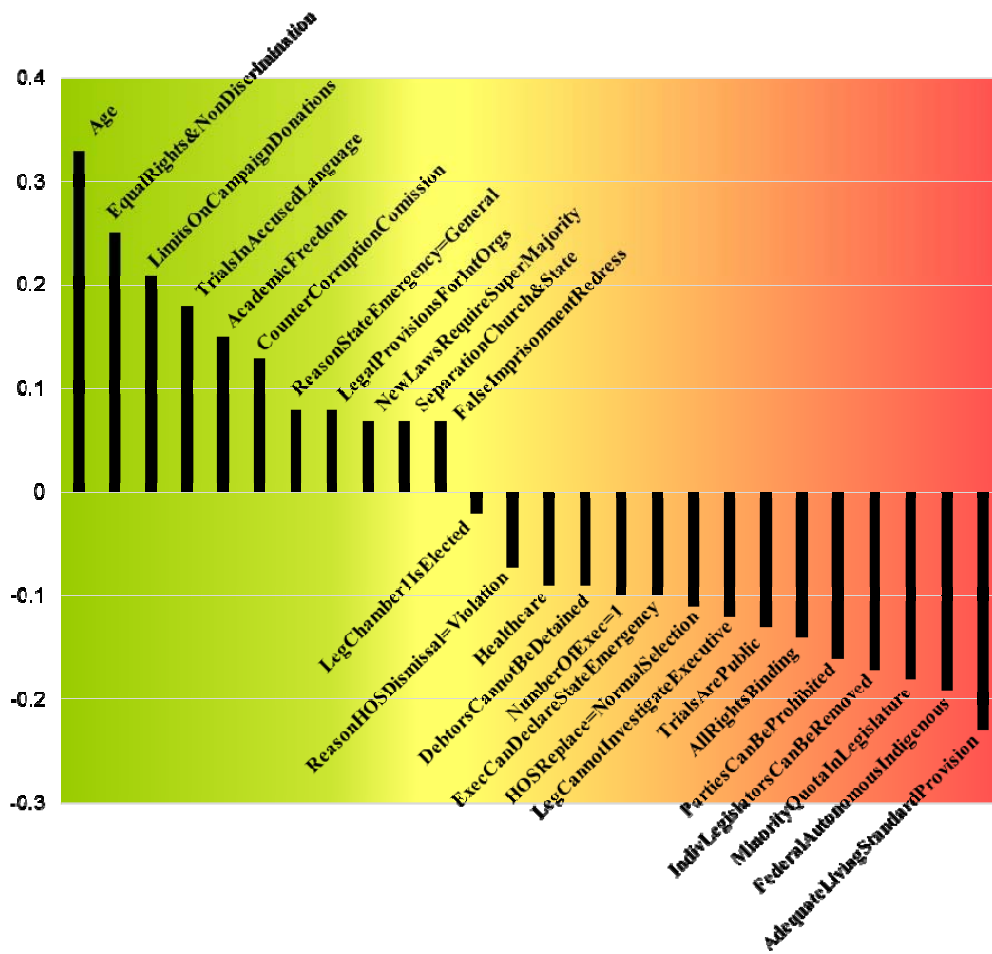
Figure 2: Weighted Constitution Index versus Social Infrastructure
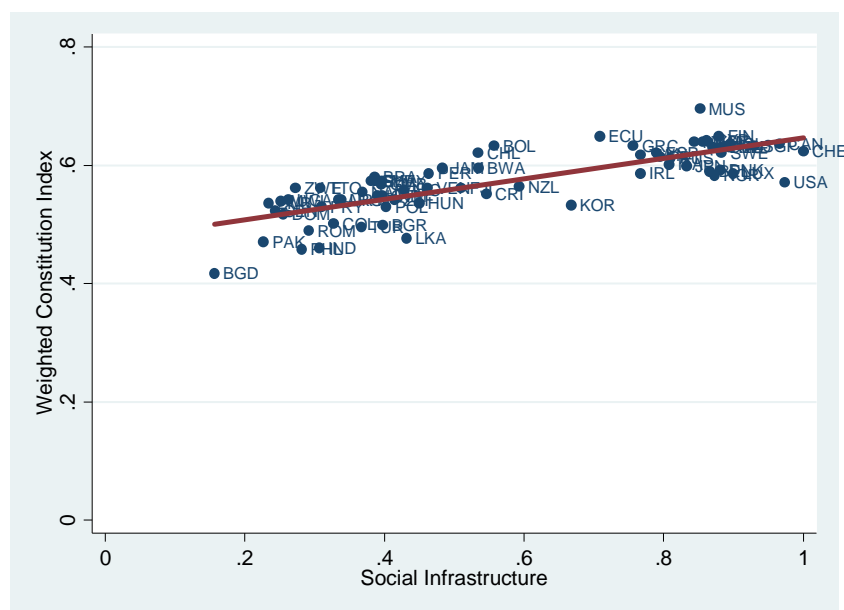
Appendix: Description of the Constitution Data and Additional Tables

The original 'Characteristics of National Constitutions' dataset (version 1.0) was downloaded from http://www.comparativeconstitutionsproject.org/ on January 2, 2015. It included information on the most recent constitutions in 184 countries. To conduct the empirical analysis, a number of variables needed to be recoded or dropped. Below we provide the details on the necessary changes to generate the dataset used in our analysis. The specific adjustments are programmed in the provided UNBUNDLING_DATA.do Stata file. Recoding of the original data was necessitated for seven major reasons.

I) Irrelevant Variables
A number of variables are irrelevant to our analysis, for example COWCODE (Correlates of War country code) or SOURCE ('What is the source for the text of the Constitution?'). Other variables excluded on this basis are ACCESS, AMPARO, ARMS, ASYLUM, ATTEND, CENSUS, CHILDWRK, CITDEP, CITREN, CITREV, CIVIL, CIVMAR, COLONY, COLRULE, COUNTRY, DOCS, DOCTIT, DOUBJEP, ENDYEAR, EVNTID, EVNTTYPE, EVNTYEAR, EXCRIM, FNDFAM, GRJURY, HEADFORN, HOGLEGR, HOGPARD, HOGREST, HOSDECIM, HOSREST, HOSPARD, JUDSAL, LANG, LANGSRCE, LENGTH, LHCOHORT, LHNAME, LHREST, LHTERM, LIFE, MARRIAGE, MATEQUAL, MIRANDA, MODEL, NOMIL, PREAMBLE, PREAMBW, PROFLEG, RGHTWRDS, SAMESEXM, SYSTID, SYSTYEAR, TESTATE, TRANSLAT, TREATAP, TREATINI, TREATRVW, UHNAME and UNCONPER. In addition, we dropped all variables containing detailed article listings and "additional comments."

II) Variables that Required Recoding
A number of variables are originally coded categorically. If variables are of the enumerated type, we recoded them into dichotomous (binary) variables. Details on which variables were recoded are provided in the UNBUNDLING_DATA.do Stata file. There are a number of variables which, given a large number of potential answers, cannot be grouped into binary variables. If none of the individual answers had a meaningful interpretation, we dropped the constitutional rules: CABDISS, CHALLEG, INTERP, EXSESS, EMOTHER, LEGREP and PARTUNCO.

III) Imprecise Variable Definitions
A number of variables are imprecisely defined. Their definitions typically include the terms "refer" or "mention" without further definition, for example, the variable MARKET ('Does the constitution refer to the 'free market,' 'capitalism,' or an analogous term?') – in this case 'refer' does not reveal the context of the constitutional rule (positive or negative). Variables that were excluded because their descriptions were too vague to allow for a clear binary interpretation are indicated in the UNBUNDLING_DATA.do Stata file.

IV) Variables That Lack Variation
We drop the variables PRTYDUTY, TRADEUN, HOGTRMLIM_5 and LEGISL, since they either take the value zero or one for all countries in the dataset. In addition, if a variable takes the value zero or one for just one country, it assumes the role of a fixed effect and has to be deleted, too. LHLEGIS is the only variable in our dataset which we removed for this reason.

V) Ambiguous Variable Codings
Several variables are coded ambiguously, implying unclear alternative hypotheses and interpretations of potential effects. Below we list the variables that needed to be dropped or recoded to provide a clear interpretation.

AMEND ('Does the constitution provide for at least one procedure for amending the constitution?') is deleted since it contradicts in part UNAMEND ('Are any parts of the constitution unamendable?').

CRUELTY ('Does the constitution prohibit cruel, inhuman, or degrading treatment?') is deleted for lack of an interpretation for a zero, since no country in our dataset explicitly allows cruel treatment in the constitution.

CUSTLAW2_123 ('Are there no restrictions in place regarding the number of terms members of the first (or only) chamber may serve?') is dropped since the answer is conditional on a positive response to CUSTLAW ('Does the Constitution refer to 'customary' international law or the 'law of nations'?'), which we exclude based on its imprecise definition, see point II) above.

FREEELEC ('Does the constitution prescribe that electoral ballots be secret?') is dropped since it is unclear whether a zero necessarily implies that elections are not free. Australia and the United States are prominent examples for countries that do not specify secret ballots in their constitution.

HOSIMM_12 ('Is the Head of State provided with absolute or limited immunity from prosecution?') is eliminated because no country in our dataset explicitly denies immunity to the head of state.

HOSTERML_5 ('Are there no restrictions in place regarding the number of terms the Head of State may serve?'), LHTRMLIM_5 ('Are there no restrictions in place regarding the number of terms members of the first (or only) chamber may serve?') and UHTRMLIM_5 ('Are there no restrictions in place regarding the number of terms members of the second chamber may serve?') are deleted since most countries do not specify term limits in their constitution, leaving us with an unclear alternative hypothesis.

INVEXE ('Does the legislature have the power to investigate the activities of the executive branch?'), is replaced with LegCannotInvestigateExecutive, which only takes the value one if the constitution explicitly prohibits the legislature to investigate the activities of the executive, and zero otherwise.

INTEXEC_123 ('Does the legislature have the power to interpellate members of the executive branch, or similarly, is the executive responsible for reporting its activities to the legislature on a regular basis?') had to be dropped because the meaning of interpellate differs widely across constitutions (ranging in meaning from "has the right to submit questions" to "has the ability to schedule a vote of confidence").

JUDPREC ('Does the constitution stipulate that courts have to take into account decisions of higher courts?') is dropped because the definition does not indicate in which way higher court decisions have to be "taken into account".

JUDIND ('Does the constitution contain an explicit declaration regarding the independence of the central judicial organ(s)?') is dropped because the variable does not indicate what the declaration exactly refers to, e.g., which central judicial organs are included and whether their independence is ensured or ruled out.

OCCUPATE ('Does the constitution provide for the right to choose ones occupation?') is dropped from the dataset, since specific rights are frequently subsumed under more general statements in constitutions. For example, the US constitution contains no statement regarding "free occupational choice" (hence OCCUPATE=0), but the 9th amendment states "The enumeration in the Constitution, of certain rights, shall not be construed to deny or disparage others retained by the people." PRIVACY ('Does the constitution provide for a right of privacy?'), DEVLPERS ('Does the constitution provide for an individual's right to self-determination or the right to free development of personality?') and SAFEWORK ('Does the constitution mention the right to safe/healthy working conditions?') are dropped for the same reason. For example, while the US constitution makes no explicit statement regarding PRIVACY (hence PRIVACY =0), there are a number of provisions that refer to the right of privacy, such as the protection of home and property (4th amendment) or the privacy of beliefs (1st amendment).

OFFREL_3 ('Does the constitution contain provisions that specifically prohibit a national religion?') is deleted because its simultaneous inclusion with OFFREL_1 ('Does the constitution contain provisions that specify a national religion?') would imply an unclear alternative hypothesis for both variables.

PRESS ('Does the constitution provide for freedom of the press?') is deleted due to some unclear codings in the data. For instance, the current French constitution does not contain an explicit statement on the freedom of the press, implying PRESS=0. However, it declares in the preamble that the country's standard for citizens' guaranteed rights is the "The Declaration of the Rights of Man and of the Citizen of 1789", which in article 11 states that "The free expression of thought and opinions is one of the most precious rights of man: thus every citizen may freely speak, write, and print, subject to accountability for abuse of this freedom in the cases determined by law."

SLAVE ('Does the constitution universally prohibit slavery, servitude, or forced labor?') is dropped because no country in our dataset explicitly allows slavery in its constitution.

VI) Correlation

There are a number of constitutional rules that feature excessive correlations. These variables are dropped to minimize multicollinearity issues:

We drop OVERWHO_13456 ('Can the legislature override vetoes of legislation?') due to its perfect correlation with OVERRIDE ('Can vetoes of legislation be overridden?').

UHLEGISL ('Is the Second Chamber of the Legislature given the power to legislate?') and HOUSENUM ('Does the legislature contain one chamber or house?') have a correlation coefficient of -.97; we thus eliminate UHLEGISL. In addition, HOGELECT_4 ('Is the Head of Government appointed?') and HOGDISS ('Are there provisions for dismissing the Head of Government?') are highly correlated with NumberOfExec=1 ('One executive is specified in the constitution.'), with correlation coefficients of -.92 and -.94, respectively. We only keep NumberOfExec=1.

Given their correlation of .85, we combine EDCOMP ('Does the constitution stipulate that education be compulsory until at least some level?') and EDFREE ('Does the constitution stipulate that education be free, at least up to some level?') into EDCOMPFREE, which takes the value one if we observe a positive response for one of the variables, and zero otherwise.

ASSOC ('Does the constitution provide for freedom of association?'), EXPRESS ('Does the constitution provide for freedom of expression or speech?'), and OPINION ('Does the constitution provide for freedom of opinion, thought, and/or conscience?') are combined for the same reasons into ASSOCEXPRESSOPINION, which takes the value one if either of the three variables features a positive response.

The interpretation of EXPLIM ('What limits/conditions are placed on the ability of the government to expropriate private property?') is nearly identical to EXPROP ('Can the government expropriate private property under at least some conditions?'). We therefore only keep the latter variable.

VII) Variables with Conditional Codings

The coding of several variables is conditioned on other constitutional rules, which complicates their interpretation. For instance, HOGDECIM ('Which arrangement describes the implementation procedure for Head of Government decrees?') is only answered when HOGDEC ('Does the Head of Government have decree power?') takes the value one. In this case, we only keep the latter variable. Other variables excluded on this basis are DEPSEL, EDCOMPL, EDFREEL, COUNSCOS, HOGDCOND, HOGTERM, HOSDECEX, HOGDECEX, INDPOLGR, INITIATP, REMCON, JUDFIN, LEG_IN, RELLAW, INDCIT, UHQUOTAD and UHREST. Detailed information is available in the UNBUNDLING_DATA.do Stata file.

Table A.1: List of Countries

Argentina	Colombia	Ghana	Malawi	Peru	Switzerland
Australia	Costa Rica	Greece	Malaysia	Philippines	Taiwan
Austria	Cyprus	Guatemala	Malta	Poland	Thailand
Bangladesh	Denmark	Honduras	Mauritius	Portugal	Trinidad & Tobago
Barbados	Dominican Republic	Hungary	Mexico	Romania	Turkey
Belgium	Ecuador	Iceland	Namibia	Senegal	United States
Bolivia	El Salvador	India	Netherlands	Singapore	Uganda
Botswana	Fiji	Ireland	New Zealand	South Africa	Uruguay
Brazil	Finland	Italy	Nicaragua	South Korea	Venezuela
Bulgaria	France	Jamaica	Norway	Spain	Zambia
Canada	Gambia	Japan	Pakistan	Sri Lanka	Zimbabwe
Chile	Germany	Luxembourg	Paraguay	Sweden	

Table A.2: OLS Results for Hall and Jones/Persson and Tabellini Specifications

Dependent Variable: Hall and Jones (1999) Social Infrastructure Variable	Hall and Jones Specification		Hall and Jones + Persson and Tabellini Specification	
	Hall and Jones Data	Our Data	Persson and Tabellini data	Our Data
FRANKROM	0.010	0.064*	0.081***	0.073**
	(0.007)	(0.036)	(0.030)	(0.030)
ENGFRAC	0.107	0.105	-0.106	-0.149
	(0.079)	(0.114)	(0.109)	(0.132)
EURFRAC	0.125***	0.072	0.111	0.125*
	(0.043)	(0.062)	(0.072)	(0.072)
LATITUDE	0.716***	0.650***	-0.036	-0.132
	(0.101)	(0.153)	(0.224)	(0.227)
PARL_DEMOC			0.008	0.012
			(0.022)	(0.019)
PRES			-0.004	0.019
			(0.187)	(0.161)
MAJ			0.031	0.031
			(0.066)	(0.068)
AGE			0.414***	0.440***
			(0.120)	(0.129)
FEDERAL			0.062	0.050
			(0.054)	(0.055)
AFRICA			-0.158	-0.211
			(0.139)	(0.157)
ASIAE			0.012	-0.027
			(0.136)	(0.163)
LAAM			-0.216**	-0.234**
			(0.098)	(0.105)
COL_ESPA			-0.062	-0.063
			(0.213)	(0.243)
COL_OTHA			-0.107	-0.036
			(0.092)	(0.114)
COL_UKA			-0.111	-0.057
			(0.117)	(0.147)
Constant	0.226***	0.153	0.310	0.327
	(0.032)	(0.102)	(0.229)	(0.226)
nobs	127	69	72	69
R2	0.385	0.336	0.636	0.641

Table A.3: Weighted Constitution Index for Countries

Country	Weighted Constitution Index	Country	Weighted Constitution Index
Mauritius	0.696	El Salvador	0.574
Finland	0.649	USA	0.571
Ecuador	0.649	Gambia	0.567
Cyprus (G)	0.643	New Zealand	0.564
Austria	0.639	Zimbabwe	0.561
Thailand	0.639	Venezuela	0.561
Malaysia	0.639	Fiji	0.561
Iceland	0.636	Trinidad & Tobago	0.561
Canada	0.636	Nicaragua	0.558
Bolivia	0.633	Namibia	0.555
Singapore	0.633	Costa Rica	0.552
Greece	0.633	Honduras	0.549
France	0.630	Guatemala	0.549
Netherlands	0.630	Argentina	0.542
Germany	0.630	South Africa	0.542
Switzerland	0.624	Uruguay	0.542
Chile	0.621	Uganda	0.542
Sweden	0.621	Malawi	0.539
Spain	0.621	Hungary	0.536
Taiwan	0.618	Zambia	0.536
Portugal	0.614	South Korea	0.533
Australia	0.611	Paraguay	0.530
Italy	0.602	Poland	0.530
Japan	0.599	Senegal	0.524
Jamaica	0.596	Dominican Republic	0.517
Botswana	0.596	Colombia	0.502
Denmark	0.592	Bulgaria	0.498
Belgium	0.589	Turkey	0.495
Ireland	0.586	Romania	0.489
Luxembourg	0.586	Sri Lanka	0.476
Peru	0.586	Pakistan	0.470
Norway	0.583	India	0.461
Brazil	0.580	Philippines	0.458
Mexico	0.574	Bangladesh	0.417
Ghana	0.574		