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DEALING WITH DISASTER: Analyzing the Emergency Constitutions of the U.S. States

Christian Bjørnskov & Stefan Voigt*

ABSTRACT

The study of constitutional emergency provisions remains in its infancy. We present the first overview and analysis of how specific emergency provisions vary across the fifty U.S. state constitutions. The emergency provisions vary considerably across states with the Texas Constitution exhibiting the most limited provisions and Georgia the most expansive ones. A cluster analysis shows support for dividing the U.S. constitutions into six “families” and reveals the Texas Constitution as substantially different from the rest. We explore whether these constitutional choices may have been affected by disaster risk, prevailing ideology, state wealth, and other factors for which historical data exist. We provide tentative evidence showing that emergency provisions have a significant effect on both the number of fatalities as well as on the damage suffered in the aftermath of a natural disaster. Clearly, therefore, the paper has implications for constitutional policy.

I. INTRODUCTION

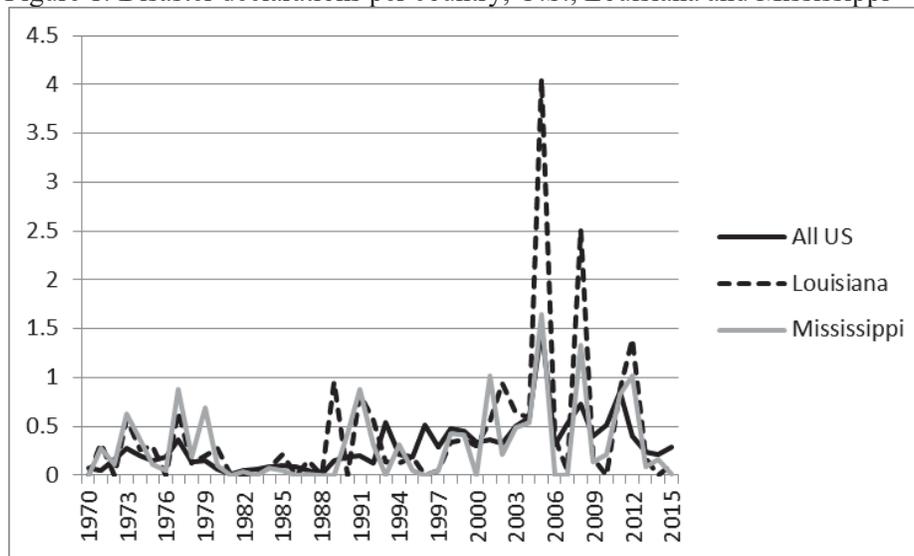
Declaring a state of emergency has become almost commonplace. Between 1985 and 2014, at least 137 countries declared a state of emergency at least once.¹ Under a state of emergency, some individual rights and liberties

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1. Christian Bjørnskov & Stefan Voigt, Why Do Governments Call a State of Emergency?—On the Determinants of Using Emergency Constitutions 2 (June 16, 2017) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2988014 [hereinafter Bjørnskov & Voigt, State of Emergency]. In May 2016, even ISIS declared a “state of emergency” after losing ground to US-backed Kurdish forces in Syria. *ISIS Declares State of*

are usually suspended and the separation of powers is curtailed in favor of the executive or even a single person like the head of state or government and, by implication, to the detriment of parliament and the courts.² In many countries, the overwhelming majority of emergencies are declared on the municipal or the regional level. In the U.S., during the period between 1953 and 2001, for example, governors have requested on average almost one presidential disaster or emergency declaration a week.³ However, governors will not seek presidential declarations after every disaster and every locally declared state of emergency. Indeed, the declaration of some state of emergency varies strongly over time and across states.⁴ Figure 1 exemplifies this by plotting the share of U.S. counties declaring a state of disaster between 1970 and 2015; the figure also includes the corresponding numbers for Louisiana and Mississippi that tend to be hit by relatively similar natural phenomena. While on average forty-seven percent of all Louisiana parishes (their parallel to counties) declared a disaster in any year during the period, only ten percent of Mississippian counties did so. We aim to understand such differences in this paper.

Figure 1: Disaster declarations per country, U.S., Louisiana and Mississippi



Emergency Amid Threat to Stronghold, CBS NEWS (May 14, 2016, 9:20 AM), <https://www.cbsnews.com/news/isis-state-of-emergency-us-military-de-facto-capital-syria/>.

2. Bjørnskov & Voigt, *State of Emergency*, *supra* note 1, at 2.

3. Richard Sylves & Zoltán I. Búzás, *Presidential Disaster Declaration Decisions, 1953–2003: What Influences Odds of Approval?*, 39 ST. & LOC. GOV'T REV. 3, 4 (2007).

4. *Id.*

In the last couple of years, we have analyzed various aspects of constitutional emergency provisions in a cross-country frame.⁵ Here, we propose to analyze the emergency provisions incorporated into the U.S. state constitutions. The U.S. is particularly well suited for such a within-country analysis for a number of reasons: (1) All fifty states operate under the same legal federal frame which reduces problems of omitted variables and confounding factors. (2) With fifty states, the number of observations is high enough to lend itself to quantitative analysis. (3) Disasters might affect two (or more) states similarly. This constitutes, hence, an excellent opportunity to compare the effectiveness of their emergency provisions. (4) Both the availability of data—regarding both disasters and the policy decisions of politicians—as well as their reliability are high. (5) In many other countries, constitutional provisions are not transformed into constitutional reality. In the U.S., we can assume that the *de jure* provisions will actually be implemented to a very high degree.⁶

Our interest lies in analyzing the different emergency provisions that the U.S. states have incorporated into their constitutions. The first step of our analysis is to code all fifty constitutions according to six fundamental issues. This enables us to compare the similarities and the differences between them systematically in the same way as in previous cross-country analyses. Traditionally, many legal scholars have reservations against coding legal documents such as constitutions.⁷ Often, they insist that each document is unique and does not lend itself to meaningful comparison to other documents.⁸ By relying on cluster analysis, the second step in our analysis, we try to ascertain how similar/dissimilar the various state constitutions are.

5. See generally Christian Bjørnskov & Stefan Voigt, *The Architecture of Emergency Constitutions*, INT'L J. CONST. L. (forthcoming 2017), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2798558 [hereinafter Bjørnskov & Voigt, *Architecture*]; Christian Bjørnskov & Stefan Voigt, *Profiting from Natural Disaster? Inquiring into the Effectiveness of Emergency Constitutions* (Sept. 15, 2016) (unpublished manuscript), <https://pdfs.semanticscholar.org/2ad0/fb5a0ff8a146bda177086f15f480bfc35210.pdf> [hereinafter Bjørnskov & Voigt, *Profiting*]; Bjørnskov & Voigt, *State of Emergency*, *supra* note 1.

6. Analyzing the emergency provisions of state constitutions is, however, no panacea. State governments have far less powers than nation-state governments. For example, they cannot call in the military.

7. See Mark A. Hall & Ronald F. Wright, *Systematic Content Analysis of Judicial Opinions*, 96 CAL. L. REV. 63, 82 (2008) (“Critics decry the false sense of precision or certainty that attaches to systematic content analysis.”). See generally James K. Hammit et al., *Precautionary Regulation in Europe and the United States: A Quantitative Comparison*, 25 RISK ANALYSIS 1215 (2005) (suggesting there is no comprehensive solution to coding legal documents).

8. See G. ALAN TARR, UNDERSTANDING STATE CONSTITUTIONS 29 (1998).

It turns out that forty-nine of the fifty constitutions can be meaningfully grouped into one of six clusters. The only true outlier is the Texas Constitution which accords considerably less powers to its executive than all other constitutions.⁹

Based on these first two steps in our analysis, a number of follow-up questions almost suggest themselves.

- (1) What are the factors driving the differences between state emergency constitutions? Is it proneness to natural disasters? The time period during which the state constitution was passed?
- (2) Controlling for the number (and size) of natural disasters occurring in a state, is the emergency constitution a significant factor in explaining the probability that a state of emergency is declared in a particular state?
- (3) Again controlling for the number of natural disasters plus whether an emergency was declared, are the contents of the emergency constitution a significant factor in the effectiveness in which adverse disaster effects are being mitigated?

Starting with Garrett and Sobel, a number of papers including Sylves and Búzás and Reeves have dealt with major political economy aspects involved in disaster and emergency relief provided from the federal to the state level.¹⁰ Key findings are that disaster relief is highly politicized and that the probability of a request from a governor being positively answered by the president depends on a number of political variables such as which party the president belongs to, whether he is currently seeking re-election and so on.¹¹ The incentive effects of federal disaster relief aid have also been analyzed.¹² On the state level, the sheer possibility of federal disaster relief reduces incentives to invest into disaster preparedness, creating a kind of bail-out problem.¹³ In this paper, we are not adding to that literature.

9. TEX. CONST. art. 4; see Harold H. Bruff, *Separation of Powers Under the Texas Constitution*, 68 TEX. L. REV. 1337, 1339 (1990) (discussing how the history of the Texas Constitution resulted in a weakened executive).

10. Thomas A. Garrett & Russell S. Sobel, *The Political Economy of FEMA Disaster Payments*, 41 ECON. INQUIRY 496, 496 (2003); Andrew Reeves, *Political Disaster: Unilateral Powers, Electoral Incentives, and Presidential Disaster Declarations*, 73 J. POL. 1142, 1142 (2011); Richard A. Sylves & Zoltán I. Búzás, *Presidential Disaster Declaration Decisions, 1953–2003: What Influences Odds of Approval?*, 39 ST. & LOC. GOV'T REV. 3, 3 (2007).

11. Garrett & Sobel, *supra* note 10, at 500; Reeves, *supra* note 10, at 1148; Sylves & Búzás, *supra* note 10, at 7.

12. E.g., David E. Wildasin, *Disaster Policies: Some Implications for Public Finance in the U.S. Federation*, 36 PUB. FIN. REV. 497, 512 (2008).

13. *Id.*

As a consequence of the research just mentioned, one could also inquire into the optimal allocation of powers between the various levels of government when dealing with natural or man-made disasters in the tradition of fiscal federalism.¹⁴ The normative starting point would be to seek for fiscal equivalence or institutional congruence.¹⁵ Intergovernmental grants—such as disaster relief—are usually justified by pointing towards the existence of externalities extending beyond state borders.¹⁶ Such analysis would also ask how best to reduce problems of moral hazard, as just discussed. Although highly interesting, this is not the focus of this paper. We instead focus on describing the differences between U.S. state emergency constitutions and mapping their likely consequences.

The rest of the paper is structured as follows: Part II summarizes our findings regarding emergency constitutions on the nation-state level. These findings can serve as a base to compare the characteristics of the state constitutions. In Part III, we describe our Index of Emergency Powers (“INEP”) and apply it to the U.S. states. After briefly describing the main features of cluster analysis, Part IV reports the results of the cluster analysis and a set of simple descriptive statistics. Parts V and VI spell out a number of follow-up questions that can be tackled with the INEP and the clusters here proposed. Part VII concludes.

II. EMERGENCY PROVISIONS ON THE NATIONAL LEVEL

Emergency constitutions are not separate constitutions that replace the entirety of the existing constitution, but are integral parts of the constitution. We thus define an emergency constitution as the set of legal rules encoded formally in the constitution that specify who can declare an emergency, who needs to approve of the declaration, and which actors have which powers once it has been declared that the constitution does not assign to them outside of emergencies. What we refer to as the “emergency constitution” here is, hence, more specifically those provisions in the ordinary constitution that explicitly deal with emergencies.

Consequently, emergency constitutions are paradoxical documents: their declared goal is to re-establish constitutional order by temporarily suspending it. Part of the paradox is that the constitution spells out the conditions under which its regular application may be suspended. As such, emergency constitutions deal with the delicate balance between suspending individual

14. See, e.g., WALLACE E. OATES, *FISCAL FEDERALISM* 17 (1972).

15. See Mancur Olson, *The Principle of “Fiscal Equivalence”*: *The Division of Responsibilities Among Different Levels of Government*, 59 AM. ECON. REV. 479, 485–86 (1969).

16. *Id.*

rights by temporarily reducing the separation of powers, while also providing monitoring mechanisms intended to reduce the likelihood that the state of emergency is misused by power-maximizing politicians. Modern constitutions differ widely in the balance they strike and the particular ways they address the inherent paradox.¹⁷

In this section, we briefly summarize our previous research focusing on four questions: (1) How can emergency provisions be coded to make them comparable with each other? (2) Is there a limited number of typical combinations of the central traits of emergency constitutions such that we can speak of clusters? (3) Which governments tend to declare emergencies? (4) Are emergency constitutions successful in mitigating the adverse effects of natural disasters?

A. How Can Emergency Constitutions Be Made Comparable?

Every emergency constitution must, at least implicitly, deal with six different questions, namely: (1) What are the necessary conditions for a state of emergency? (2) Who has the power to declare a state of emergency? (3) Who has the power to declare the end of an emergency? (4) Who has the power to monitor the legality of the means used during a state of emergency? (5) Who exercises emergency powers? (6) What (additional) competences does a state of emergency confer to the emergency government?¹⁸

In order to synthesize these different aspects into a single dimension, we develop a measure that can be thought of as capturing the difficulty—or political cost—of calling and maintaining a state of emergency as well as its potential benefits. The simplest way to create an Index of Emergency Powers (INEP) is to rely on variables proxying for the most important aspects just described and add them up. The INEP focuses on the relationship between the executive and the other government branches in emergency situations.

If one looks at the development of the INEP over the period from 1950 until 2011, it is evident that today, emergency constitutions allocate relatively more powers to their executives than they did back in 1950. The INEP can take on any value between 0 and 1 where 1 means that the executive is essentially unconstrained in its emergency powers. The mean INEP value in

17. Linda Camp Keith & Steven C. Poe, *Are Constitutional State of Emergency Clauses Effective? An Empirical Exploration*, 26 HUM. RTS. Q. 1071, 1079–80 (2004).

18. Bjørnskov & Voigt, *State of Emergency*, *supra* note 1, at 3 (discussing these six questions in greater detail).

1950 was 0.23;¹⁹ it had more or less steadily gone up to 0.34 in 2010.²⁰ A few examples from countries that recently passed new constitutions confirm this trend: Kenya's new constitution—passed in 2010—has an INEP score of 0.55,²¹ Guinea's constitution—also dating back to 2010—scores 0.66²² and the Hungarian constitution passed in 2011 even scores 0.71.²³

B. Are There Typical Emergency Constitutions?

Some scholars propose that the type of emergency constitution brought about within the French legal family is different from the one brought about within the common law legal family.²⁴ The French approach is referred to as the state of siege (*état de siège*) whereas the British one would originate from martial law.²⁵ Two aspects in particular make them distinct from each other, namely (1) the identity of the actor authorized to monitor the state of emergency and (2) the degree of judicialization.²⁶ Under a state of siege, monitoring would primarily fall to the legislature whereas it would fall on the judiciary, and more precisely the regular courts, under martial law.²⁷ An important consequence of this difference is that monitoring by the legislature can take place during an emergency while monitoring by the courts will only take place after the state of emergency has been ended. Other than for the state of siege, martial law could be characterized by “the absence of statutory foresight for its initiation and use.”²⁸ This last trait makes the identification of martial law via the analysis of formal constitutions somewhat difficult. We now ask whether this dichotomy regarding types of emergency constitutions is reflected in the data, i.e. whether there are clear “families” of emergency constitutions.

In order to assess whether one can identify families of emergency constitutions, we employ cluster analysis. This means that emergency constitutions displaying similar traits are grouped together. To generate

19. *Id.* at 37.

20. *Id.*

21. Bjørnskov & Voigt, *Architecture*, *supra* note 5 (manuscript at 14).

22. *Id.* (manuscript at 14–15).

23. *Id.* (manuscript at 15).

24. *E.g.*, CARL J. FRIEDRICH, CONSTITUTIONAL GOVERNMENT AND DEMOCRACY: THEORY AND PRACTICE IN EUROPE AND AMERICA 236 (1941).

25. CLINTON ROSSITER, CONSTITUTIONAL DICTATORSHIP: CRISIS GOVERNMENT IN THE MODERN DEMOCRACIES 139 (2002).

26. *See id.* at 143, 147–48.

27. *See id.* at 143.

28. *Id.* at 141.

clusters, we rely on exactly the same variables used for creating the INEP. All in all, we coded 351 emergency constitutions, implying that we included not only currently valid constitutions but also defunct ones.²⁹ It turns out that all constitutions nicely fit into one of six such clusters. We have given each cluster a name trying to focus on that aspect that makes it most distinct from the other clusters. Cluster 1, for example, puts specific emphasis on domestic security. Cluster 3 assembles those emergency constitutions in which it is very difficult to limit civil rights whereas cluster 5 assembles those with a strong legislature.

We confine ourselves to only two observations regarding the resulting clusters: Clusters do differ regarding the average INEP value. With 0.23, cluster 5 (strong legislature) has the lowest INEP mean whereas cluster 6 (easy rights suspenders) has the highest with 0.49. Comparing all countries with an explicit emergency constitution with those not having one, shows that the latter tend to have older constitutions, shorter constitutions, and that they are more likely to belong to the common law legal family.

C. *What Governments Tend to Declare Emergencies?*

Having explicit emergency provisions does not imply that they will be used frequently. That is why we also inquired into the determinants of their actual use, i.e. the factors that lead governments to declare a state of emergency more or less often.

We expect that the more difficult it is (the more costly in economic terminology) to declare a state of emergency, the less likely is it that governments do so. Conversely, the more competences are being allocated to the executive under a state of emergency relative to the non-emergency situation, the more attractive it is for government to declare a state of emergency—and the more frequently we should observe that. We are, hence, not focusing on the absolute level of competences but on those ones that executives enjoy in addition to those conventionally enjoyed once they declare a state of emergency. Based on these two initial ideas, we develop a number of more specific hypotheses in *Why Do Governments Call a State of Emergency?—On the Determinants of Using Emergency Constitutions*.³⁰

Rather than describing them in detail here, we summarize our most important results: (1) it is extremely important to distinguish between natural catastrophes and political events; (2) the higher the number of domestic conflicts (including assassinations, mass demonstrations, general strikes, and

29. Bjørnskov & Voigt, *Architecture*, *supra* note 5 (manuscript at 3).

30. *See generally* Bjørnskov & Voigt, *State of Emergency*, *supra* note 1.

the like), the higher the likelihood that a state of emergency will be declared; (3) controlling for a number of potentially relevant factors, parliamentary governments are less likely to call a state of emergency than presidential ones; (4) there is no significant difference between parliamentary democracies and autocracies in their likelihood to declare a state of emergency; (5) the lower the costs of declaring a state of emergency, the more likely it is to be declared; (6) the potential benefits of declaring a state of emergency—proxied with the additional competences—are not a significant predictor for its declaration.

Summarizing, it can be said that the costs of declaring a state of emergency are crucial whereas the potential benefits do not have a significant influence on emergency provisions being used.

D. Are Emergency Constitutions Successful in Mitigating the Adverse Effects of Natural Disasters?

In order to gauge the effectiveness of emergency constitutions in limiting the adverse effects of natural disasters, we have analyzed the interplay between three aspects, namely (1) the (kind of) natural disaster, (2) the content of the emergency constitution, and (3) the decisions of the relevant actors—in particular, of course, the decision to call or not to call a state of emergency.³¹

There is a possibility that not every emergency constitution is equally well-suited to deal with different kinds of natural disasters. This is why we analyze the effectiveness of emergency constitutions differentiating according to disaster type, namely (1) biological, (2) geophysical, (3) hydrological, and (4) climatic disasters. In addition, the severity of the disaster needs to be controlled for. Ideally, we would like to use some objective measure, but since such is not available, we control for how many people have been affected by a catastrophe as a reasonable proxy.

We assume that one central goal of emergency constitutions is to minimize disaster fatalities. Using the number of fatalities as our dependent variable, we find the following results: (1) autocracies do not do worse than democracies; (2) the cost side of the INEP is not significantly correlated with the number of people who die; (3) the benefit side of the INEP, i.e. the competences government enjoys under a state of emergency, is highly significantly correlated with the number of fatalities: the higher the benefits for the executive, the *more* people die in the aftermath of a natural disaster;

31. Bjørnskov & Voigt, Profiting, *supra* note 5, at 8.

(4) interestingly, these results hold independent of whether a state of emergency has been declared or not.

III. THE INEP FOR U.S. STATE CONSTITUTIONS

A. *Some Details of the State Constitutions*

The U.S. Federal Constitution is a very well-known document. It is the oldest serving constitution in the world, a very brief document (only 4,582 words), establishing a presidential system with strict separation of powers, and is extremely difficult to change. It is complemented by fifty state constitutions.³²

At least outside the U.S., the state constitutions are far less well-known than the U.S. Federal Constitution. In many respects, the state constitutions are very different from the Federal Constitution. A first difference is their longevity: whereas the Federal Constitution has been in place for more than 225 years, many of the U.S. states have frequently adopted new constitutions or heavily amended them. According to Tarr, only nineteen states still have their original constitutions.³³ Georgia's current constitution is the tenth in its history, Louisiana's even the eleventh.³⁴ Second, whereas the Federal Constitution is built on expressly enumerated powers, the logical flipside is found in the state constitutions. Historically, at least, they have been understood as possessing all those residual powers not explicitly delegated to the national government.³⁵

State legislatures were not only very powerful in comparison to the U.S. legislature but also vis-à-vis state governments. On the one hand, this was the consequence of dividing the executive into a number of independently elected officials. Tarr reports that even today, more than two-thirds of the states have at least four independently elected executive officials.³⁶ On the other hand, the very early state constitutions looked more like parliamentary systems:

32. See Sanford Levinson, *America's "Other Constitutions": The Importance of State Constitutions for Our Law and Politics*, 45 TULSA L. REV. 813, 816 (2010).

33. TARR, *supra* note 8, at 23.

34. *Id.*

35. *Id.* at 7; see also U.S. CONST. amend. X ("The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people."); Alden v. Maine, 527 U.S. 706, 713–715 (1999) ("The States thus retain 'a residuary and inviolable sovereignty.'" (quoting THE FEDERALIST NO. 39, at 245 (J. Madison) (Clinton Rossiter ed., 1961))).

36. TARR, *supra* note 8, at 17.

governors were elected by the legislature and depended on the support of the legislature for their continuation in office.³⁷

A particular feature of the state constitutions is their explicit treatment of emergencies. While the inclusion of formalized emergency provisions in national constitutions began with the French Constitution of 1795, the state constitution of Massachusetts included such provisions already in 1780, giving the legislature the particular power to declare times of war, invasion, or rebellion, that would allow the executive the powers of martial law.³⁸ The state constitution of New Hampshire also included similar provisions, but gave the power to declare an emergency to the governor instead of the legislature.³⁹ All state constitutions now include such provisions but, as we show in the following, within very varied frameworks.

A first difference is the particular conditions that must be met before any government actor—the governor, the legislature, or a collaboration between the two—can call a state of emergency.⁴⁰ The first state constitutions all refer to invasion, insurrection, or rebellion, and the execution of state law as legal conditions for calling an emergency.⁴¹ As of 2016, forty-two state constitutions refer to invasion,⁴² seventeen to insurrection or rebellion,⁴³ and

37. *Id.* at 87.

38. MASS. CONST. pt. II, ch. II, § I, art. VII (1780).

39. *See* N.H. CONST. pt. 2, Exec. Power, para. 6 (1784), *quoted in* 9 TOWN PAPERS, DOCUMENTS AND RECORDS RELATING TO TOWNS IN NEW HAMPSHIRE 888–89 (Nathaniel Bouton ed., AMS Press 1973) (1875).

40. *Compare* ARIZ. CONST. art. IV, pt. 2, § 25 (requiring “emergency resulting from disasters caused by enemy attack” for legislature to act), *with* WYO. CONST. art. XVII, § 5 (requiring the governor to use militia in response to an insurrection or invasion affecting the public peace).

41. *See, e.g.*, Bjørnskov & Voigt, *State of Emergency*, *supra* note 1, at 11–12 & tbl.1.

42. *See* ALA. CONST. art. V, § 131; ARK. CONST. art. 11, § 4; ALASKA CONST. art. IV, § 20; ARIZ. CONST. art. IX, § 5; ARK. CONST. art. 11, § 4; CAL. CONST. art. I, § 5; COLO. CONST. art. IV, § 5; DEL. CONST. art. VIII, § 3; FLA. CONST. art. IV, § 1; GA. CONST. art. I, § 1, para. XV; *id.* art. III, § 6, para. 6; HAW. CONST. art. V, § 5; IDAHO CONST. art. IV, § 4; ILL. CONST. art. XII, § 4; IND. CONST. art. V, § 12; KAN. CONST. art. 8, § 4; LA. CONST. art. IV, § 5; MD. CONST. art. II, § 8; MASS. CONST. pt. II, ch. II, § I, art. VII; MICH. CONST. art. V, § 12; MINN. CONST. art. VI, § 13; MISS. CONST. art. 11, § 217; MO. CONST. art. 4, § 6; MONT. CONST. art. VI, § 13; NEB. CONST. art. IV, § 14; NEV. CONST. art. 12, § 2; N.H. CONST. pt. 2, art. 51; N.M. CONST. art. V, § 4; N.C. CONST. art. XII, § 1; OHIO CONST. art. IX, § 4; OKLA. CONST. art. 6, § 6; OR. CONST. art. V, § 9; S.C. CONST. art. XIII, § 3; S.D. CONST. art. XIII, § 3; TENN. CONST. art. III, § 5; TEX. CONST. art. 4, § 7; UTAH CONST. art. VII, § 4; VA. CONST. art. V, § 7; VT. CONST. ch. II, § 20; WASH. CONST. art. X, § 2; W. VA. CONST. art. VII, § 12; WIS. CONST. art. V, § 1; WYO. CONST. art. XVII, § 5.

43. ALA. CONST. art. V, § 131; ARK. CONST. art. 11, § 4; FLA. CONST. art. IV, § 1; IDAHO CONST. art. IV, § 4; ILL. CONST. art. XII, § 4; IND. CONST. art. V, § 12; KAN. CONST. art. 8, § 4; MD. CONST. art. II, § 8; MASS. CONST. pt. II, ch. II, § I, art. VII; NEB. CONST. art. IV, § 14; NEV.

fourteen to “the execution of law.”⁴⁴ Subsequent constitutions have nevertheless either tended to include more conditions—mostly references to the public peace (two cases)⁴⁵ or fiscal emergencies (five cases)⁴⁶—or remained vague as to what defines a legal emergency.⁴⁷ We assess the conditions in thirty state constitutions as vague; the remaining twenty with fully specified conditions on average mention 2.8 qualifying circumstances.

In thirty-five cases, we further find that a single actor—typically the governor—can call a state of emergency on his or her own.⁴⁸ They also tend to have substantial approval power such that only six constitutions require some other branch of government, i.e. the state congress, to approve the

CONST. art. 12, § 2; N.H. CONST. pt. 2, art. 51; N.D. CONST. art. X, § 13; OKLA. CONST. art. 6, § 6; TENN. CONST. art. III, § 5; UTAH CONST. art. VII, § 4; VT. CONST. ch. 2, § 20.

44. ALA. CONST. art. III, § 42; *id.* art. V, § 113; ARK. CONST. art. 4, § 2; FLA. CONST. art. IX, § 1; IDAHO CONST. art. IV, § 4; ILL. CONST. art. II, § 1; *id.* art. IV, § 1; *id.* art. V, § 8; IND. CONST. art. V, § 12; KAN. CONST. art. 1, §§ 1, 3 (“faithful execution of the laws”); MD. CONST. art. II, § 8 (referring to powers of governor as commander-in-chief); NEB. CONST. art. IV, § 14 (“to execute the laws”); NEV. CONST. art. 12, § 2 (“to execute the laws”); N.H. CONST. pt. 2, art. 37 (“faithful execution of the laws”); *id.* pt. 2, art. 38 (“execution of the laws”); *id.* pt. 2, art. 41 (“faithful execution of the laws”); *id.* pt. 2, art. 51 (“to execute the laws”); N.D. CONST. art. V, § 7 (“to execute the laws”); OKLA. CONST. art. 6, § 1 (“execution of the laws”); UTAH CONST. art. VII, § 4 (“to execute the laws”).

45. ARK. CONST. art. 11, § 4; FLA. CONST. art. IV, § 1(d).

46. FLA. CONST. art. VII, § 18(c); *see* HAW. CONST. art. VII, § 6(2); LA. CONST. art. VII, §§ 7, 18; MO. CONST. art. 4, § 27(a)(5); OKLA. CONST. art. 10, § 23(8).

47. ALASKA CONST. art. III, § 20; ARIZ. CONST. art. IX, § 20(2)(a)–(b); CAL. CONST. art. XIII(B) § 3; COLO. CONST. art. VIII, § 3; CONN. CONST. art. IV, § 8; DEL. CONST. (procedure not mentioned); IOWA CONST. (procedure not mentioned); KY. CONST. (procedure not mentioned); LA. CONST. art. VII, § 7; ME. CONST. (procedure not mentioned); MICH. CONST. art. IX, § 27; MINN. CONST. art. V, § 3; MISS. CONST. art. 11, § 217; MO. CONST. art. 10, § 19; MONT. CONST. art. VI, § 13; N.J. CONST. (procedure not mentioned); N.M. CONST. art. IV, § 2; N.Y. CONST. art. XIII, § 13; N.C. CONST. art. V, § 3; OHIO CONST. art. IX, § 4; OR. CONST. art. X, § 1; PA. CONST. art. VIII, § 17; *id.* art. 11, § 1; R.I. CONST. (procedure not mentioned); S.C. CONST. art. XIII, § 3; S.D. CONST. art. IV, § 3; TEX. CONST. art. 3, § 62; WASH. CONST. art. VII, § 12(k); W. VA. CONST. art. VII, § 12; WIS. CONST. art. IV, § 14; WYO. CONST. art. XVII, § 5.

48. ALASKA CONST. art. III, § 20; ALA. CONST. art. V, § 131; ARIZ. CONST. art. IX, § 20; ARK. CONST. art. 9, § 4; CAL. CONST. art. XIII B, § 3; COLO. CONST. art. VIII, § 3; CONN. CONST. art. XXVIII, § 18(b); FLA. CONST. art. IV, § 1(d); GA. CONST. art. III, § 9, para. 6; IDAHO CONST. art. IV, § 4; ILL. CONST. art. XII, § 4; IND. CONST. art. V, § 12; KAN. CONST. art. 8, § 4; MINN. CONST. art. V, § 3; MISS. CONST. art. 9, § 217; MO. CONST. art. 4, § 27a; MONT. CONST. art. VI, § 13; NEB. CONST. art. IV, § 14; LA. CONST. art. VII, § 18; NEV. CONST. art. 12, § 2; N.H. CONST. pt. 2, art. 5; N.M. CONST. art. IV, § 2; N.D. CONST. art. V, § 7; OHIO CONST. art. IX, § 4; OKLA. CONST. art. 6, § 6; OR. CONST. art. X-A, § 1(3); N.C. CONST. art. V, § 3; S.C. CONST. art. XIII, § 3; S.D. CONST. art. IV, § 3; UTAH CONST. art. VII, § 4; VA. CONST. art. V, § 7; WASH. CONST. art. VII, § 12; W. VA. CONST. art. VII, § 12; WIS. CONST. art. IV, § 13; WY. CONST. art. 17, § 5.

call.⁴⁹ Similarly, many states provide for the suspension of law and/or allow for the cancellation of some right that is otherwise constitutionally protected.”⁵⁰ The Georgia Constitution is a priori the most permissive with article 3, section 6, paragraph 2(4) stating that the General Assembly (i.e. the Georgia Congress) is allowed to suspend “all constitutional legislative rules” during emergency caused by enemy attack.⁵¹ However, thirty-eight constitutions mention habeas corpus as a suspendable right,⁵² thirty-two allow for the expropriation of property to quarter soldiers,⁵³ and thirteen constitutions allow the suspension of other rights of which military duty on election day is often mentioned.⁵⁴

B. *An INEP of the State Constitutions*

As we noted in earlier research in *The Architecture of Emergency Constitutions*, all emergency constitutions must at a minimum deal with six different questions: (1) What are the necessary conditions for a state of

49. HAW. CONST. art. VII, § 13; MD. CONST. art. II, § 8; MICH. CONST. VIII, § 27; N.Y. CONST. art. XIII, § 13; TEX. CONST. art. 3, § 62; VT. CONST. ch. 2, § 20.

50. See, e.g., VT. CONST. ch. 1, § 17.

51. GA. CONST. art. III, § VI, para. 2(4).

52. See ARK. CONST. art. 2, § 11; COLO. CONST. art. II, § 13; DEL. CONST. art. I, § 13; GA. CONST. art. I, § 1, para. 15; HAW. CONST. art. I, § 15; IDAHO CONST. art. I, § 15; ILL. CONST. art. I, § 19; IND. CONST. art. I, § 27; IOWA CONST. art. I, § 13; KAN. CONST. Bill of Rights, § 8; ME. CONST. art. I, § 10; MICH. CONST. art. I, § 12; MINN. CONST. art. I, § 7; MISS. CONST. art. 3, § 21, para. 15; NEV. CONST. art. 1, § 5; N.H. CONST. pt. 2, art. 91; N.J. CONST. art. I, § 14; N.M. CONST. art. II, § 7; N.Y. CONST. art. I, § 4; OHIO CONST. art. I, § 8; OR. CONST. art. I, § 23; PA. CONST. art. I, § 14; R.I. CONST. art. I, § 9; S.C. CONST. art. I, § 18; TENN. CONST. art. I, § 15; TEX. CONST. art. I, § 12; UTAH CONST. art. I, § 5; WASH. CONST. art. I, § 13; WIS. CONST. art. I, § 17; cf. ALA. CONST. art. II, § 7 (indicating that the state will not suspend habeas corpus); ARIZ. CONST. art. I, § 4 (same); LA. CONST. art. I, § 7 (same); MO. CONST. art. 1, § 9 (same); MONT. CONST. art. I, § 14 (same); NEB. CONST. art. I, § 8 (same); OKLA. CONST. art. 1, § 23 (same); VT. CONST. art. ch. II, § 41 (same); W. VA. CONST. art. I, § 9 (same).

53. See ALA. CONST. art. I, § 29; ALASKA CONST. art. I, § 20; ARK. CONST. art. 2, § 27; CAL. CONST. art. I, § 5; COLO. CONST. art. II, § 22; CONN. CONST. art. I, § 17; DEL. CONST. art. I, § 18; HAW. CONST. art. I, § 18; ILL. CONST. art. I, § 21; IND. CONST. art. I, § 34; IOWA CONST. art. I, § 13; KAN. CONST. Bill of Rights, § 14; ME. CONST. art. I, § 18; MD. CONST. Declaration of Rights, art. 31; MICH. CONST. art. I, § 8; MONT. CONST. art. II, § 32; NEB. CONST. art. I, § 18; NEV. CONST. art. 1, § 12; N.H. CONST. pt. 1, art. 27; N.J. CONST. art. I, § 16; N.M. CONST. art. II, § 9; N.C. CONST. art. I, § 31; N.D. CONST. art. I, § 19; OHIO CONST. art. I, § 13; OKLA. CONST. art. 1, § 14; OR. CONST. art. I, § 27; PA. CONST. art. I, § 23; S.C. CONST. art. I, § 20; TEX. CONST. art. 1, § 25; UTAH CONST. art. I, § 20; WASH. CONST. art. I, § 38; W. VA. CONST. art. III, § 12.

54. See ALA. CONST. art. I, § 28; COLO. CONST. art. II, § 8; ILL. CONST. art. I, § 7; ME. CONST. art. IX, § 17; MO. CONST. art. 1, § 17; N.J. CONST. art. I, § 8; N.M. CONST. art. I, § 7; OHIO CONST. art. I, § 18; PA. CONST. art. VII, § 14; S.D. CONST. art. VII, § 1; UTAH CONST. art. I, § 17; VA. CONST. art. V, § 7; WIS. CONST. art. VI, § 4.

emergency? (2) Who has the power to declare a state of emergency? (3) Who has the power to declare the end of an emergency? (4) Who has the power to monitor the legality of the means used during a state of emergency? (5) Who exercises emergency powers? (6) What (additional) competences does a state of emergency confer to the emergency government?⁵⁵

We synthesize these aspects into a single dimension by developing a measure, which we think of as capturing the difficulty in terms of political costs of calling and maintaining a state of emergency. The index also captures the political benefits inherent in the emergency provisions, which we conceptualize in terms of the additional powers conferred on the government during an emergency. We create an Index of Emergency Powers (INEP) by first coding variables that proxy for the most important aspects just described and then adding them up. The INEP focuses on the relationship between the executive and the other government branches in emergency situations.

The INEP takes into account (1) the degree to which the right to declare a state of emergency is concentrated in a single person—or very few—or limited by multiple veto players; (2) the need to and the degree to which this right is concentrated; (3) how many different situations are explicitly mentioned in the constitution and can be used to justify the declaration of a state of emergency; (4) whether fundamental civil and political rights can be suspended during a state of emergency; (5) whether the legislature can be dissolved during a state of emergency; and (6) whether the government can introduce censorship of the media and expropriate property during an emergency.

The first three variables—the degree to which the right to declare a state of emergency is concentrated in a single person—or very few—or limited by multiple veto players, the need to and the degree to which this right is concentrated, and how many different situations are explicitly mentioned in the constitution and can be used to justify the declaration of a state of emergency—hence outline the rules for declaring a state of emergency and thus its “costs”; we refer to the average of these as the Cost INEP. The last refer to the powers that government enjoys under a state of emergency, i.e. a Benefit INEP. We scale all variables to values between zero and one, and weigh them equally when creating the full index. Table 1, which we take from *Determinants of Emergency Constitutions*, summarizes the construction of the INEP with an important exception: the U.S. Federal Constitution of 1789, as interpreted by the U.S. Supreme Court since 1925, explicitly bans censorship, which logically limits the scope of any state measure.⁵⁶

55. Bjørnskov & Voigt, Architecture, *supra* note 5 (manuscript at 7).

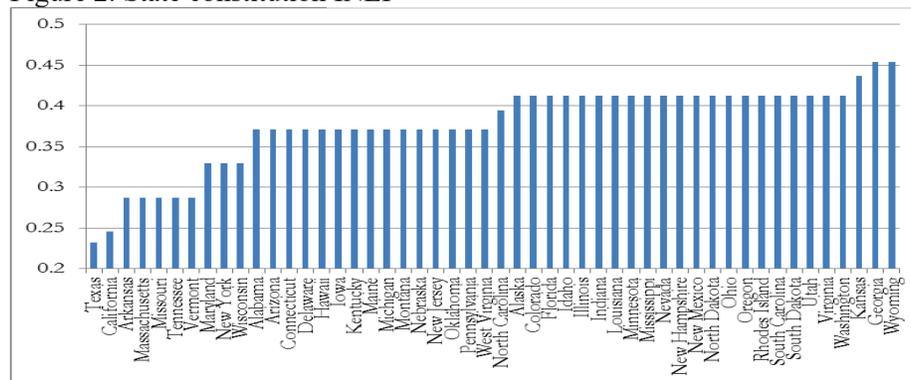
56. See *Gitlow v. New York*, 268 U.S. 652 (1925).

Table 1. Constructing the INEP

Component	Additive coding based on:
Declaration power	2 if declaration rights rest with the head of government or the incumbent government; 1 if they are vaguely defined; 0 if they rest with the legislature or other (mainly courts)
Approval power	3 if emergencies need no approval; 2 if approval rights rest with the with the head of government or the incumbent government; 1 if they are vaguely defined; 0 if they rest with the legislature or other (mainly courts)
Conditions	3 if conditioned on “internal security” or “general danger”; 2 if they include “economic emergency” or “constitutional threat”; 1 if they include “other” or are vaguely defined; 0 if conditions are only “war” and “natural disasters”
Dissolution power	1 if legislature can be dissolved during emergencies; 0 otherwise
Rights suspension	3 if all rights can be suspended during emergencies; 2 if some can be suspended; 1 if the provisions are vague; 0 if no rights can be suspended
Expropriation and censorship	1 if censorship can either be introduced during emergencies or is constitutionally allowed; 2 if authorities can expropriate without due compensation during emergencies

As illustrated by Figure 2 below, the resulting INEP varies between a low of 0.23 in Texas to a high of 0.45 in Georgia and Wyoming. The Cost INEP is smallest for California and largest in Wyoming, in which the constitution’s article 17, section 5 simply states that “the Governor calls out militia.” On the benefit side, the Texas Constitution is the least permissive by providing absolutely no additional benefits during emergencies while the constitutions of Louisiana and Georgia allow for both expropriation with due compensation and substantial further derogation of basic rights.

Figure 2. State constitution INEP



The additive index captures that the elements in principle could be substitutes or complements. This is also reflected by the correlations between the five elements of the INEP that vary between -0.14 (declaration powers and conditions) and 0.41 (dissolution powers and rights suspension). Instead

of performing a standard statistical analysis, we therefore employ cluster analysis in order to identify commonalities across the emergency constitutions of the fifty state constitutions.

IV. CLUSTER ANALYSIS APPLIED TO U.S. STATE CONSTITUTIONS

In order to map any similarities or families of emergency constitutions in the U.S., we apply cluster analysis. We use the K-means technique with random initial centroids from which a K-means algorithm optimizes the Euclidean distance within and between clusters.⁵⁷ As we have no strong priors about what might be a theoretically or historically informed reasonable number of clusters, we perform a set of analyses defining between two and nine clusters. Based on this set of analyses, we select what we believe is the number of clusters that best fits the data. Our criteria are that (1) intra-cluster distances ought to be relatively small—i.e. we require clusters to be fairly coherent; (2) distances between clusters ought to be comparatively large; and (3) that no single cluster has disproportionately high intra-cluster distances or large outlier members. This last criterion ensures that we do not obtain clusters that are “residual” clusters only containing observations that do not fit into any other cluster. We employ these criteria using graphs similar to standard screen plots in which the gain in identification can be easily eyeballed.

In the following, we outline the details of these analyses before describing our preferred solution. Table 2 reports a set of goodness of fit indicators of which we plot three in Figure 3. We report the average intra-cluster difference between the cluster members, the average distance in the poorest defined cluster (worst), the maximum distance of all state constitutions (i.e. the largest outlier), and the ratio of the maximum distance to the average distance.

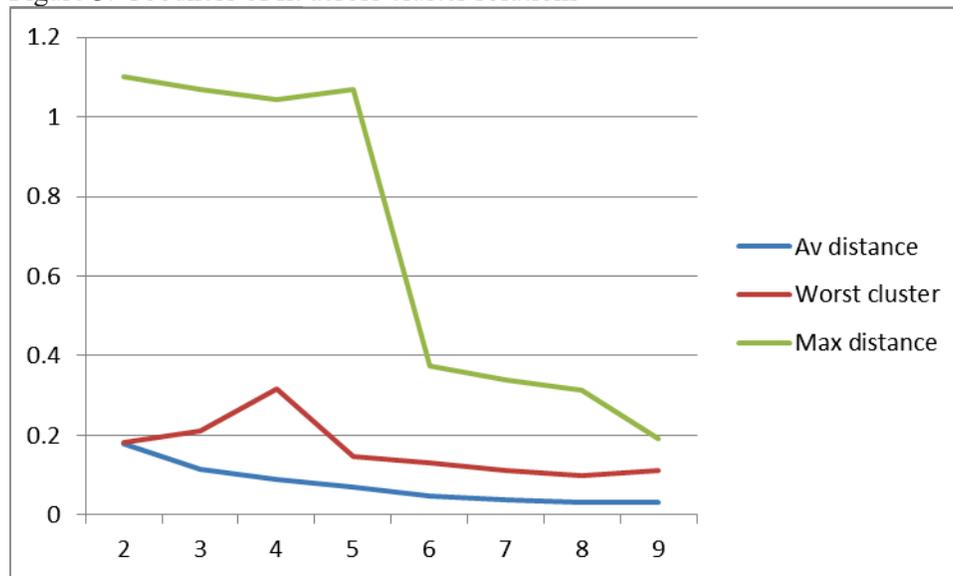
57. JOSEPH F. HAIR ET AL., *MULTIVARIATE DATA ANALYSIS* 471, 496–97 (5th ed. 1998).

Table 2. Goodness of fit, cluster solutions

Cluster set	Av. distance	Worst cluster	Max. distance	Max. to av.
2 clusters	0.18	0.18	1.10	6.17
3 clusters	0.11	0.21	1.07	9.38
4 clusters	0.09	0.32	1.04	11.72
5 clusters	0.07	0.15	1.07	15.26
6 clusters	0.05	0.13	0.37	8.00
7 clusters	0.04	0.11	0.34	8.64
8 clusters	0.03	0.09	0.31	10.27
9 clusters	0.03	0.11	0.19	6.42

Note: average, minimum and maximum distances reported in the lower panel are inter-cluster distances. The largest outlier is the distance of the given state to the centroid of the cluster in which it is placed.

Figure 3. Goodness of fit across cluster solutions



Using these indicators to choose our preferred cluster solution—the solution which provides the best fit without creating extremely small clusters—we first note that adding an additional cluster reduces the average distance by about 0.02 until reaching a solution with six clusters; moving beyond six clusters results in substantially smaller gains in terms of the average distance. The table, as well as the figure, show how a four-cluster solution is particularly unsuitable. Finally, the ratio of the maximum to the average distance, i.e. the relatively worst single cluster, visibly favors a six-cluster solution.

In the following, we therefore work with the six-cluster solution as it provides a substantially better balance between precision and parsimony than other solutions. Table 3 lists the member constitutions of each of the six

clusters as well as the years in which the relevant constitution was implemented.

Table 3. Cluster memberships, preferred six-cluster solution

Cluster	Members
1.	Alaska (1959), Colorado (1876), Florida (1969), Georgia (1893), Idaho (1890), Illinois (1971), Indiana (1851), Kansas (1861), Minnesota (1858), Mississippi (1890), Nevada (1864), New Hampshire (1784), New Mexico (1912), North Dakota (1889), Ohio (1851), Oregon (1859), South Carolina (1896), South Dakota (1889), Utah (1896), Virginia (1971), Washington (1889)
2.	Texas (1876)
3.	Louisiana (1975), Rhode Island (1843), Wyoming (1890)
4.	California (1880), Connecticut (1965), Hawaii (1959), Michigan (1964), New York (1895)
5.	Alabama (1901), Arizona (1912), Maryland (1867), Montana (1973), Nebraska (1875), North Carolina (1971), Oklahoma (1907), Vermont (1793), West Virginia (1872)
6.	Arkansas (1874), Delaware (1897), Iowa (1857), Kentucky (1891), Maine (1820), Massachusetts (1780), Missouri (1945), New Jersey (1948), Pennsylvania (1874), Tennessee (1870), Wisconsin (1848)

We begin by outlining which factors characterize the clusters with the cluster averages in Table 4. The first obvious thing to note is that the one-state cluster 2—Texas—is considerably different from the rest with the lowest overall INEP, relatively average approval powers and emergency conditions, and no dissolution rights or suspension of basic rights. Limited declaration powers define the eleven-state cluster 6 while limited approval powers are characteristic of cluster 4 as well as Texas. In all other clusters, the declaration of a state of emergency does not necessarily have to be approved by another branch of government.

Table 4. Characteristics of emergency constitutions, clusters

Cluster	1	2	3	4	5	6
INEP	0.42	0.23	0.43	0.34	0.36	0.34
Declaration power	1	1	0.67	0.87	0.96	0.42
Approval power	1	0.50	1	0.30	1	1
Conditions	0.50	0.50	1	0.50	0.5	0.5
Dissolution power	1	0	1	1	1	1
Rights suspension	0.68	0	0.78	0.67	0.26	0.64
No. of members	21	1	3	5	9	11

In terms of conditions, the three constitutions in cluster 3—Louisiana, Rhode Island and Wyoming—are so permissive as not to clearly define the circumstances that would allow a state of emergency. Finally, the nine constitutions in cluster 5 resemble the Texas Constitution by limiting the number of circumstances that justify an emergency. Only one member—Oklahoma—for example allows calling a fiscal emergency.

V. THE FACTORS DETERMINING THE CLUSTERS

We are thus able to identify separate clusters or “families” of emergency constitutions in the U.S. A further question is therefore why constitutional design differs substantially across fifty states that otherwise share an overarching constitutional frame in the form of the U.S. Constitution. Do the clusters reflect objective differences in disaster risk, demographic and economic development, or political or ideological differences?

The differences in Table 5 provide a number of indications. We focus on aspects of size, level of development, and ideological position of the state government at the time of the implementation of the current constitution, state size and disaster risk, and of state governance. We also add the year of implementation as well as the year of the state’s inclusion into the U.S. We derive the population, urbanization and area data from the U.S. Census (2010), ideological positions from Poole and Keith, disaster risk from CoreLogic’s index of Natural Hazard Risk (HRS), and state and constitution age, as well as the number of previous constitutions, from each constitution.⁵⁸ Finally, we proxy for the quality of formal state governance by using the Pew State Management Report Cards for 2008,⁵⁹ which we recode numerically from a standard A–F scale; we follow most of the literature by adding social trust scores from the General Social Survey.⁶⁰

58. KEITH T. POOLE & HOWARD L. ROSENTHAL, *IDEOLOGY AND CONGRESS* 26–30 (2d ed. 2007); *CoreLogic Identifies US States at Highest Risk of Property Damage Loss from Natural Hazards*, CORELOGIC (Sept. 10, 2014), <http://www.corelogic.com/about-us/news/corelogic-identifies-us-states-at-highest-risk-of-property-damage-loss-from-natural-hazards.aspx>; *Population and Housing Unit Counts: 2010*, U.S. CENSUS BUREAU (2012), <https://www.census.gov/library/publications/2012/dec/cph-2.html>; see Keith & Poe, *supra* note 17, at 1078–79.

59. KATHERINE BARRETT & RICHARD GREENE, *MEASURING PERFORMANCE: THE STATE MANAGEMENT REPORT CARD FOR 2008*, at 37–95 (2008), http://www.pewtrusts.org/~media/legacy/uploadedfiles/wwwpewtrustsorg/reports/government_performance/gradingthestates2008pdf.

60. See *Get the Data*, GEN. SOC. SURV., <http://gss.norc.umd.edu/getthedata/Pages/Home.aspx> (last visited Sept. 30, 2017).

Table 5. Further cluster characteristics

Cluster	1	2	3	4	5	6
Year, const.	1891	1876	1903	1933	1897	1873
Year, state	1852	1845	1831	1844	1847	1810
Population	206,810	212,592	68,696	303,140	381,213	196,559
Urbanization	22.64	9.20	48.20	68.80	24.99	26.01
Pop. density	4.21	0.79	15.54	21.96	9.78	10.16
No. previous	1.76	3.00	3.67	1.60	1.44	1.82
HRS	51.21	60.89	63.05	47.45	45.53	51.58
Area	97,797	268,596	50,579	66,288	62,308	39,128
Trust	31.29	27.54	33.05	30.94	30.79	31.72
State governance	39.71	46.00	36.33	38.20	38.33	38.30
D-Nominate 1	0.02	-0.30	0.18	-0.04	-0.10	0.03
D-Nominate 2	0.312	-0.07	0.40	-0.05	-0.01	0.01

We first of all note that the measure of Natural Hazard Risk (HRS) is in no way systematically different across the clusters. Despite the apparent differences, the only cluster consisting of states that are geographically smaller is cluster 6. Similarly, only the five states in cluster 4 were more developed, as measured by their degree of urbanization and population density, when they implemented their emergency constitutions. Conversely, we find that neither trust nor the age of the constitution matter to cluster placement, and that only cluster 2—Texas—stands out as having higher formal governance quality.

The main determinant turns out to be ideology, although *not* the standard left-right distinction measured by the first dimension of the D-Nominate index.

The first dimension of the D-Nominate data (D-Nominate 1) represents the standard left-right spectrum on economic matters while the second dimension (D-Nominate 2) instead picks up cross-cutting issues that were politically salient in a given period. In most cases in our dataset, the second dimension represented state positions on slavery and which particular monetary anchor to adopt (the bimetallism debate). D-Nominate 2 strongly affects cluster placement. In the raw data, the difference between the ideological extremes at the time of constitutional implementation (West Virginia and South Dakota) tends to result in a difference in the INEP of about 0.1 point. This difference is reflected in both the cost and benefit sides of the INEP.

VI. DO THE DIFFERENCES MATTER?

As a final question for which we can provide a tentative answer, we here explore whether the emergency constitutions work as officially intended. In other words, we ask whether states with particular emergency provisions or

with emergency constitutions in either of the six families defined by the cluster analysis exhibit lower fatality rates and smaller damage subsequent to natural disasters.

We do so by collecting additional data on the number of fatalities and injured, and the dollar value of damage to property and crops, and total damage resulting from natural disasters between 1995 and 2015. These data derive from the annual reports from NOAA.⁶¹ We couple those with the size of the state population and the geographical area of each state from the U.S. Census⁶² and the real Gross State Product (GSP) per capita, which derive from the U.S. Bureau of Economic Analysis.⁶³ In addition, we add the Pew measure of the quality of state governance,⁶⁴ as previous cross-country research points to the importance of de facto governance quality.⁶⁵ These data are described in Table 6.

Table 6. Descriptives, additional disaster data

	Mean	Standard deviation	Observations
Fatalities (logs)	1.836	1.118	1000
Property damage (logs)	3.603	1.876	1000
Crop damage (logs)	1.392	1.939	1000
Total damage (logs)	3.818	1.956	1000
Log GSP per capita	10.717	.251	950
Log population size	15.089	1.023	1000
Log state area	10.752	1.098	1000
Log injured	3.107	1.513	1000
Log state governance	3.652	.163	1000
Cost INEP	.761	.128	1000
Benefit INEP	.783	.146	1000

In all cases, we estimate log-log specifications, i.e. we convert all data into logarithms. We control for the number of injured in every year, as a way to capture the size of the underlying natural events while we think of the number of fatalities as an outcome of the emergency efforts. We also include a lagged dependent variable such that all potential effects are identified through the

61. *Summary of Hazardous Weather Fatalities, Injuries, and Damage Costs by State*, NAT'L OCEANIC & ATMOSPHERIC ADMIN., <http://www.nws.noaa.gov/om/hazstats.shtml> (last updated May 11, 2017).

62. *Population Estimates by State*, U.S. CENSUS BUREAU, <https://www.census.gov/quickfacts/geo/chart/US/PST045216> (last visited Oct. 12, 2017); *State Area Measurements and Internal Point Coordinates*, U.S. CENSUS BUREAU, <https://www.census.gov/geo/reference/state-area.html> (last visited Oct. 12, 2017).

63. *Gross Domestic Product by State*, U.S. BUREAU ECON. ANALYSIS (Dec. 7, 2016), <https://www.bea.gov/regional/histdata/releases/1216qgsp/index.cfm>.

64. BARRETT & GREENE, *supra* note 59, at 23.

65. See Monica Escaleras, Nejat Anbarci & Charles A. Register, *Public Sector Corruption and Major Earthquakes: A Potentially Deadly Interaction*, 132 PUB. CHOICE 209, 226 (2007).

year-to-year *changes* in disaster fatalities and damage. Thereby, we circumvent the unavoidable causality problem to some extent because emergency constitutions may reflect the relative threat of natural disasters. By identifying effects through changes, the lagged dependent variable effectively captures the *typical* level of threat, which could have affected the particular design of the emergency constitution while identification is—at least partially—not affected by what may cause simultaneity bias. Doing so in a log-log framework moreover has the benefit that all estimates can be interpreted as elasticities, and that both nation-wide changes as well as inflationary bias are all captured by the set of annual fixed effects that we include. All estimates are necessarily random effects (because emergency constitutions do not change over this period).

We report the simple results in Table 7. We first of all observe strongly significant persistence, such that disaster characteristics of previous years are reflected in those of the present year, and that more encompassing disasters as measured by the number of injured also affect the remaining characteristics. With one exception, we also observe the expected associations with the population and the area of the state, but little influence of how rich the state is. Overall, we also confirm that state governance is important to limiting the number of fatalities, but little else (as the significant estimate on crop damage is entirely driven by Texas).

Table 7. Disaster consequences

	Fatalities	Property damage	Crop damage	Total damage
Lagged event	.187*** (.029)	.234*** (.031)	.349*** (.030)	.279*** (.030)
Log GSP per capita	-.173 (.144)	-.446 (.285)	.206 (.321)	-.392 (.285)
Log population size	.315*** (.037)	.312*** (.069)	.064 (.074)	.294*** (.069)
Log state area	.126*** (.025)	.231*** (.049)	.169*** (.055)	.237*** (.049)
Log injured	.311*** (.021)	.413*** (.041)	.258*** (.047)	.427*** (.041)
Log state governance	-.397** (.161)	-.087 (.317)	.720** (.361)	.143 (.317)
Log cost INEP	.682** (.341)	.165 (.674)	-.801 (.764)	.134 (.673)
Log benefit INEP	-.477** (.238)	-.758 (.470)	-2.179*** (.541)	-.803* (.469)
Annual FE	Yes	Yes	Yes	Yes
Observations	930	930	930	930
R squared	.612	.455	.366	.499
Wald Chi sq.	1422.57	731.71	520.36	899.67
<i>Findings with clusters</i>				
Cluster 2	.142 (.176)	.672* (.348)	1.824*** (.402)	.649* (.348)
Cluster 3	.291*** (.109)	.181 (.215)	.104 (.244)	.136 (.215)
Cluster 4	-.095 (.088)	-.350** (.175)	-.054 (.198)	-.326* (.175)
Cluster 5	.052 (.067)	.065 (.133)	.103 (.151)	.121 (.133)
Cluster 6	-.067 (.066)	.013 (.132)	-.042 (.149)	.019 (.131)

Note: *** (**) [*] denote significance at $p < .01$ ($p < .05$) [$p < .10$]; all regressions include a constant term.

Most pertinently, our tentative results suggest that states that allocate more benefits to the executive during emergencies have lower fatalities and less damage while states in which there are low costs of calling a state of emergency tend to have higher fatalities. Using the cluster solution (in the lower panel), and thus estimating whether emergency constitutions in clusters 2–6 are significantly different from those in the large cluster 1, yields somewhat different findings. They first indicate that the results pertaining to the Benefit INEP on crop damage are simply due to Texas, in which the emergency constitution allows no benefits at all. Yet, they also indicate that while no configuration of emergency provisions other than cluster 3 clearly affects the fatality rate, emergency constitutions in cluster 4 may be more effective at limiting the economic damage done to property during natural disasters. As such, although these estimates must be interpreted with due care and taken to be quite tentative, they do suggest that the type of emergency

constitution chosen by California, Connecticut, Hawaii, Michigan and New York tends to outperform other types. With this observation—that the choice of emergency constitution may have substantial consequences—we proceed to the conclusions.

VII. CONCLUSIONS AND OUTLOOK

Our general knowledge regarding both the determinants of constitutionally entrenched emergency provisions as well as their effectiveness leaves much to be desired. This study adds to our knowledge by analyzing the emergency provisions incorporated into the constitutions of the fifty U.S. states.

We find considerable variation across the fifty constitutions with regard to the rules enabling governments to call a state of emergency as well as the rules spelling out the additional competences delegated to government after a state of emergency has been declared.

Drawing on cluster analysis, we identify six different clusters. These can be thought of as six different “families” of emergency constitutions. One noteworthy finding regarding these six families is that the Texas Constitution depicts a family of its own; in other words: its emergency provisions are very different from those of all other forty-nine states. In Texas, the government enjoys virtually no additional *de jure* powers after a state of emergency has been declared.

Inquiring into the factors that determine “family membership” of the emergency constitutions, we find that ideology is key. Interestingly, it is not the well-established left-right divide, but rather cross-cutting issues—such as slavery in the nineteenth century—that were salient at the time the constitution was written. We thus find tentative evidence that factors that may be thought of as culture or state tradition influences constitution-making.

Finally, we find that “family membership” does matter for how effectively the adverse effects of natural disasters are mitigated by a state government, at least with regard to damage occurring to property. Those constitutions that make the declaration of a state of emergency contingent upon the approval of the legislature fare significantly better than those that put little or no approval check on a declaration.

Thus, this study significantly adds to our knowledge regarding the working of emergency constitutions. A follow-up study should analyze those disasters that hit two or more states simultaneously and directly compare the effectiveness with which these events have been handled by the respective state governments.