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TOWARD A THEORY OF CONSTITUTIONAL AMENDMENT

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Constitutional design proceeds under the assumption that institutions have predictable consequences, but modern political science has not pursued the empirical verification of these predicted consequences with much vigor. I shall attempt to link the theoretical premises underlying one important aspect of constitutional design, the amendment process, with the empirical patterns revealed by a systematic, comparative study of constitutions. An examination of all amendments in the 50 American states since 1776 reveals patterns that are then confirmed using data from 32 national constitutions. The interaction of the two key variables affecting amendment rate can be described by an equation that generates predicted amendment rates close to those found in the cross-national empirical analysis. A constitution's length measured in number of words, the difficulty of an amendment process, and the rate of amendment turn out to have interlocking consequences that illuminate principles of constitutional design.

A constitution may be modified by means of (1) a formal amendment process, (2) periodic replacement of the entire document, (3) judicial interpretation, and (4) legislative revision. What difference does it make whether we use one method rather than another? What is the relationship between these four methods? What do we learn about the constitutional system and its underlying political theory by the pattern of choice among these alternatives? These are some of the questions to be addressed.

Although it is true that a constitution is often used as ideological window dressing and that even in places where constitutions are taken very seriously these documents fail to describe the full reality of an operating political system, it is also true that today hardly any political system, dictatorial or democratic, fails to reflect political change in its constitution. Constitutions may not describe the full reality of a political system, but when carefully read they are windows into that underlying reality.

This essay is an initial attempt to use a critical, if often overlooked, constitutional device—the amendment process—as a window into both the reality of political systems and the political theory or theories of constitutionalism underlying them. A good deal has been written about the logic of constitutional choice using rational-actor models, but little has been written about the empirical patterns that result from constitutional choice. The classical example of the first approach is the work of James Buchanan and Gordon Tulloch (1965). The second approach is exemplified by the work of Douglas W. Rae (Rae 1967; but see also Grofman 1986; Przeworski 1991; Shugart and Carey 1992). I shall use the latter method and attempt to be systematic, comparative, and, to the extent possible, empirical. I shall begin with a brief overview of the theoretical assumptions that underlay the formal amendment process when it was invented, identify a number of theoretical propositions concerning the amendment process, and then look for patterns in the use of the amendment process that can be used to create empirical standards upon which to erect a theory of constitutional amendment useful to those engaged in constitutional design.

THE ORIGINAL PREMISES UNDERLYING THE AMENDMENT PROCESS

The modern written constitution, first developed in English-speaking North America, was grounded in a doctrine of popular sovereignty (Adams 1980; Morgan 1988). Even though many in Britain were skeptical at best, Americans did not regard popular sovereignty as a experimental idea but, rather, as one that stood at the very heart of their shared political consensus (Lutz 1988, esp. chap. 7). American political writing had used the language of popular sovereignty before Locke's *Second Treatise* was published, and the early state constitutions of the 1770s contained clear and firm statements that these documents rested upon popular consent (Lutz 1980, 218–25). Although the theory of popular sovereignty was well understood in America by 1776, the institutional implications of this innovative doctrine had to be worked out in constitutions adopted over the next decade. Gradually, it was realized that a doctrine of popular sovereignty required that constitutions be written by a popularly selected convention, rather than the legislature, and then ratified through a process that elicited popular consent—ideally, in a referendum. This double implication was established in the process used to frame and adopt the 1780 Massachusetts and 1784 New Hampshire constitutions, although the referendum portion of the process did not become standard until the nineteenth century.

Americans moved quickly to the conclusion that if a constitution rested on popular consent, then the people could also replace it with a new one. John Locke had argued that the people could replace government but only when those entrusted with the

powers of government had first disqualified themselves by endangering the happiness of the community to such a degree that civil society could be said to have reverted to a state of nature. Americans went well beyond Locke by institutionalizing the power to change the constitution amid civil society—that is to say, whenever they wanted. It is of considerable importance that this included not only replacing the constitution but also formally amending it.

The first new state constitution in 1776, that of New Jersey, contained an implicit notion of amendment, but the 1776 Pennsylvania document contained the first explicit amendment process—one that used a convention process and bypassed the legislature.[1] By 1780, almost half the states had an amendment procedure, and the principle that the fundamental law could be altered piecemeal by popular will was firmly in place.

In addition to popular sovereignty, the amendment process was based on three other premises central to the American consensus in the 1770s: an imperfect but educable human nature, the efficacy of a deliberative process, and the distinction between normal legislation and constitutional matters. The first premise, clearly explicated by Vincent Ostrom (1987), held that humans are fallible but capable of learning through experience. Americans had long considered each governmental institution and practice to be in the nature of an experiment. Since fallibility was part of human nature, provision had to be made for altering institutions after experience revealed their flaws and unintended consequences. Originally, therefore, the amendment process was predicated not only on the need to adapt to changing circumstances but also on the need to compensate for the limits of human understanding and virtue. In a sense, the entire idea of a constitution rests on an assumption of human fallibility, since, if humans were angels, there would be no need to erect, direct, and limit government through a constitution.

A belief in the efficacy of a deliberative process was also part of the general American constitutional perspective. A constitution was viewed as a means not merely to make collective decisions in the most efficient way possible but to make the *best possible* decisions *in pursuit of the common good* under a condition of *popular sovereignty*. The common good is a more difficult standard to approximate than the good of one class or part of the population, and the condition of popular sovereignty, even if operationalized as a system of representation, requires the involvement of many more people than forms of government based on other principles. This in turn requires a slow, deliberative process for any political decision, and the more important the decision, the more deliberative the process should be. Constitutional matters were considered more important in 1789 America than normal legislation, which led to a more highly deliberative process distinguishing constitutional from normal legislative matters. The codification of the distinction in constitutional articles of ratification and amendment resulted in America constitutions being viewed as higher law that should limit and direct the content of normal legislation.

Popular sovereignty implies that all constitutional matters should be based upon some form of popular consent, which in turn implies a formal, public process. Human fallibility implies the need for some method of altering or revising the constitution. A distinction between normal and constitutional matters implies that constitutional matters require a distinctive, highly deliberative process and thus implies the need for an amendment procedure more difficult than that used for normal legislation.

Together these premises require that the procedure be neither too easy nor too difficult. A process that is too easy, not providing enough distinction between constitutional matters and normal legislation, thereby violates the assumption of the need for a high level of deliberation and debases popular sovereignty while one that is too difficult, interfering with the needed rectification of mistakes, thereby violates the assumption of human fallibility and prevents the effective utilization of popular sovereignty.

The literature on constitutions at one time made a distinction between major and minor constitutional alterations by calling the former "revisions" and the latter "amendments." As Albert L. Sturm (1970) points out, the distinction turned out in practice to be conceptually slippery, impossible to operationalize, and therefore generally useless. Because *revision* is used in the literature to mean several different things, I shall use *amendment* as a description of the *formal* process developed by the Americans and *alteration* to describe processes that instead use the legislature or judiciary. Unless we maintain the distinction between formal amendment and other means of constitutional modification, we will lose the ability to distinguish competing constitutional theories.

The innovation of an amendment process, like the innovation of a written constitution, has diffused throughout the world to the point where less than 4% of all national constitutions lack a provision for a formal amending process (Maarseveen and Van der Tang 1978, 80). However, the diffusion of written constitutions and the amendment idea do not necessarily indicate widespread acceptance of the principles that underlie the American innovation. In most countries with a written constitution popular sovereignty and the use of a constitution as a higher law are not operative political principles. Any comparative study of the amendment process must first distinguish true constitutional systems from those that use a constitution as window dressing and then recognize that among the former there are variations in the amendment process that rest on assumptions at odds with those in the American version. Indeed, my chief concern is the efficiency with which study of the amending process reveals such theoretical differences.

At the same time, a comparative study of amendment processes allows us to delve more deeply into the theory of constitutional amendment as a principle of constitutional design. For example, we might ask

the question, what difference does it make if constitutions are formally amended through a political process that does not effectively distinguish constitutional matters from normal legislation? Why might we still want to draw a distinction between formal amendment and alteration by normal politics as carefully and as strongly as possible? One important answer to the question is that the three prominent methods of constitutional modification other than complete replacement—formal amendment, legislative revision, and judicial interpretation—reflect declining degrees of commitment to popular sovereignty, and the level of commitment to popular sovereignty may be a key attitude for defining the nature of the political system.

BASIC ASSUMPTIONS AND PROPOSITIONS

Every theory has to begin with a number of assumptions. We have seen how the original American version rested on the premises of popular sovereignty, an imperfect but educable human nature, the efficacy of a highly deliberative decision-making process, and the distinction between normal and constitutional law. While these help define the working assumptions of one theory of amendment (albeit the original one), they do not provide a complete basis for describing either the American theory or a general theory of amendment. I turn now to developing a theory that includes the American version but also provides the basis for analyzing any version of constitutional amendment. The intent of the analysis is to provide guidelines for constitutional design in any context—guidelines that will allow framers to link the design of a formal amendment process securely to desired outcomes.

My first and second working assumptions have to do with the expected change that is faced by every political system and with the nature of a constitution, respectively.

ASSUMPTION 1. *Every political system needs to be modified over time as a result of some combination of (1) changes in the environment within which the political system operates (including economics, technology, foreign relations, demographics, etc.); (2) changes in the value system distributed across the population; (3) unwanted or unexpected institutional effects; and (4) the cumulative effect of decisions made by the legislature, executive, and judiciary.*

ASSUMPTION 2. *In political systems that are constitutional, in which constitutions are taken seriously as limiting government and legitimating the decision-making process they describe, important modifications in the operation of the political system need to be reflected in the constitution.*

If these two assumptions are used as premises in a deductive process, they imply a conclusion that stands as a further assumption.

ASSUMPTION 3. *All constitutions require regular, periodic modification, whether through amendment, judicial or legislative alteration, or replacement.*

Alteration (as noted earlier) refers to changes in a constitution through judicial interpretation or legislative action. However, I am initially more concerned with the use of a formal amendment process. *Amendment rate,* a key concept, refers to the average number of formal amendments passed per year since the constitution came into effect. As Albert L. Sturm (1970) points out, many scholars criticize constitutions that are much amended. However, constitutionalism and the logic of popular sovereignty are based on more than simplicity and tidiness. Any people who believe in constitutionalism will amend their constitution when needed, as opposed to using extraconstitutional means. Thus, a moderate amendment rate will indicate that the people living under it take their constitution seriously. The older a constitution is, under conditions of popular sovereignty, the more successful it has been but also the larger the number of amendments it will have. However, it is the *rate* of amendment that is important in this regard, not the total number of amendments.

A successful constitutional system would seem to be defined by a constitution of considerable age that has a total number of amendments which, when divided by the constitution's age in years, represents a moderate amendment rate—one that is to be expected in the face of inevitable change. A less-than-successful constitutional system will have a high rate of constitutional replacement.

This raises the question of what constitutes a "moderate" rate of amendment. Since I hope to illuminate the question empirically, rather than in an a priori manner, I must initially use a symbolic stand-in for "moderate rate of amendment." Since a moderate rate is likely to be a range of rates, rather than a single one, the symbol will define boundaries such that any document with an amendment rate above or below its limits will have an increasing probability of being replaced or an increasing probability that some extraconstitutional means of constitutional evolution is being used. I shall use <#> to represent this moderate range of amendment rates symbolically.

The first proposition is frequently found in the literature, but it has never been systematically verified, or its effect measured.

PROPOSITION 1. *The longer a constitution is (the more words it has), the higher its amendment rate, and the shorter a constitution, the lower its amendment rate.*

Commentators frequently note that the more provisions a constitution has, the more targets there are for amendment and the more likely that it will be targeted because it deals with too many details that are subject to change. While this seems intuitively correct, the data that are used usually raise the question, Which comes first: the high amendment rate or the long constitution? This is because a constitution's

length is usually given as of a particular year, rather than in terms of its original length. Is a constitution long because it had a high amendment rate, or did it have a high amendment rate because it was long to begin with?

My second proposition is also a common one in the literature, although it too has never been systematically tested before.

PROPOSITION 2. *The more difficult the amendment process, the lower the amendment rate, and the easier the amendment process, the higher the amendment rate.*

As obvious as this proposition is, it cannot be tested until one shifts from the number of amendments in a constitution to its amendment rate and until one develops an index for measuring the degree of difficulty associated with an amendment process. I shall present such an index as part of what is needed to develop a way of predicting the likely consequences of using one amendment process versus another.

The literature on American state constitutions generally argues that these documents are much longer than the national constitution because they must deal with more governmental functions. For example, if a constitution deals with matters like education, criminal law, local government, and finances, it is bound to be more detailed, longer and thus have a higher amendment rate than one that does not address these matters. From this, I generalize to the following proposition.

PROPOSITION 3. *The more governmental functions dealt with in a constitution, the longer it will be and the higher its rate of amendment will be.*

Constitutions are usually replaced for one of three reasons: (1) a regime change may leave the values, institutions, and/or implications of the old constitution seriously at odds with those preferred by the people now in charge; (2) the constitution may fail to keep up with the times; and (3) the old constitution may have been changed so many times that it is no longer clear what lies under the encrustations, so that clarity demands a new beginning. A moderate amendment rate is an antidote to all three.

PROPOSITION 4. *The further the amendment rate is from the mean of <#>, either higher or lower, the greater the probability that the entire constitution will be replaced and thus the shorter its duration. Conversely, the closer an amendment rate is to the mean of <#>, the lower the probability that the entire constitution will be replaced and thus the longer its duration.*

A low rate of amendment in the face of needed change may lead to the development of some extra-constitutional means of revision—most likely, judicial interpretation—to supplement the formal amendment process. I can now, on the basis of earlier discussion, generate several propositions that will prove useful toward the end of my discussion on the implications of the major competing forms of formal constitutional amendment.

PROPOSITION 5. *A low amendment rate associated with a long average constitutional duration strongly implies the use of some alternate means of revision to supplement the formal amendment process.*

PROPOSITION 6. *In the absence of a high rate of constitutional replacement, the lower the rate of formal amendment, the more likely the process of revision is dominated by a judicial body.*

PROPOSITION 7. *The higher the formal amendment rate, (a) the less likely that the constitution is being viewed as a higher law, (b) the less likely that a distinction is being drawn between constitutional matters and normal legislation, (c) the more likely that the document is being viewed as a code, and (d) the more likely that the formal amendment process is dominated by the legislature.*

PROPOSITION 8. *The more important the role of the judiciary in constitutional revision, the less likely the judiciary is to use theories of strict construction.*

I shall test propositions 1–4 using data from the American state constitutions and then seek further verification by examining the amendment process in nations where constitutionalism is taken seriously and does not serve merely as window dressing. The American state documents are examined first because data on them are readily available and easily comparable, because the similarities in their amendment process reduce the number of variables that must be taken into account, and because together they comprise a significant percentage of human experience with serious constitutionalism.

AMENDMENT PATTERNS IN AMERICAN STATE CONSTITUTIONS, 1776–1991

Albert L. Sturm (1970) summarizes the literature as seeing state constitutions burdened with (1) the effects of continuous expansion in state functions and responsibilities and the consequent growth of governmental machinery; (2) the primary responsibility for responding to the increasing pressure of major problems associated with rapid urbanization, technological development, population growth and mobility, economic change and development, and the fair treatment of minority groups; (3) the pressure of special interests for constitutional status; and (4) continuing popular distrust of the state legislature, based on past abuses, which results in detailed restrictions on governmental activity. All of these factors contribute to the length of state constitutions, and it is argued that not only do these pressures lead to many amendments—and thus to greater length—but that greater length itself leads to the accelerated need for amendment simply by providing so many targets for change. Thus, length becomes a surrogate measure for all of these other pressures to amend and is a key variable.

Appendix table A-1 shows basic data for duration,

length, and amendments for the U.S. constitution and the constitutions of the 50 states. The average amendment rate is much higher for the state constitutions than it is for the U.S. Constitution. Between 1789 and 1991 the Constitution was amended 26 times for a rate of .13 (26 amendments/202 years = .13 amendments per year). As of 1991, the current state constitutions had been in effect for an average of 95 years and had been amended a total of 5,845 times, or an average of 117 amendments per state. This produces an average amendment rate of 1.23 for the states, about 9 1/2 times the national rate.

Proposition 1 hypothesizes a positive relationship between the length of a constitution and its amendment rate: the longer a constitution when adopted, the higher its rate of amendment. The data on American state constitutions strongly support proposition 1 with a correlation coefficient of .6249 significant at the .001 level. Furthermore, the relationship holds whether we use the original or the current amended length.

The average length of state constitutions increases from about 19,300 words as originally written to about 24,300 as amended by 1991, which raises the interesting question of what difference it makes whether we use a constitution's original length or its current amended length. The surprising answer is that it makes no real difference. The curve of best fit for amendment rates using the original length of a constitution has a slope of .58, that of amendment rates using the amended length, a slope of .62. There is thus good reason, when testing the propositions against foreign national constitutions, for using *either* the original or the amended length.

Also, the correlation coefficient between amended and unamended rates is .9936 (significant at the .001 level), which strongly implies that the rate of increase in amendment rate resulting from increasing a constitution's length is virtually constant across all lengths. Finally, since at any point in time the set of constitutions used to test the propositions will vary considerably in age and thus be a mixture of documents ranging from slightly amended to highly amended, we should probably use a composite curve that reflects this inevitable mix. In the case of American state constitutions, the obvious composite curve would be one that averaged .58 and .62. The resulting amendment rate curve with a slope of .60 indicates that for every ten-thousand-word increase in a constitution's length, the amendment rate will increase by .60.

The relationship between the length of a constitution and its amendment rate is the strongest and most consistent one found in the analysis of data drawn from the American states. The strength of this relationship can be underscored by a partial listing of the variables examined that did not show any significant independent correlation with amendment rate. These variables include geographical size, population, level of industrialization, per capita personal income, per capita state expenditures, size of legislature, partisan division in legislature, geographical region, geographical proximity, and the historical era in which the constitution was written. Controlling for these other variables, the importance of constitutional length remains, whereas controlling for constitutional length, the few weak correlations with these other variables disappear.

State constitutions, on average, are much longer than the U.S. Constitution. Can we account for this difference? Proposition 3 suggests that the wider range of governmental functions at the state level results in significantly longer documents and thus produces a higher amendment rate that makes them longer still (in line with proposition 1).

Data from a recent decade show that amendments dealing with local governmental structure (4.7%), state and local debt (4.3%), state functions (9.0%), taxation and finance (14.1%), amendment and revision (2.6%), and local issues (28%) comprise about 63% of all state amendments and pertain to topics that have not been part of national constitutional concern.[2]

If we exclude these categories of issues from the amendment count, we end up with an adjusted state rate of about .47. This figure is still a bit over three-and-a-half times the national amendment rate, but by eliminating the amendments peculiar to state constitutions we obtain a figure for comparison with the national rate (.13), using what amounts to the same base. The difference between .13 and .47 represents what we might term the "surplus rate" that still needs to be explained. An interesting question—one that never seems to be asked—is whether the state amendment rate is too high or the national amendment rate is too low.

The answer depends in part on one's attitude toward judicial interpretation. Propositions 5 and 6 suggest that for one who prefers judicial interpretation as a means of modifying a constitution over a formal amendment process, the amendment rate for the national document is not too low. However, for one who prefers a formal amendment process, such as an attachment to popular sovereignty, the amendment rate of the U.S. Constitution may well be too low and the amendment rate of the states is to be preferred.

Propositions 5 and 6 assume a low rate of amendment coupled with constitutional longevity. Proposition 4, on the other hand, posits a general relationship between the rate of amendment and constitutional longevity. Dividing the number of constitutions a state has had into the number of years it has been a state produces the average duration of the state's constitutions—a measure of constitutional activity that controls for a state's age. Table 1 shows that a high amendment rate is associated with low average duration and, thus, high replacement rate ($r = -.3561$, significant at the .01 level).

However, proposition 4 predicts that the rate at which constitutions are replaced will increase as the amendment rate moves up *or* down with respect to <#>. In Table 1, the amendment rate is the dependent variable. However, if we make it the indepen-

TABLE 1

Amendment Rate of a State Constitution, by Average Duration

	AVERAGE DURATION (YRS.)						
	1–25	26–50	51–75	76–100	101–25	126–50	151+
Amendment rate	2.37 (3)	1.95 (13)	1.26 (13)	1.10 (6)	.93 (8)	.84 (5)	.64 (2)

Note: The numbers in parentheses indicate the numbers of constitutions in that range of average duration.

dent variable instead, we can test directly for the bidirectional effect. Table 2 supports proposition 4. The average duration of a state's constitution declines as the amendment rate goes above 1.00 and as it goes below .75. This means that for American state constitutions, an amendment rate between .75 and 1.00 is associated with the longest-lived constitutions and thus with the lowest rate of constitutional replacement. This range, then, will be defined as <#>. The 13 constitutions with amendment rates within <#> (as just defined) average .89, which we will define as # within <#>.

I turn now to developing an index with which to measure the difficulty of a given amendment procedure. I shall then be ready to look at the constitutions of other nations.

AMENDMENT PATTERNS AND THE CHARACTERISTICS OF THE AMENDMENT PROCESS

In the American states the method of ratifying an amendment can essentially be held constant since every state but one now uses a popular referendum for approval. However, amendments may be initiated by the state's legislature, an initiative referendum, a constitutional convention, or a commission. It is generally held that the more difficult the process of initiation, the fewer the amendments proposed and thus the fewer passed. It is also believed that the initiative has made the process of proposing an amendment too easy and opened a floodgate of proposals that are then more readily adopted by the electorate that initiated them. Another widely held belief is that the stricter or more arduous the process a legislature must use to propose an amendment, the fewer the amendments proposed.

TABLE 3

Method of Initiation and State Amendment Rate, 1970–79

RATE AND FREQUENCY OF AMENDMENT	METHOD OF INITIATION		
	PROPOSED BY LEGISLATURE	POPULAR INITIATIVE	SPECIAL CONVENTION
Amendment Rate	1.24	1.38	1.26
% of Amendments Using This Method	91.5	2.2	6.3
No. of Constitutions in Category[a]	50	17	5

Source: Data are derived from Sturm 1982, 78–79.
[a]Total exceeds 50, since many states specify the possibility of more than one method for proposing amendments.

First of all, as Table 3 shows, during a recent decade, relatively few amendments were proposed by other than a legislature. One-third of the states use popular initiative as a method of proposing amendments, and yet in these states the legislative method was greatly preferred. The popular initiative has received a lot of attention, especially in California, but in fact it has had a minimal impact so far.

What has been the relative success of these competing modes of proposing constitutions? The relatively few amendments proposed through popular initiative have a success rate roughly half that of the two prominent alternatives (32% versus 64% for legislature initiated and 71% for convention initiated). The popular initiative is in fact more difficult to use than legislative initiative and results in proposals that are less well considered and thus less likely to be accepted.

What about the varying methods for *legislative* initiation? States differ in how large a legislative majority is needed for a proposal to be put on the ballot, and some states require that the majority be sustained in two consecutive sessions. Table 4 summarizes what we find in this regard.

TABLE 2

Average Duration of a State Constitution by Amendment Rate

	AMENDMENT RATE							
	0–.5	.51–.75	.76–1.00	1.01–.25	1.26–.50	1.51–.75	1.76–2.00	2.00+
Average duration	71 (7)	90 (8)	100 (13)	86 (4)	79 (4)	57 (6)	40 (1)	38 (7)

Note: The numbers in parentheses indicate the number of states falling into this range of amendment rate.

TABLE 4

Comparative Effect of Majority Size on Amendment Rate in American State Constitutions

	REQUIRED LEGISLATIVE MAJORITY					
	50% + 1	50% + 1 TWICE	60%	67%	75%	67% TWICE
Ratio of difficulty to simple maj.	1.00 (11)	1.04 (6)	1.26 (9)	1.62 (19)	1.83 (1)	3.56 (4)

Note: The numbers in parentheses indicate the numbers of states using this required legislative majority.

In this table, the decline in the amendment rate produced by each type of legislative majority has been normed against that of the least difficult method. This norming is accomplished by taking the success rate of amendment proposals initiated by a simple (bicameral) legislative majority, and dividing it by the success rate of proposals initiated by a two-thirds legislative majority, a three-fourths majority, etc.—always keeping the other variables constant. For example, the data indicate that in the American states, when the method of initiation is stiffened to require approval by a simple (bicameral) legislative approval *twice,* the amendment rate is reduced from the baseline of 71% to a little over 68%. Dividing 71% by 68% results in an index score of 1.04. Likewise, a requirement for a three-fifths (bicameral) legislative majority results in a success rate of 56%. Dividing 71% by 56% produces an index score of 1.26. A score of 2.00 therefore indicates a method that is twice as difficult, a 3.00 indicates a method three times as difficult, and so on. Table 4 arrays the empirical results from lowest to highest level of difficulty rather than according to any theoretical prediction. The results are mostly in line with common sense expectations, (although why a second majority vote has so little effect while a second two-thirds vote has so much is not clear).

We can derive three conclusions from Table 4:

1. Generally speaking, the larger the legislative majority required for initiation, the fewer the amendments proposed and the lower the amendment rate.
2. Requiring a legislature to pass a proposal twice does not significantly increase the difficulty of the amendment process if the decision rule is one-half plus one.
3. The most effective way to increase the difficulty of amendment at the initiation stage is to require the approval of two consecutive legislatures using a two-thirds majority each time.

Beyond these three interesting proposals, it is also useful to discover that the variance in the degree of difficulty between alternative legislative majorities is sufficient to establish the core of an *index of difficulty* for any amendment process. An attempt at such an index is presented in Appendix B, which identifies sixty-eight possible actions that could in some combination be used to initiate and approve constitutional amendments, and that together cover the combinations of virtually every amendment process in the world. The state data on which Table 4 is based generate the index scores for actions 14 through 23, rounding off the score to the nearest .05. If we assume that legislative processes for approval are symmetrical with those for initiation, the index scores for actions 50 through 59 are the same as those for 14–23. If we assume that a unicameral legislative process is one half as difficult as a bicameral one, the index scores for actions 4–13 and 39–49 are as indicated. As reported earlier, amendments proposed by popular initiative have almost exactly one-half the success rate of those initiated by the legislature. If we weight the difficulty of legislative initiative according to the number of states using each type of majority, we obtain a combined, weighted index score of 1.50 for legislative initiative, and thus an index score of 3.00 for popular initiatives (action 24).

Also, we know from state data going back to 1776 that the success rate of amendment proposals after popular referenda became the standard means of approval is virtually the same as when the agent of approval was the state legislature. We can thus say that a popular referendum used as a means for approving a proposed amendment (as opposed to initiating one) is about as difficult as having the state legislature approve it. We have just seen that the weighted average for bicameral legislative action is 1.50, and so we assign an index score of 1.50 to action 60, adding further increments for larger popular majorities, action 61-62. If we assume that special bodies act much the same as unicameral legislatures, the assigning of index scores for actions 2–3 and 32–38 is straightforward.

The use of American state data, in combination with straightforward assumptions, allows the generation of index scores for all actions except numbers 27–30 and 63–68. These actions are assigned index scores that seem reasonable in the context of the other index scores.

The index score assigned to the amendment process found in a national constitution is generated by adding together the numbers assigned by the index in Appendix B to every step required by that particular amendment process. Where a constitution provides for more than one path to a formal amendment, the score for each amendment path is weighted according to the percentage of amendments passed by means of it during the relevant time period.

How the index works can be illustrated by using it with the amendment process described in Article V of the U.S. Constitution. There is more than one path to amendment, and each must be evaluated. A two-thirds vote by Congress, since it requires two houses to initiate the process, is worth 1.60; whereas initiation by two-thirds of the state legislatures is worth 2.25. The latter path leads to a national convention, which uses majority rule in advancing a proposal,

TABLE 5

The Amendment Rate and Average Duration of Selected National Constitutions

	AMENDMENT RATE							
	.00–.24	.25–.74	.75–1.24	1.25–.74	1.75–2.24	2.25–.74	2.75–3.24	3.25+
Average Duration	43 (8)	50 (2)	96 (5)	47 (3)	19 (1)	17 (2)	26 (10)	

Note: Index scores are normed to that of stop #14, simple majority approval in a bicameral legislature, by dividing the approval rate for this baseline by the approval rate for each of the other possible actions. The increments are the estimated increase in the difficulty of passing amendments relative to the baseline rules.

thus adding .75 (under the assumption that this special body is elected). The first path still totals 1.60, and the other now totals 3.00. Ratification by three-fourths of the states through either their legislatures or elected conventions adds 3.50. The path beginning with Congress now totals 5.10, while the path beginning with the state legislatures and using a national convention totals 6.50. Even though the second path has never been successful (and one can see more clearly now why), it is still a valid option. For the total amendment process we can use the lower figure unless or until the more difficult procedure is ever used. That is, since the 6.50 path has never been used, a weighted composite score would be 5.10, which is what I shall use here. Appendix table C-1 shows the index of difficulty scores calculated for the national constitutions of 32 countries, along with other constitutional characteristics.

Performing the same calculation for the American states, I find that the average index score is 2.92, with very little variance. The highest state score is 3.60 (Delaware), and 26 states are tied for the lowest score at 2.75. Another 16 states have a score of 3.10. Thus, while one can detect variance between select subsets of states, the range of variance in general is very small compared with that found in the constitutions of other nations.

We have reached a point where we can now begin to test our propositions using data from the constitutions of other nations.

CROSS-NATIONAL AMENDMENT PATTERNS

Comparative cross-national data show that the U.S. Constitution has the second-most-difficult amendment process. This implies, if propositions 2 and 4 are correct, that the amendment rate for the Constitution may be too low, because its amendment procedure is too difficult, while the average amendment rate for the state constitutions is not too high.

There is an even stronger relationship between the length of a constitution and its amendment rate here than I found with the American state constitutions, with a correlation coefficient of .7970 (versus .6249 for the states) significant at the .0001 level.

The curvilinear relationship found between the amendment rate and average duration of American state constitutions is almost duplicated here in shape, strength, and high point. For the national constitutions, <#> is .75–1.24 (# = .95), and the high point is 96 years in average duration (see Table 5), while for the states, # is .75–1.00 (# = .89), and the high point is 100 years in average duration.[3] Both sets of constitutions studied have a similar moderate range of amendment rate that tends to be associated with constitutional longevity.

There is enough variance in the index of difficulty among cross-national constitutions for us now to test proposition 2 with some degree of confidence. Figure 1 illustrates that there is a very strong relationship (significant at the .001 level) between the index of difficulty and the amendment rate.[4] The more difficult the amendment process, the lower the amendment rate, and vice versa.

FIGURE 1

Cross-National Pattern for Amendment Rate and Difficulty, Indicating Amendment Strategy

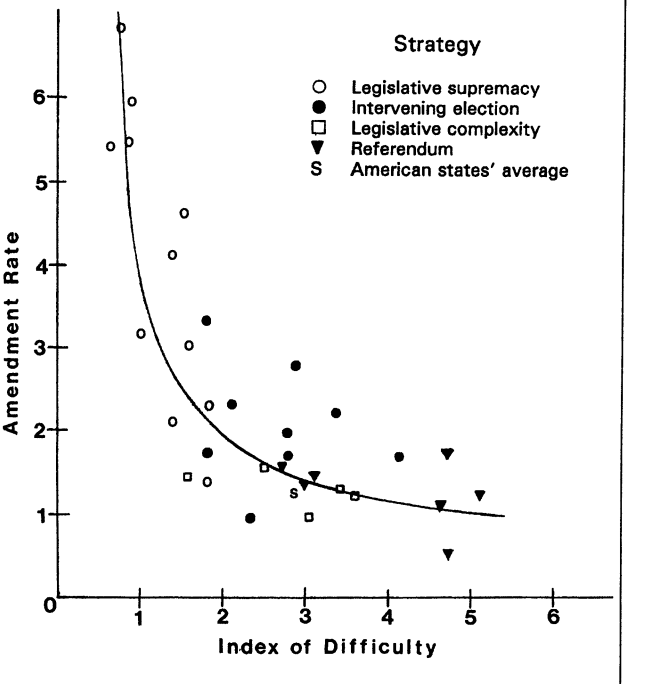

TABLE 6

Comparison of National Constitutions Grouped According to Their General Amendment Strategy

	AMENDMENT STRATEGIES			
	LEGISLATIVE SUPREMACY	INTERVENING ELECTION (DOUBLE VOTE)	LEGISLATIVE COMPLEXITY (REFERENDUM THREAT)	REQUIRED REFERENDUM OR EQUIVALENT
	Austria	Argentina	Chile	Australia
	Botswana	Belgium	France	Denmark
	Brazil	Colombia	Italy	Ireland
	Germany	Costa Rica	Spain	Japan
	India	Finland	Sweden	Switzerland
	Kenya	Greece		U.S.
	Malaysia	Iceland		Venezuela
	New Zealand	Luxembourg		
	Papua N.G.	Norway		
	Portugal			
	Samoa			
Average				
Index score	1.23	2.39	2.79	4.01
Length	59,400	13,000	18,300	11,200
Amendment rate	5.60	1.30	1.19	.28

That the relationship between amendment rate and difficulty of amendment process is highly curvilinear is more interesting than if it were simply a linear one, since there is a relatively small part of the curve where most of the effect is concentrated. This confirms the existence of a range of amendment rates that is more critical and toward which one should aim if constitutional stability is being sought. But it also suggests that one can with some confidence achieve a moderate rate of amendment by selecting an appropriate range of amendment difficulty. This, in turn, suggests that certain amendment strategies are better in this regard than others—a topic to which I now turn.

The difficulty of the amendment process chosen by framers of constitutions seems related to the framers' relative commitment to the premises used by the Americans when they invented the formal amendment process: (1) popular sovereignty, (2) a deliberative process, and (3) the distinction between normal legislation and constitutional matters. We can use these assumptions to group our 32 national constitutions into one of four general amendment strategies.[5]

Strategy 1 can be labelled *legislative supremacy* (Table 6, col. 1). Constitutions in this category reflect the unbridled dominance of the legislature by making one legislative vote sufficient to amend the constitution. The data reveal that the size of the majority required for this vote does not affect the amendment rate. The legislative supremacy strategy reflects a minimal commitment to the three American premises just listed. Strategy 2 is to require that the national legislature approve an amendment by votes in two sessions with an *intervening election* (col. 2). The national legislature is still basically in control, but the amendment process is made more deliberative, a clearer distinction is drawn between normal legislation and constitutional matters, and the people have an opportunity to influence the process during the election, which implies a stronger commitment to popular sovereignty. Sometimes other requirements diminish legislative dominance; the introduction of a nonlegislative body in the process (e.g., a constitutional commission) is typical. The double vote with an intervening election is the key change, so strategy (2) is termed the Intervening Election Strategy. As we move from strategy 1 to strategy 2 the amendment rate falls by 77%. Approximately half (54%) of this drop is explained by the 78% reduction in the average length of a constitution, and about half is explained by the 94% increase in the index of difficulty that results primarily from the double-vote, intervening election strategy.

Strategy 3 relies on *legislative complexity* (col. 3), usually characterized by multiple paths for the amending process, which features the possibility of a referendum as a kind of threat to bypass the legislature. A referendum can usually be called by a small legislative minority, the executive, or an initiative from a small percentage of the electorate—and often any of the three. This complexity and easy availability of a referendum emphasizes even more strongly the deliberative process, the distinction between constitutional and normal legislative, and popular sovereignty.

The legislative complexity strategy produces only an 8% reduction in the amendment rate compared with the intervening election strategy, although this is a 31% improvement over what we would expect, given the increased average length of strategy 3 documents. The slight overall improvement is due to the modest (18%) increase in the difficulty of the strategy. Strategies 2 and 3 together show most clearly how one can achieve similar amendment rates

by trading off between constitutional length and amendment difficulty.

Strategy 4 institutionalizes the most direct form of popular sovereignty and also emphasizes to the greatest extent both the deliberative process and the distinction between constitutional and normal legislative matters. These countries have a *required referendum* as the final part of the process. The United States is placed in this category because the various appeals to the citizenry required by both amendment paths approximates a referendum and because the United States does not approximate any other strategy even remotely.

Compared to strategy 3, the referendum strategy's rate of amendment falls off 76%. This reduction to what is barely one-twentieth the rate for legislative-supremacy countries is about evenly explained by the 44% increase in difficulty vis-à-vis strategy 3 and a 39% reduction in average length.

Table 6 also shows that countries that use a referendum strategy, as well as those that use an intervening election strategy, have, on average, much shorter constitutions than the countries using the other strategies. They tend to have framework constitutions that define the basic institutions and the decision-making process connecting these institutions. The nations using strategy 1 tend to use a code-of-law form of constitution containing many details about preferred policy outcomes. These constitutions tend to be much longer. A code-of-law form of constitution implies a reduced distinction between normal legislation and constitutional matters vis-à-vis framework constitutions since normal legislation is put into the document. The code-of-law form, long documents, an easy amendment process, and legislative supremacy are all characteristics of the parliamentary sovereignty model that dominates the list of countries using strategy 1. New Zealand has perhaps the purest parliamentary sovereignty government in the world, and Kenya, India, Malaysia, Papua New Guinea, Botswana, and Western Samoa are not far behind. Although the countries using strategy 2 still have a fairly low index of difficulty, their much shorter constitutions indicate that a much greater divide has been crossed with respect to strategy 1 countries than the addition of a double vote with intervening election might imply.

Table 6 implies several interesting things that require emphasis. First, one can trade off between shorter length and greater difficulty to produce a similar amendment rate or use them together to produce a desired amendment rate. One can relax the level of difficulty and greatly reduce the rate of amendment simply by shortening a constitution. Second, it was determined earlier that the amendment rate is highly correlated with the degree of difficulty. It is now apparent that different amendment strategies, which reflect different combinations of assumptions about constitutionalism, have certain levels of difficulty associated with them. That is, institutions have definite (and in this case predictable) consequences for the political process.

Figure 1 demonstrates this rather clearly. The 11 nations that use the legislative supremacy strategy are grouped toward the low difficulty–high amendment rate end of the curve. These are left as an open *o*. The seven nations that use a referendum strategy, each indicated by an inverted triangle, are clustered toward the other end of the curve. Those that use legislative complexity are indicated by an open square, and those that use an intervening election strategy are represented by a filled-in *o*. The clustering of the various countries by amendment strategy shows that the averages reported in Table 6 represent real tendencies and are not merely statistical artifacts produced by averaging. The average for the American states is shown by an *s*.

Figure 1 shows the relationship between difficulty of amendment and amendment rate while controlling for the effects of length, which has the effect of shifting the curve upward a bit from that created by using raw index scores. The shifted curve is almost hyperbolic, which means that the relationship between difficulty of amendment and amendment rate can be approximated by the equation for a hyperbolic curve, $x = 1/y$.

An analysis of American state constitutions, with the difficulty of amendment held roughly constant by the similarity in their formal processes, reveals a relationship between the length of a constitution and its amendment rate that is described by a linear curve of best fit with a slope of .60—which is to say that on average, for every additional 10 thousand words, the amendment rate goes up by six-tenths of an amendment per year. The curve of best fit for the national constitutions, when controlling for the difficulty of the amendment process and when excluding the extreme cases of New Zealand and Japan, has a slope of .59. Those writing a new constitution can expect with some confidence, therefore, that there will be about a .60 increase in the amendment rate for every 10-thousand-word increase in the length of the document.

Finally, we might conclude from Table 6 that both the length of a constitution and the difficulty of amendment may be related to the relative presence of an attitude that views the constitution as a higher law rather than as a receptacle for normal legislation. Certainly it seems to be the case that a low amendment rate can either reflect a reliance on judicial revision or else encourage such reliance in the face of needed change. It is possible that the great difficulty faced in amending the U.S. Constitution led to heavy judicial interpretation as a virtue in the face of necessity.

The theory of constitutional amendment advanced here has posited a connection between the four methods of constitutional modification. Propositions 1–4 developed the concept of amendment rate in such a way that we were able to show an empirical relationship between the formal amendment of a constitution and its complete replacement. Propositions 5–8 used amendment rate to relate these two methods of modification to judicial and legislative

alteration.[6] At this point I can now systematically include these last two methods in the overall theory. Toward that end, it is worth reconsidering briefly propositions 5–8 in the light of my findings on the amendment process in national constitutions.

PROPOSITION 5. *A low amendment rate, associated with a long average constitutional duration, strongly implies the use of some alternate means of revision to supplement the formal amendment process.*

The countries that have an amendment rate below <#> (defined as .75–1.24 for national constitutions) and also have a constitution older than the international average of 51 years include Australia, Finland, Ireland, and the United States. The proposition implies that these four countries either have found an alternative means (judicial review in the United States) or are under strong pressure to find another means. Denmark, Germany, Iceland, Italy, and Japan are all within a few years of falling into the same category, and if the proposition is at all useful, they should experience progressively stronger inclinations toward either a more active judiciary or a new constitution in the coming decades. A trend toward an active judiciary is already well advanced in Germany and is also becoming apparent in Japan.

PROPOSITION 6. *In the absence of a high rate of constitutional replacement, the lower the rate of formal amendment the more likely the process of revision is dominated by a judicial body.*

In the absence of further research, there is only indirect evidence for this proposition. Table 6 shows that the lower the rate of amendment, the less the legislature dominates. The executive is usually not a major actor in a formal amendment process, so we are left with the judiciary.

PROPOSITION 7. *The higher the formal amendment rate, a) the less likely the constitution is being viewed as a higher law, b) the less likely a distinction is being drawn between constitutional matters and normal legislation, c) the more likely the constitution is being viewed as a code, and d) the more likely the formal amendment process is dominated by the legislature.*

Discussion of Table 6 has supported all parts of this proposition.

PROPOSITION 8. *The more important the role of the judiciary in constitutional modification, the less likely the judiciary is to use a theory of strict construction.*

In the absence of further research, proposition 8 is a prediction to be tested.

CONCLUSION

I have examined two sets of constitutions. Each set is composed of documents that are taken seriously as constitutions. Every document in these two sets has a formal amendment process that is self-sufficient; that is, it depends on no other constitution to carry out a formal amendment of itself. The two sets of constitutions examined together comprise at least three-fourths of the existing documents defined by these two characteristics.[7]

A comparative, empirical study of the amendment process in these 82 documents leads to four specific conclusions about the amendment process, as well as four more general conclusions about constitutions. The first specific conclusion is that the variance in amendment rate is largely explained by the interaction of two variables: the length of the constitution and the difficulty of the amendment process.

Second, it is possible to manipulate these two variables to produce more or less predictable rates of amendment. The strong linear effects of length and the hyperbolic curve that describes the effects of difficulty—these two together allow us to formulate an equation that generates a pattern of amendment rates close to what we found empirically. If we let A represent the amendment rate, D the score on the index of difficulty, and L the length of a constitution in words, the equation representing their interrelationship is

$$A = [1/D + ((L/10{,}000) \times .6)] - .3.^{8}$$

Third, there is evidence that the amendment rate affects the probability that a constitution will be replaced and that a moderate amendment rate (between .75 and 1.25 amendments per year) is conducive to constitutional longevity.

Fourth, beyond a certain point, making the amendment process more difficult is an "inefficient" way to keep the amendment rate in the moderate range. Rather, it is easiest to do so by avoiding the extremes of either the legislative dominance or the referendum strategies and combining either the legislative complexity or the intervening election strategy with a relatively short document (10–20 thousand words).

Among more general conclusions, the first is that institutions have consequences and that the effects of institutional definitions in constitutions can be studied empirically.

Second, the similarity in amendment patterns between the American state constitutions and the national constitutions raises the possibility that for other aspects of constitutional design, one set of documents may be useful in developing propositions for studying the other set and therefore that there are basic principles of constitutional design operating independently of cultural, historical, geographic, and short-term political considerations.

Third, the first two general conclusions together suggest the possibility of discovering a set of principles that can be used to design constitutions with predictable results.

Fourth, the study of the amendment process strongly suggests that constitutional institutions cannot be studied in isolation from each other. Just as the operation of the legislature may strongly affect the patterns we find in the amendment process, the design of the amendment process may affect the

operation of the court; and seemingly unrelated aspects of a constitution (e.g., its length and formal amendment process) may be linked in their consequences.

Finally, it is interesting that Buchanan and Tulloch's rational cost analysis receives some empirical support, although with a twist. Their general principle holds that constitutional choice rests on a tradeoff between decision costs and external costs (Buchanan and Tulloch 1965). Since constitutions contain important political settlements, any amendment carries with it the danger of serious externalities. Although an apparently rational actor might seek a very difficult amendment process in order to minimize externalities, such a one might also attempt to minimize externalities by constitutionalizing their interests, since the more specific the policy content of the constitution on a topic, the less danger there is that unwanted externalities will be imposed. This latter analysis would imply a fairly easy amendment process. However, a process that allows one actor to safeguard its interests allows all actors to do so. The data in this study indicate that the more policy content there is in a constitution, the longer it becomes. Both an easy amendment process (which leads to greater length and thus a higher amendment rate) and a very difficult amendment process (which leads to a very low amendment rate) produce a higher probability that a constitution will be replaced entirely. Thus, the two short-range types of behavior likely to be engaged in by a rational actor are irrational in the long-run, because when a constitution is replaced, everything is once again up for grabs—a situation in which constitutional safeguards against external costs are no longer in effect at the very time externalities are threatened on all serious political matters. Therefore, a truly rational actor would seem to be one who attempts to avoid constitutional replacement and instead avoids an amendment rate that is too high or too low. This would seem to argue for constitutional brevity and a moderately difficult amendment process on grounds of rationality.

APPENDIX A

Table A-1 presents an index to measure the degree of difficulty associated with each amendment process.

APPENDIX B

Table B-1 lists the numbers assigned by the index to every step required by the amendment processes.

APPENDIX C

Table C-1 shows the index of difficulty scores tabulated for the national constitutions of 32 countries along with other constitutional characteristics.

TABLE A-1

Basic Data on American Constitutions, 1991

STATE	NO. OF CONSTITUTIONS	AVG. DURATION	CURRENT CONSTITUTION SINCE	YRS. IN EFFECT	ORIGINAL LENGTH IN WORDS	TIMES AMENDED	AMENDMENT RATE
Alabama	6	29	1901	90	65,400	726	8.07
Alaska	1	35	1959	32	11,800	22	.69
Arizona	1	80	1912	79	28,900	109	1.38
Arkansas	5	31	1874	117	24,100	76	.65
California	2	72	1879	112	21,400	471	4.21
Colorado	1	115	1876	115	22,000	115	1.00
Connecticut	4	54	1965	26	8,800	25	.96
Delaware	3	72	1897	94	19,000	119	1.27
Florida	6	25	1969	22	18,900	53	2.41
Georgia	10	21	1983	8	26,000	24	3.00
Hawaii	1	41	1959	32	16,800	82	2.56
Idaho	1	102	1890	101	18,800	107	1.06
Illinois	4	43	1971	20	12,900	6	.30
Indiana	2	88	1851	140	9,100	38	.27
Iowa	2	73	1857	134	9,700	48	.36
Kansas	1	132	1861	130	10,200	87	.67
Kentucky	4	50	1891	100	21,800	29	.29
Louisiana	11	16	1975	16	47,300	27	1.69
Maine	1	172	1820	171	10,100	157	.92
Maryland	4	54	1867	124	25,200	200	1.61
Massachusetts	1	211	1780	211	11,600	116	.55
Michigan	4	39	1964	27	18,600	16	.59
Minnesota	1	134	1858	133	8,500	112	.84
Mississippi	4	44	1890	101	20,100	102	1.01
Missouri	4	43	1945	46	39,300	74	1.61
Montana	2	51	1973	18	11,600	15	.83
Nebraska	2	63	1875	116	16,100	189	1.63
Nevada	1	127	1864	127	14,100	108	.85
New Hampshire	2	108	1784	207	8,000	142	.69
New Jersey	3	72	1948	43	16,400	39	.91
New Mexico	1	79	1912	79	22,000	120	1.52
New York	4	54	1895	96	26,800	207	2.16
North Carolina	3	72	1971	20	10,300	27	1.35
North Dakota	1	102	1889	102	18,100	125	1.23
Ohio	2	95	1851	140	14,200	145	1.04
Oklahoma	1	84	1907	84	58,200	133	1.58
Oregon	1	132	1859	132	11,200	188	1.42
Pennsylvania	5	43	1968	23	20,800	19	.83
Rhode Island	2	108	1843	148	7,400	53	.36
South Carolina	7	31	1896	95	21,900	463	4.87
South Dakota	1	102	1889	102	21,300	97	.95
Tennessee	3	65	1870	121	11,100	32	.26
Texas	5	29	1876	115	28,600	326	2.83
Utah	1	95	1896	95	13,900	77	.81
Vermont	3	71	1793	198	5,200	50	.25
Virginia	6	36	1971	20	18,100	20	1.00
Washington	1	102	1889	102	16,300	86	.84
West Virginia	2	64	1872	119	15,900	62	.52
Wisconsin	1	143	1848	143	11,400	124	.87
Wyoming	1	101	1890	101	20,800	57	.56
Mean	2.9	77	1896	95	19,300	117	1.23
U.S. Constitution		202	1789	202	4,300	26	.13

Sources: The data in this appendix are based on James Q. Dealey, *Growth of American State Constitutions* (New York: Da Capo, 1972); Walter F. Dodd, *The Revision and Amendment of State Constitutions*, 2d ed. (New York: Da Capo, 1970); Daniel J. Elazar, *American Federalism: A View from the States*, 2d ed. (New York: Thomas Y. Crowell, 1972); Fletcher M. Green, *Constitutional Development in the South Atlantic States, 1776–1860* (New York: Da Capo, 1971); Ellis Paxson Oberholzer, *The Referendum in America* (New York: Da Capo, 1971); Harold W. Stanley and Richard G. Niemi, *Vital Statistics on American Politics* (Washington: Congressional Quarterly, 1992); Albert L. Sturm, *Thirty Years of State Constitution-Making: 1938–1968* (New York: National Municipal League, 1970).

TABLE B-1

An Index for Estimating the Relative Difficulty of an Amendment Process

ACTION	CONSTITUTIONAL REQUIREMENT	ADD
	Initiation Requires Action by	
1	An executive	.25
2	A special appointed body	.50
3	A special elected body	.75
	A unicameral legislature	
	Legislative approval	
4	By a majority of 1/2 + 1	.50
5	*Twice* using 1/2 + 1	.50
6	By an absolute majority[a]	.65
7	*Twice* by absolute majority	.65
8	By a 3/5 majority	.65
9	*Twice* by 3/5 majority	.65
10	By a 2/3 majority	.80
11	By a 3/4 majority	.90
12	*Twice* by a 2/3 majority	1.75
13	If an election is required between two votes	.25
	Action by a bicameral legislature	
	Legislative approval	
14	By a majority of 1/2 + 1	1.00
15	*Twice* using 1/2 + 1	1.00
16	By an absolute majority	1.25
17	*Twice* by absolute majority	1.25
18	By a 3/5 majority	1.25
19	*Twice* by a 3/5 majority	1.25
20	By a 2/3 majority	1.60
21	By a 3/4 majority	1.80
22	*Twice* by a 2/3 majority	3.55
23	If an election is required between two votes	.50
	A petition	
24	Of 0–250,000 voters	3.00
25	By 250,000–500,000 voters	3.50
26	By more than 500,000 voters	4.00
	Multiple state	
27	Legislatures, 1/2 + 1	2.00
28	Conventions, 1/2 + 1	2.00
29	Legislatures or conventions, 2/3	3.00
30	Legislatures or conventions, 3/4	3.50

[a]"Absolute majority" is used to indicate a requirement for approval by 1/2 + 1 of the *entire body*, whereas "1/2 + 1" indicates a requirement for approval by 1/2 + 1 of those voting.

TABLE B-1 continued

An Index for Estimating the Relative Difficulty of an Amendment Process

ACTION	CONSTITUTIONAL REQUIREMENT	ADD
	Approval Requires	
31	Action by an executive	.50
	Approval by a special body	
32	1/3 or less	.25
33	1/2 + 1	.50
34	Absolute majority	.65
35	3/5 majority	.65
36	2/3 majority	.80
37	3/4 majority	.90
38	3/4 majority	.90
	If any of the above acts a second time	.50
	Action by a unicameral legislature	
	Legislative approval	
39	1/3 majority or less	.25
40	1/2 + 1	.50
41	*Twice* by 1/2 + 1	.50
42	Absolute majority	.65
43	*Twice* by absolute majority	.65
44	3/5 majority	.65
45	*Twice* by 3/5 majority	.65
46	2/3 majority	.80
47	3/4 majority	.90
48	If an election is required between two votes	.25
49	Legislative approval *twice* by 2/3 majority	1.75
	Action by a bicameral legislature	
	Legislative approval	
50	1/3 majority or less	.50
51	1/2 + 1	1.00
52	Absolute majority	1.25
53	*Twice* by absolute majority	1.25
54	3/5 majority	1.25
55	*Twice* by 3/5 majority	1.25
56	2/3 majority	1.60
57	3/4 majority	1.80
58	*Twice* by 2/3 majority	3.55
59	If an election is required between two votes	.50
	A popular referendum	
60	1/2 + 1	1.50
61	Absolute majority	1.75
62	3/5 or more	2.00
	Multiple state	
63	Legislatures, 1/2 + 1	2.00
64	Coventions, 1/2 + 1	2.00
65	Legislatures or conventions, 2/3	3.00
66	Legislatures or conventions, 3/4	3.50
67	Majority of voters *and* majority of states	3.75
68	Unanimous approval by state governments	4.00

Notes

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1. While this was the first explicit amendment process in a state constitution, a formal amendment process was first used in William Penn's 1678 *Frame of Government*, which may explain why Pennsylvania was the first state to adopt one (see Viel 1992, 11–12).

2. These data can be found in Sturm 1982, 90.

3. The test for curvilinearity using cross-national data is neither strictly comparable to that used for the American states nor an adequate test of the relationship using national constitutions. Whereas the entire constitutional history for all 50 American states was used, only the most recent period of constitutional stability exceeding 15 years was used for the cross-national data. The arbitrary use of a 15-year minimum may well exaggerate the average longevity of national constitutions, and the use of only the most recent minimum period may weaken the results.

4. Figure 1 was generated using the statistical package

TABLE C-1

Basic Data on Selected National Constitutions

COUNTRY	AMENDMENT RATE	INDEX OF DIFFICULTY	AMENDED LENGTH IN WORDS	YRS.	TIME PERIOD
Argentina	1.04	2.10	10,600	87	1853–1940
Australia	.09	4.65	11,500	91	1901–92
Austria	6.30	.80	36,000	17	1975–92
Belgium	2.30	2.85	10,700	15	1973–88
Botswana	2.44	1.30	35,600	18	1966–84
Brazil	6.28	1.55	58,400	18	1969–87
Chile	.64	3.05	24,200	45	1925–70
Columbia	1.73	2.75	25,100	95	1886–1981
Costa Rica	1.26	4.10	15,100	33	1949–82
Denmark	.17	2.75	6,000	39	1953–92
Finland	.86	2.30	18,300	73	1919–92
France	.19	2.50	6,500	24	1968–92
Germany	2.91	1.60	22,400	43	1949–92
Greece	1.32	1.80	22,100	17	1975–92
Iceland	.21	2.75	3,800	48	1944–92
India	7.29	1.81	95,000	42	1950–92
Ireland	.55	3.00	16,000	55	1937–92
Italy	.24	3.40	11,300	46	1946–92
Kenya	3.28	1.00	31,500	18	1964–81
Japan	0.00	3.10	5,400	47	1945–92
Luxembourg	1.80	1.80	4,700	19	1968–87
Malaysia	5.18	1.60	91,400	35	1957–92
New Zealand	13.42	.50	180,000	40	1947–87
Norway	1.14	3.35	6,500	178	1814–1982
Papua New Guinea	6.90	.77	53,700	17	1975–92
Portugal	6.67	.80	26,700	15	1976–91
Spain	.18	3.60	8,700	24	1968–92
Sweden	4.72	1.40	40,800	18	1974–92
Switzerland	.78	4.75	13,300	119	1873–1992
United States	.13	5.10	7,400	203	1789–1992
Venezuela	.24	4.75	20,500	25	1967–92
Western Samoa	.95	1.80	22,500	22	1962–84
Average	2.54	2.50	29,400	52	

Note: Cross-national constitutional data have been taken from the constitutions themselves and from commentaries on these documents, found primarily in Albert P. Blaustein and Gisbert H. Flanz, *Constitutions of the Countries of the World*, 19 vols. (Dobbs Ferry, NY: Oceana, 1987) and supplements.

STATA, and the figure was then reproduced by hand using Geotype overlay techniques to enhance readability.

5. These broad categories were constructed using the theoretical premises developed herein and thus are independent of any categorization schemes developed previously by others. For an instructive comparison, see Lijphart 1984, 189–91. In order for a country to be included, it had to have at least one 15-year period free of military rule or serious instability, during which constitutionalism was taken seriously. Reliable data on the number and nature of amendments for that country also had to be available to the researcher. The unavailability of such data explain the absence of the Netherlands, for example, or for Austria before 1975.

6. On this topic, see Antieu 1982 and McWhinney 1956.

7. Canadian provincial and Australian state constitutions are prominent among those remaining to be examined. Also, Israel, Canada, and the United Kingdom, although lacking a simple written constitution, remain to be included. The problem in each of these three cases lies in determining what has constitutional status. An initial attempt to do so, using the content of the New Zealand Constitution as a template, yielded the following very preliminary estimates for two of these legislative supremacy countries:

	Israel	*United Kingdom*
Amendment rate	2.5+	7.5+
Index of difficulty	.50	.60
Length	10,000+	250,000+
Relevant years	1949–91	1900–1991

8. One part of the equation factors the effects of length in by dividing the number of words in the constitution by 10,000 and multiplying by .60. The second part approximates the effects of amendment difficulty by using the formula for a hyperbolic curve: A = 1/D. However, this is only approximate, and subtracting .30 from the effects of amendment difficulty results in the curve of best fit for the raw data scores.

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