6

Constitutional Rigidity and Amendment Rate

> The amending clause . . . describes and regulates . . . amending power. *This is the most important part of the constitution.*
>
> John W. Burgess, *Political Science and Constitutional Law*

> Does the constitutional amendment rule matter at all?
>
> Ginsburg and Melton, "Does the Constitutional Amendment Rule Matter at All? Amendment Cultures and the Challenges of Measuring Amendment Difficulty"

In the Introduction, I provided an extensive set of references to the two competing assessments of constitutional amendment provisions included in every constitution. Here, I am using only two of them as excerpts to remind the reader that they are the subject of conflicting assessments. The point of view of Burgess seems self-evident and was the predominant approach until the empirical evidence that was collected (and included on the website www.constituteproject.org) enabled research to expand into empirical analysis. This then led to the dispute of constitutional rigidity on amendment rate, as the second excerpt suggests. Actually, above I used only the title of the article; the researchers themselves conclude after analyzing 790 current and previous constitutions that "the institutional variables are never statistically significant and, often, they do not even have the sign one would expect" (Ginsburg and Melton 2015: 711). I have addressed the theoretical part of these "no effect institutional variables" and the attribution of amendment frequencies to cultural variables in Chapter 3. There, I presented theoretical, empirical, and statistical objections to the argument that "it is not institutions; it is culture."

I remind the reader of these issues because the intuitive understanding that institutions matter has led to the expectation that constitutional rigidity should reduce the amendment rate, and one could argue that demonstrating this is a non-worthwhile enterprise.

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However, I want to take issue with such an assessment. The reason for this is that we have significantly modified our understanding of the words "proof" and "evidence" since World War II. In fact, there have been two major revolutions in the social sciences since the end of World War II. The first was the rational choice revolution. If we place its date of birth with Arrow's Impossibility Theorem (in 1951),[1] we see an explosion of research following and demonstrating that intuition is not sufficient to establish sound beliefs. Regardless of whether people follow this research program or not, the word "proof" has a non-casual meaning. The second major revolution was the behavioral revolution. It is difficult to identify its date of birth, but it is associated with the University of Michigan, and it demonstrated that providing empirical examples is not enough, but one should analyze the whole population (or a random sample thereof) and use the appropriate statistical tools for it. Again, regardless of whether or not a researcher abides by the principles of the behavioral research program, we all understand that the word "evidence" has a much more precise meaning. Today these two revolutions have been incorporated into our beliefs, and we want theoretical justifications and empirical corroboration of propositions in order to consider them tenable. This is what I am doing in this book. In Chapter 2, I provided the theoretical argument that amendment rules translate into constitutional rigidity which affects the rate and significance of constitutional amendments.

In this chapter, I will apply the theoretical arguments of Chapter 2 on all democratic countries (numbering 103) and show that constitutional amendment rules have significant impact on the amendment rate. Using the veto players approach, I constructed an index of constitutional rigidity, which covers 103 democratic countries (those that had a POLITY2 score of five or above in 2013 [Marshall 2016]). Besides using the constitutional rigidity of the different countries, I also collect data on the significance of constitutional amendments. With these variables, I corroborate Burgess' claim. Most of the constitutional rigidity literature

[1] In "Social Choice and Individual Values," Arrow demonstrated that it is impossible to simultaneously satisfy five different but "obviously" highly desirable criteria in any social aggregation rule. The shock of this discovery was so great that in the beginning researchers started trying to prove that the proof was mistaken. Once the theorem was established, it dominated research for more than a decade, during which articles with the word "paradox" in their title were demonstrating that closer examination of intuitive beliefs was misleading. This is why I consider Arrow as the founder of the rational choice revolution despite the fact that he was preceded by other intellectuals (Black), sometimes by centuries (Condorcet, Lewis Carol).

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only uses a subset of institutional rules and does not focus on democratic countries. As I said in the Introduction, restricting the analysis to democratic countries is like focusing as much as possible on "twins" and reducing the error term in our analysis.

In this chapter, I argue that there are three factors that cause empirical research to contradict Burgess' arguments: (1) the independent variable, (2) the dependent variable, and (3) the methodology used.

(1) The independent variable is a proxy for the size of the core. While most authors have used similar ideas, they have not been consistent; some analyses use only the institutional threshold, others use the number of veto players, others create a composite scalar measure depending on different criteria, and none of them use a combination of all these factors along with additional time or sequence constraints (as well as the impact of alternative procedures specified by the constitution). Previous work has analyzed a limited number of countries (around thirty). Ginsburg and Melton (2015) have used all countries, regardless of how democratic they are. I use only democratic countries in my sample and only for the period that they were democratic.[2]
(2) In the literature, the dependent variable is the rate of all constitutional amendments.[3] I will explain in this chapter why amendments should be weighted by significance, and I will divide amendments into three different categories: fundamental, significant, and insignificant. I will then perform three different tests: one on all amendments, one on the important ones (fundamental and significant), and one on just the fundamental ones.[4]
(3) The theory presented in Chapter 2 provides a necessary but insufficient condition for the size and rate of amendments. Therefore, it is inappropriate to use a linear model. Advancements in methodology indicate that the necessary but not sufficient conditions lead to two

[2] I use all 103 countries that were ranked at a five or above in the POLITY2 index in 2013 when I analyze the constitutions they have in place.
[3] It would be more appropriate to call the variable "amendment years" or, even better, "amendment events" since, if multiple amendments are introduced the same year, they are considered as being a single amendment. This is a reasonable choice since most of the time all of them are voted by using the same procedure. However, I will follow the literature on the matter and refer to "amendments" instead of "amendment events."
[4] These data are from the Comparative Constitutions Project dataset. I thank Tom Ginsburg for providing the data. See the discussion later in this chapter.

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different predictions: one, on the size of the dependent variable, and two, on its variance (Goertz and Starr 2002, Goertz 2017). The appropriate method treats the predicted differences in variance (heteroskedasticity) as an asset instead of a liability in the estimation. I corroborate that constitutional rigidity leads to fewer and/or less significant amendments, and I show that constitutional flexibility may or may not lead to the adoption of more and/or significant amendments.

This chapter includes two appendixes. Appendix 6.A.1 presents the results of the heteroskedastic regressions (tables and figures) for different groups of amendments: first of the fundamental ones, then the combination of fundamental and significant ones, and finally of all amendments. Appendix 6.A.2 combines the results of the institutional analysis presented in this book with the cultural (or human capital) analyses presented in Chapter 3.

6.1 The Literature on Constitutional Rigidity

Constitutions systematically involve two types of items (in addition to Burgess' "most important" amending clauses): human rights and the rules of the political game. Both require stability – that is, they must be well known in advance, be respected by all participants, and remain constant (as long as they have not become obsolete). This is so all participants know their rights and obligations. For this reason, constitutions are designed to make modification difficult.

The multiplicity of these constitutional amendment provisions is extremely important for the way the political game is played in different countries. Stringent amendment rules can render political institutions almost "exogenous" as the outcome resulting from decisions made in the past is imposed on the current players. On the other hand, if these restrictions are weak, actors will include a constitutional revision in their agenda any time the actors disagree with the constitutional rules.

Studies on constitutional rigidity have been done at the normative and theoretical levels. The debate started between Thomas Jefferson, who advocated frequent changes to the US Constitution, and James Madison, who prevailed in establishing a long-standing one. Studies have also been done at the empirical level, including attempts to assess the level of constitutional rigidity in different countries. Given the variety of locking mechanisms in constitutions and the ability of founders to combine them either

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as supplements or as substitutes, the range of constitutional rigidity is extremely large with diverse empirical conclusions.

6.1.1 *Measuring Constitutional Rigidity*

In the literature, there are two major approaches to measuring constitutional rigidity. The first uses only institutional measures, while the second combines institutional measures with others such as the rate of amendments and other indicators that explain this rate. Focusing on the institutional factors alone, the level of constitutional rigidity may differ from one article of a constitution to the next.[5] The constitution may provide different provisions for the modification of different articles, such as using alternative political institutions. Similarly, it may be prohibited to amend certain articles like human rights or the regime type. Finally, there is a wide array of applicable revision procedures that range from multiple bodies to referendums, time delays that sometimes involve intermediate elections, and sometimes even the creation of special bodies, such as constitutional assemblies.

6.1.2 *Institutional Criteria*

Focusing on institutions, some authors only consider a subset of issues. For example, Lutz (1994) and Lijphart (2012) focus on the qualified majorities required in the amendment process, whereas Anckar and Karvonen (2015) focus mainly on the political actors involved (Lorenz 2005: 341–342, 344–345). Lutz (1994) studied eighty-two constitutions (the fifty US state constitutions and those of thirty countries), but Lorenz was not able to successfully apply Lutz's index to new countries (Lorenz 2005: 342). Lijphart (2012) created a fourfold typology, which divided countries based on the majority threshold required for approval. He finds that this classification correlates with the strength of judicial review (Lijphart 2012: 214–215). Schneier (2006) uses a similar method and classifies 101 constitutions into five categories and nineteen subcategories.

Other authors (e.g., Elster 2010, Lane 2011) use non-voting criteria such as time delays. Similarly, La Porta et al. (2004: 448) examine a group

[5] On the basis of this, Albert distinguishes constitutions as either "comprehensive" (if the whole constitution can be modified with the same rules), "restricted" (if different provisions are subject to different rules), or "exceptional" (where different rules are used exclusively for one provision or a set of related provisions) (Albert 2014).

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of countries whose constitutions have remained unchanged since 1980. They measure constitutional rigidity on a scale from one to four, which is broken down in La Porta et al.'s Table 1:

> One point each is given if the approval of the majority of the legislature, the chief of the state, and a referendum is necessary in order to change the constitution. An additional point is given for each of the following: if a supermajority in the legislature (more than 66 percent of votes) is needed, if both houses of the legislature have to approve, if the legislature has to approve the amendment in two consecutive legislature terms, or if the approval of a majority of the state legislatures is required. (La Porta et al. 2004: 451)

Other authors, such as Rasch and Congleton (2006), use institutional information that they have on formal amendment rules. They then "create indexes of consensus and of the number of central government veto players or points of agreement required to secure a constitutional amendment" (Rasch and Congleton 2006: 546). Lorenz (2005) focuses on a mix of institutional and contextual variables and combines elements from Lutz, Lijphart, and Anckar and Karvonen to identify "the type of majority rule with the number of voting arenas or actors" (Lorenz 2005: 346).

6.1.3 *Mixed Factors*

Turning now to the combination of institutional and other factors, the most recent and sophisticated effort has been made by the Comparative Constitutions Project from Elkins et al. (2009). These authors start with the premise that constitutional rigidity should be calculated using a combination of the institutional procedures required for amendment and the actual rate, or lack thereof, of amendments. According to them, each component is not sufficient on its own. While they can assess the institutional component by looking at the constitution (though with difficulties that they enumerate and that this literature review corroborates), the rate of amendments depends on a host of social and historical factors: "Thus, we regress the amendment rate on a set of amendment procedure variables as well as a host of factors that should predict political reform more generally, including those factors included in our model of constitutional duration" (Ginsburg and Melton 2015: 695). Such factors include percentages of different ethnic groups, economic development, amendment rate, amendment rate squared, and so on (Elkins et al. 2009: 227–228). Tsebelis and Nardi (2016) use the same indicators in their analysis. Despite this, common statements in the

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literature, such as "constitutional rigidity [has] a negative effect on amendment frequency,"[6] cannot be accurately evaluated with the use of measures that include amendment rate as an ingredient of constitutional rigidity because they are affirming the consequent. This is the reason that I used purely institutional variables in my subsequent work and in this book. Ginsburg and Melton (2015) also do not include amendment rate as a component of constitutional rigidity.

6.1.4 *Effect of Rigidity on Amendment Rate*

Given the variety of variables included in the different indexes of constitutional rigidity, it is not surprising that there is low correlation among them (Ginsburg and Melton 2015: 698). Ginsburg and Melton find that "only three combinations yield a correlation greater than 0.5: Anckar and Karvonen with Lijphart, Lijphart with Lorenz, and Lorenz with Lutz. The other correlations are smaller than 0.5 and the correlation between the CCP and Lorenz measures is even negative" (Ginsburg and Melton 2015: 697). The reason for this negative correlation is probably because Ginsburg and Melton's analysis included social, economic, and other contextual indicators. In addition, as a series of authors point out, the correlation between the different measures of constitutional rigidity and amendment rate is low (Ferejohn 1997, Lorenz 2005, Rasch and Congleton 2006, Ginsburg and Melton 2015).

There is a potential explanation for this low correlation. The institutional indexes of rigidity are based mainly on one of two methods the founders of each country used to protect the constitution: either the number of veto players (institutions or actors required to agree to a constitutional amendment) or the required majorities in each one of them (Tsebelis 2017b). These methods are not independent – in fact, these methods are often used in a complementary way: bicameral legislatures require lower qualified majorities for approval than unicameral ones.[7] Depending on the weight of these two components,

[6] See Lutz (1994: 365–366), Rasch and Congleton (2006: 542), Dixon (2011: 106), and Lijphart (2012: 211).

[7] Eighty-nine percent of the countries that require just one body for constitutional changes also require a two-thirds majority or greater. Among countries that require two bodies, that percentage decreases to 63 percent, whereas only 52 percent of countries that require three bodies also require a two-thirds majority or greater. The most extreme countries (using only one of the two methods and generating the negative correlation) are Bulgaria and Mongolia on the one hand (requiring a three-fourths qualified majority from a single

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Table 6.1 *Correlation of veto player constitutional rigidity index with other indexes*

Index	Correlation	*p*-value	Num. observations in common
Ginsburg and Melton (2015)	0.09	0.450	66
Anckar and Karvonen (2015)	0.16	0.263	52
La Porta et al. (2004)	0.44	0.004	41
Lijphart (2012)	0.23	0.252	26
Lorenz (2005)	0.59	0.000	34
Lutz (1994)	0.62	0.001	23
Rasch and Congleton (2006)	0.78	0.000	17

constitutional rigidity may take different values. As for the indexes involving components other than institutional ones, it goes without saying that the results will depend on the alternate variables included.

Table 6.1 presents the correlation between the veto player constitutional rigidity index calculated in Chapter 2 and the different other indexes of constitutional rigidity. It also presents the significance of the correlation (*p*-value) and the number of observations (number of countries in common) that generate it. The overall correlations are higher than the ones reported in Ginsburg and Melton (2015). In particular, the correlations are higher with the indexes of Lorenz (2005), Lutz (1994), and Rasch and Congleton (2006), who use different ways of combining institutional provisions (without covering them all) and their significance, although the number of countries covered is significantly lower.

I think, given the high *p*-value of my index with the last three indexes in Table 6.1, that the reason they do not get strong results in their analyses is the small number of countries covered.

6.2 Constitutional Amendment Theory and Tests

In Chapter 2 (around Figure 2.7), I presented the argument that high constitutional rigidity is a necessary but not sufficient condition for a low rate and small significance of amendments. This means that high rigidity

chamber) and Australia, Canada, Denmark, France, Iceland, Ireland, Italy, and Paraguay on the other, requiring a simple majority for approval in three different bodies, usually including a bicameral legislature. The interested reader can find details of constitutional amendment procedures in Appendix II.

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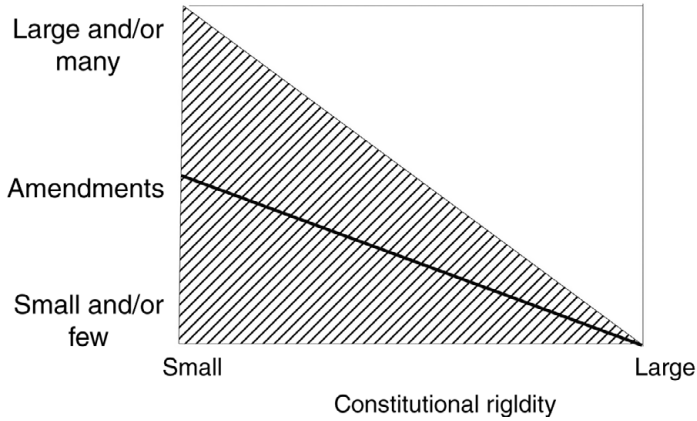


Figure 6.1 Constitutional rigidity and amendment size and/or rate

will necessarily lead to a low rate and significance of amendments, but low constitutional rigidity provides the opportunity for a high rate as well as a greater significance of constitutional amendments. However, whether these amendments will materialize depends on the preferences of the relevant actors.

Figure 6.1 presents a visual representation of this expectation. As a result, the relationship between constitutional rigidity and amendment rate will be heteroskedastic: At high levels of constitutional rigidity, amendments will be infrequent or even impossible, while at low levels of constitutional rigidity, amendments are possible but their rate will be high or low depending on other conditions (for example, political actors may not be willing to change the status quo despite the fact that it is easily amendable). The result of this argument is that the appropriate procedure to test the theoretical expectations is not a linear regression (as used in all of the previous empirical literature) but a heteroskedastic regression, where predictions are made not only about the average value of the amendment rate but also about its variance.

In Figure 6.2, I present a graph of all the democratic countries in a two-dimensional space: the independent variable is the veto player constitutional rigidity, and the dependent one is the amendment rate of the different countries (the number of amendment years divided by the number of democratic years).[8]

[8] I remind the reader that I am not considering countries that fall below five on the POLITY2 democracy scale.

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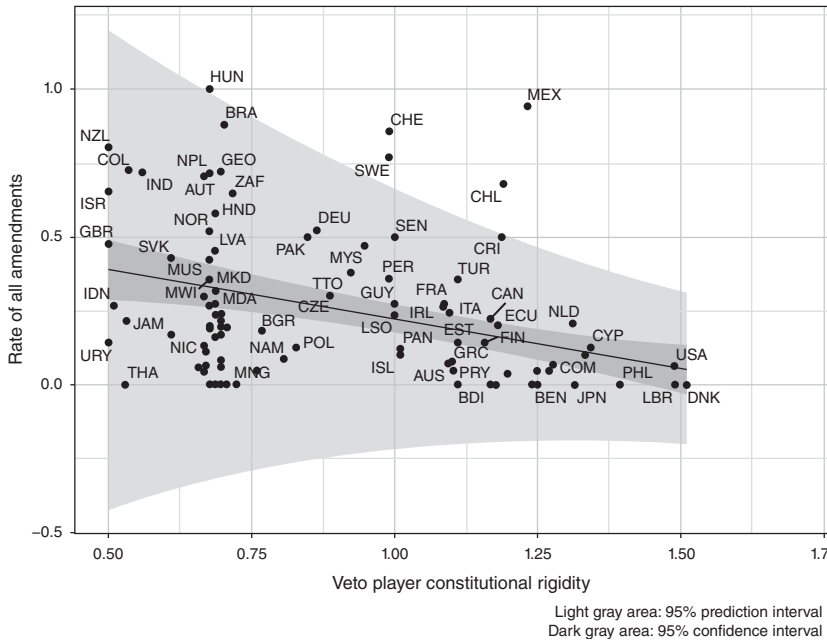


Figure 6.2 The effect of constitutional rigidity on the rate of all amendments (amendments of constitutions in effect in 2013 in all democratic countries)

There is one more variable that is expected to have a significant impact on the relationship: the significance of amendments. This heteroskedastic relationship will be stronger as the significance of the amendments increases because the actors will make more elaborate and accurate calculations and likely will not undertake them (if they think they may fail) or, even if they do, they will not succeed because of the difficulty of achieving the goal. This expectation regarding significant amendments is congruent with the findings on legislative output both in the US (at both the federal and state level) and from a comparative perspective. For example, Howell et al. (2000) divide federal legislation into three different categories: landmark, significant, and trivial. They find that while a divided government depresses the production of landmark legislation by about 30 percent, it has no substantive effect on the production of important, albeit not landmark, legislation and actually has a positive effect on the passage of trivial laws (Howell et al. 2000). In a study of policymaking in state legislatures, Crosson (2019) measures the size of the legislative core and finds substantively larger results when accounting for bill significance. Finally, Tsebelis (2002) divides legislation in European

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countries into two categories and finds that veto players and their distance are negatively correlated with the production of significant legislation but not with the production of nonsignificant pieces of legislation.

In conclusion, I expect to find a negative heteroskedastic relationship between constitutional rigidity and amendment rate, which will be more pronounced as the amendments' significance increases. To test this relationship, I measure the level of significance of the constitutional amendments in my sample.

I designed a survey that organized the constitutional data from Ginsburg and Melton by country – this way, country experts could evaluate the significance of all of the amendments in countries of their expertise (Ginsburg and Melton 2015). I posted the survey link on the constitutional law blog I-CONnect in addition to personally reaching out to a range of people from lists of country experts.

The questionnaire presented a three-class typology of amendment significance, consisting of "amendments of exceptional significance," "significant amendments," and "insignificant amendments." These categories break down as follows:

- Category 3 includes "amendments of exceptional significance" that, at the time of their passage, transformed the understanding of at least one area of the constitution of the country. In other words, amendments in this category transform how legislative bargaining or interbranch relations transpire, introduce an entirely new class of individual rights to a citizenry, or are subsequently deemed "unconstitutional" by the supreme court of a given country.
- Category 2 includes "significant amendments," which are changes that added or modified an important aspect of the constitution. These amendments alter (but do not transform) key institutional features of the legislative, executive, or judicial bodies of government (or their relation to each other), expand the electorate (but not fundamentally alter it) in some way, or add onto already existing individual rights.
- Category 1 is the residual category of "not significant or insignificant amendments." Given that the bar is very high for Categories 2 and 3, most amendments will belong to this residual category.

The survey elicited multiple sets of answers for numerous countries (from one to six).[9] In the case of discrepancies between sets of ratings,

[9] My team scored the countries for which I received no answer after several attempts.

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I used the median rating.[10] If the median was not an integer but an interval (a possibility with two or four responders), I used the more conservative estimate (the lower of the two numbers).

6.3 Constitutional Rigidity and Significance of Amendments: Negative Heteroskedastic Relationships

With these data on the significance of constitutional amendments, I can test the relationship between constitutional rigidity and both amendment rate *and* significance. Chapter 2 expects this relationship to have three dimensions:

(1) On average, the rate of amendments will decline with constitutional rigidity.
(2) The variance of the relationship will decline with constitutional rigidity.
(3) The significance of the relationship will increase as a function of the significance of amendments.

In order to test these predictions, I use a heteroskedastic regression model. Heteroskedasticity is generally considered a liability in empirical estimations because it reduces the reliability of coefficients. My analysis *predicts* heteroskedasticity, so having a heteroskedastic relationship should not be seen as a liability. I expect not only a negative relationship between constitutional rigidity and the rate of amendments but also the variance of this rate. I also expect to find more significant results when the amendments are more significant. Appendix 6.A.1 presents the nine models, which I use to present the essence of my argument in Table 6.2.

This table examines three different categories of significance: first, all of the amendments (Categories 1, 2, and 3 in Appendix I); second, the more significant ones (Categories 2 and 3); and third, the fundamental ones (Category 3). For each category, three regressions are performed: the null model (assuming no relationship between constitutional rigidity and rate), the linear model (assuming a linear but not heteroskedastic relationship between constitutional rigidity and rate of amendment), and the heteroskedastic model (assuming a negative effect of rigidity on both the rate of constitutional amendments and the variance of this rate). In all three cases, I produce the added explanatory value of each model by

[10] This is true unless the answers indicated a violation of the instructions. For example, all amendments approved on the basis of constitutional rules but rejected by the constitutional court on the basis of substance (not procedure) were classified as 3 since (on the basis of the court's judgment) they were unconstitutional.

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Table 6.2 *Comparison of three models of effects of constitutional rigidity (null, mean only, and heteroskedastic) on amendment rate for POLITY2 ≥ 5 threshold 103 countries; likelihood ratio tests*

Significance	Models	Chi-square	$p(>$ Chi-square)
All amendments	Null vs. mean only	9.60	0.00194
	Mean only vs. heteroskedastic	2.63	0.10510
	Null vs. heteroskedastic	12.23	**0.00221**
Significant and fundamental	Null vs. mean only	7.02	0.00804
	Mean only vs. heteroskedastic	12.09	0.00050
	Null vs. heteroskedastic	19.11	**0.00007**
Fundamental amendments	Null vs. mean only	4.27	0.03883
	Mean only vs. heteroskedastic	76.37	1.00E+00
	Null vs. heteroskedastic	80.64	**1.00E+00**

reporting the *p*-values from a likelihood ratio test comparing the specified models.[11]

Table 6.2 underlines three main points. First, as predicted, the coefficients of constitutional rigidity are negative for both the mean rate and the variance of this rate. For each level of amendment significance, the explanatory power of the model increases from null to linear and then to heteroskedastic; the contribution of the mean or the variance varies for different levels of significance (for all amendments [1 + 2 + 3], the changes of rate provide the main part of the explanatory power of the model, while for more significant [2 + 3] or for fundamental [3] amendments most of the explanation is provided by the variance). Finally, and most importantly, the added value, denoted by the highlighted *p*-value of the difference between the null model and the heteroskedastic model, increases with the significance of amendments, moving from 0.001 for all

[11] The analyses in this chapter follow Tsebelis (2017b) with the only difference being that they cover countries above five in the POLITY2 scale instead of six as was covered in the article. As a result, I have 103 countries instead of 94, and although there is often more statistical significance in these current analyses, the substantive significance of results is exactly the same. In Appendix A.6.2, I expand the analysis to all the other cutoff points from the POLITY2 definition of democracy and show that the results remain qualitatively similar. The heteroskedastic regressions use the two-step GLS estimation procedure described on page 14 of Stata's hetregress manual. The likelihood ratio tests are based on maximum likelihood estimates because Stata does not compute the likelihood for the two-step GLS estimation.

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amendments to 0.00005 for significant and fundamental amendments and to 1.00E+00 for fundamental amendments. In other words, the relationship between constitutional rigidity and the rate (number of amendment events over democratic years) of constitutional amendments is heteroskedastic as predicted, and the significance of this relationship increases with the significance of amendments under consideration. This new finding is consistent with the findings of the literature on legislation.

In Appendix 6.A.1, I provide the analytic results that produced Table 6.2 for the interested reader as well as the plots of constitutional rigidity with the different kinds of amendments. In Appendix 6.A.2, I replicate Table 6.2 for different cutoff points of democracy from the POLITY2 index and demonstrate the robustness of results. In Appendix 6.A.3, I use both the veto player rigidity index and the cultural variables from Chapter 3 in order to show that most of the cultural variables drop out when tested against the institutional ones.[12]

Conclusions

This chapter used the theoretical analysis of Chapter 2 to argue that constitutional rigidity affects amendment rate, but as a necessary condition only, and it will have higher results as a function of the significance of amendments. In order to produce the empirical results, I used the veto players constitutional rigidity index calculated in Chapter 2 in a heteroskedastic regression with three different levels of amendment significance. The results were always statistically significant. In addition, using an expert opinion survey, I constructed a variable for the importance of amendments. For the empirical analysis, I used the appropriate heteroskedastic regression and concluded that the more significant the amendments, the more my expectations were corroborated.

Constitutional rigidity affects the rate of significant amendments in the following ways: High rigidity makes amendments rare, but low rigidity simply enables amendments, which may or may not occur depending on political, social, or economic factors. As a result, low constitutional rigidity produces a higher average rate and higher variance of significant constitutional amendments. The higher the significance of amendments, the stronger the above relationship. This evidence corroborates Burgess' statement that I have referred to many times in this book and demonstrates why, if not analyzed correctly, the heteroskedastic data (who are

[12] The regressions in Appendix 6.A.3 are not heteroskedastic because the predicted heteroskedasticity goes in different directions.

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necessarily noisy) lead to misleading and unwarranted conclusions that constitutional amendment rules have low significance or do not matter at all and should either be replaced by cultural explanations (Ginsburg and Melton 2015) or be completely ignored (Versteeg and Zackin 2016).

In this chapter, I demonstrated the direct use of constitutional rigidity: how and why it affects amendment rate, and how significance increases with the importance of amendments. However, there are also indirect effects of constitutional rigidity that we will study in the subsequent chapters.

Appendix 6.A.1

Here, I will present the results of the different models in more detail.

Table 6.A.1.1 presents the results of the heteroskedastic regression for fundamental amendments. Table 6.A.1.2 gives the results of the combination of fundamental and major amendments. Table 6.A.1.3 presents the results of all amendments.

Figure 6.A.1.1 gives the graphic representation of fundamental amendments. Figure 6.A.1.2 presents the fundamental and major amendments. (The graphic representation of all amendments is presented in the main text as Figure 6.2).

Table 6.A.1.1 *Results of the heteroskedastic regression for fundamental amendments (POLITY2 $\geq$ 5)*

	Null model	Mean-only model	Het. regression
n	103	103	103
Dependent variable: the fundamental amendment rate			
(Intercept)	0.043 ***	0.117 **	0.089 ***
	(0.011)	(0.037)	(0.026)
Veto players constitutional rigidity		–0.082 *	–0.057 *
		(0.039)	(0.024)
Dependent variable: the log-squared residuals of the OLS regression of the fundamental amendment rate on veto players constitutional rigidity			
(Intercept)	–4.408 ***		–0.189
	(0.139)		(0.468)
Veto players constitutional rigidity			–5.616 ***
			(0.502)

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$.

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Table 6.A.1.2 *Results of the heteroskedastic regression for the combination of fundamental and major amendments (POLITY2 ≥ 5)*

	Null model	Mean-only model	Het. regression
n	103	103	103
Dependent variable: the major and fundamental amendment rate			
(Intercept)	0.117 ***	0.249 ***	0.254 ***
	(0.015)	(0.051)	(0.050)
Veto players constitutional rigidity		–0.148 **	–0.152 **
		(0.055)	(0.046)
Dependent variable: the log-squared residuals of the OLS regression of the major and fundamental amendment rate on veto players constitutional rigidity			
(Intercept)	–3.720 ***		–2.110 ***
	(0.139)		(0.515)
Veto players constitutional rigidity			–2.016 ***
			(0.556)

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$.

Table 6.A.1.3 *Results of the heteroskedastic regression on all amendments (POLITY2 ≥ 5)*

	Null model	Mean-only model	Het. regression
n	103	103	103
Dependent variable: the all amendment rate			
(Intercept)	0.253 ***	0.506 ***	0.519 ***
	(0.025)	(0.084)	(0.084)
Veto players constitutional rigidity		–0.284 **	–0.298 ***
		(0.090)	(0.084)
Dependent variable: the log-squared residuals of the OLS regression of all amendment rate on veto players constitutional rigidity			
(Intercept)	–2.714 ***		–2.022 ***
	(0.139)		(0.515)
Veto players constitutional rigidity			–0.910
			(0.557)

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$.

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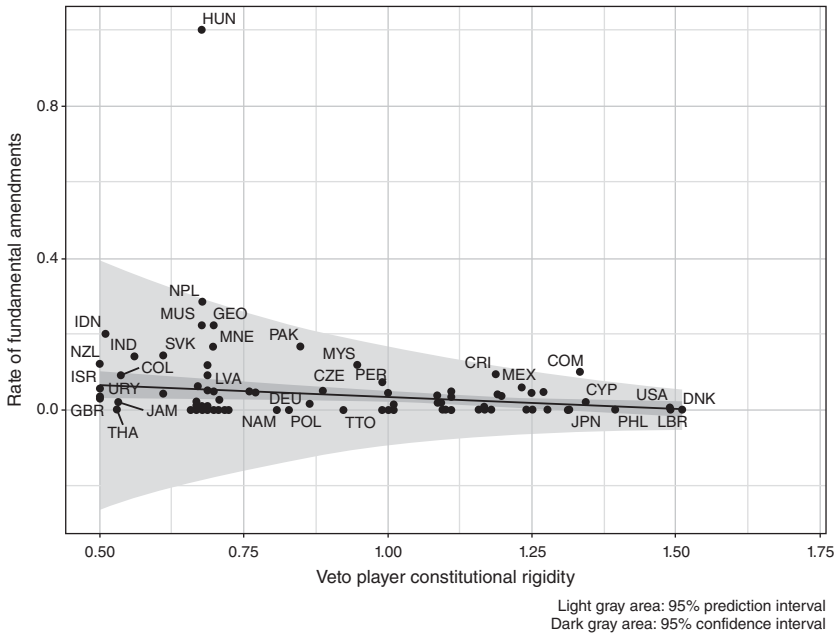


Figure 6.A.1.1 The effect of constitutional rigidity on the rate of fundamental amendments (amendments of constitutions in effect in 2013 in all democratic countries)

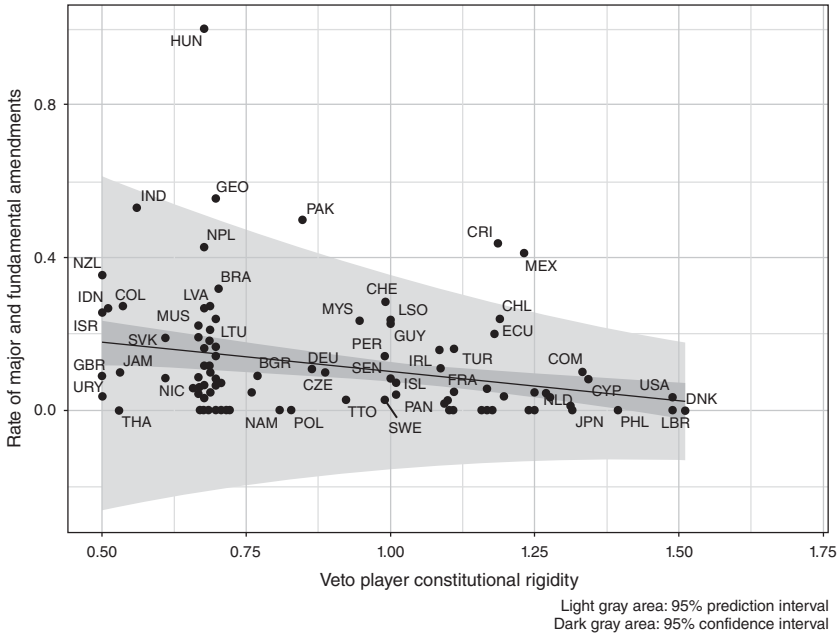


Figure 6.A.1.2 The effect of constitutional rigidity on the rate of significant and fundamental amendments (amendments of constitutions in effect in 2013 in all democratic countries)

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Appendix 6.A.2

This appendix replicates Table 6.2 with different cutoff points from the POLITY2 index for democracy. The reader can verify that the results remain essentially highly significant despite the reduction in the number of cases. In addition, statistical significance increases with the substantive significance of amendments.

Table 6.A.2.1 *Comparison of three models of effects of constitutional rigidity (null, mean only, and heteroskedastic) on amendment rate for POLITY2 $\geq$ 6 threshold (ninety-five countries; likelihood ratio tests)*

Significance	Models	Chi-square	$p(>$ Chi-square)
All amendments	Null vs. mean only	10.00	0.00157
	Mean only vs. heteroskedastic	2.08	0.14880
	Null vs. heteroskedastic	12.08	**0.00238**
Significant and fundamental	Null vs. mean only	6.60	0.01022
	Mean only vs. heteroskedastic	12.26	0.00046
	Null vs. heteroskedastic	18.85	**0.00008**
Fundamental amendments	Null vs. mean only	4.19	0.04077
	Mean only vs. heteroskedastic	68.46	1.00E+00
	Null vs. heteroskedastic	72.65	**1.00E+00**

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Table 6.A.2.2 *Comparison of three models of effects of constitutional rigidity (null, mean only, and heteroskedastic) on amendment rate for POLITY2 ≥ 7 threshold (eighty-three countries; likelihood ratio tests)*

Significance	Models	Chi-square	$p(>$ Chi-square)
All amendments	Null vs. mean only	5.23	0.02222
	Mean only vs. heteroskedastic	1.13	0.28679
	Null vs. heteroskedastic	6.36	**0.04151**
Significant and fundamental	Null vs. mean only	3.74	0.05317
	Mean only vs. heteroskedastic	10.30	0.00133
	Null vs. heteroskedastic	14.04	**0.00089**
Fundamental amendments	Null vs. mean only	1.93	0.16431
	Mean only vs. heteroskedastic	49.81	1.00E+00
	Null vs. heteroskedastic	51.74	**1.00E+00**

Table 6.A.2.3 *Comparison of three models of effects of constitutional rigidity (null, mean only, and heteroskedastic) on amendment rate for POLITY2 ≥ 8 threshold (seventy-two countries; likelihood ratio tests)*

Significance	Models	Chi-square	$p(>$ Chi-square)
All amendments	Null vs. mean only	4.34	0.03719
	Mean only vs. heteroskedastic	0.34	0.55854
	Null vs. heteroskedastic	4.68	**0.09613**
Significant and fundamental	Null vs. mean only	3.10	0.07825
	Mean only vs. heteroskedastic	7.16	0.00745
	Null vs. heteroskedastic	10.26	**0.00591**
Fundamental amendments	Null vs. mean only	1.55	0.21365
	Mean only vs. heteroskedastic	46.82	1.00E+00
	Null vs. heteroskedastic	48.37	**1.00E+00**

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Table 6.A.2.4 *Comparison of three models of effects of constitutional rigidity (null, mean only, and heteroskedastic) on amendment rate for POLITY2 ≥ 9 threshold (fifty-four countries; likelihood ratio tests)*

Significance	Models	Chi-square	$p(>$ Chi-square$)$
All amendments	Null vs. mean only	7.26	0.00703
	Mean only vs. heteroskedastic	2.11	0.14666
	Null vs. heteroskedastic	9.37	**0.00923**
Significant and fundamental	Null vs. mean only	3.53	0.06028
	Mean only vs. heteroskedastic	12.32	0.00045
	Null vs. heteroskedastic	15.84	**0.00036**
Fundamental amendments	Null vs. mean only	1.47	0.22585
	Mean only vs. heteroskedastic	38.94	1.00E+00
	Null vs. heteroskedastic	40.40	**1.00E+00**

Table 6.A.2.5 *Comparison of three models of effects of constitutional rigidity (null, mean only, and heteroskedastic) on amendment rate for POLITY2 ≥ 10 threshold (thirty-five countries; likelihood ratio tests)*

Significance	Models	Chi-square	$p(>$ Chi-square$)$
All amendments	Null vs. mean only	5.00	0.02538
	Mean only vs. heteroskedastic	0.78	0.37602
	Null vs. heteroskedastic	5.78	**0.05554**
Significant and fundamental	Null vs. mean only	2.84	0.09168
	Mean only vs. heteroskedastic	8.39	0.00377
	Null vs. heteroskedastic	11.23	**0.00364**
Fundamental amendments	Null vs. mean only	1.88	0.17067
	Mean only vs. heteroskedastic	38.60	1.00E+00
	Null vs. heteroskedastic	40.48	**1.00E+00**

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Appendix 6.A.3

This appendix presents two different tables, one of which runs the cultural variables all together and the other one at a time along with the constitutional rigidity (the 57 countries are the intersection of the 103 countries in this book with the countries in the Blake et al. [2023] article). This is the simplest appropriate empirical test, which confirms the conclusions of Chapter 3 for the more empirically minded reader. Actually, Chapter 3 argued that the cultural variables to be included required justification at the theoretical level, while here it becomes clear that even the empirical accuracy is questionable.

Table 6.A.3.1 *OLS regressions of different amendment rates (POLITY2 ≥ 5 cutoff) on constitutional rigidity and social capital (n = 57)*

	Fundamental amendments	Significant and fundamental	All amendments
n	57	57	57
(Intercept)	0.127 ***	0.288 ***	0.388 **
	(0.028)	(0.077)	(0.136)
Constitutional rigidity	–0.067 *	–0.158 *	–0.295 *
	(0.026)	(0.07)	(0.123)
Political trust	0.007	0.015	0.023
	(0.008)	(0.022)	(0.038)
Group membership	–0.01	–0.031	0.002
	(0.01)	(0.026)	(0.047)
Civic activism	–0.021	0.037	0.314 **
	(0.021)	(0.062)	(0.109)
R^2	0.171	0.111	0.211
Adj. R^2	0.107	0.043	0.15

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$.

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Table 6.A.3.2 *OLS regressions of different amendment rates (POLITY2 ≥ 5 cutoff) on constitutional rigidity and each indicator of social capital separately (n = 57)*

	Fundamental amendments	Fundamental and significant	All amendments	Fundamental amendments	Fundamental and significant	All amendments	Fundamental amendments	Fundamental and significant	All amendments
n	57	57	57	57	57	57	57	57	57
(Intercept)	0.103 ***	0.255 ***	0.510 ***	0.119 ***	0.288 ***	0.443 **	0.114 ***	0.248 ***	0.390 **
	(0.024)	(0.064)	(0.121)	(0.027)	(0.074)	(0.140)	(0.025)	(0.068)	(0.119)
Constitutional rigidity	–0.071 **	–0.152 *	–0.242	–0.071 **	–0.153 *	–0.244	–0.067 *	–0.156 *	–0.299 *
	(0.025)	(0.069)	(0.129)	(0.025)	(0.068)	(0.129)	(0.025)	(0.069)	(0.121)
Political trust	0.003	0.007	0.035						
	(0.008)	(0.020)	(0.038)						
Group membership				–0.010	–0.021	0.045			
				(0.009)	(0.024)	(0.045)			
Civic activism							–0.026	0.021	0.322 **
							(0.022)	(0.059)	(0.104)
R^2	0.128	0.086	0.076	0.146	0.097	0.079	0.149	0.086	0.204
Adj. R^2	0.096	0.052	0.042	0.115	0.063	0.045	0.118	0.052	0.174

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$.

Data on the indicators of social capital are taken from Blake et al. (2023), which results in fifty-seven observations as in their cross-national analyses. While rigidity is significantly negatively associated with all kinds of amendments, among the social capital indicators only civic activism is significantly (and positively) associated only when looking at all amendments.

When considering each indicator of social capital separately, the result is the same as in Table 6.A.2.1: Only constitutional rigidity is significantly associated with amendment rates. Civic activism is the only social capital indicator that exhibits a significant relationship with one of the amendment-rate measures.

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