

A Revolution of Rights in American Founding Documents

Abstract

We use an original dataset describing hundreds of institutional features of 39 colonial charters and constitutions of the early United States to better understand how fundamental law evolved during the period of colonization and U.S. independence. Using a combination of IRT and text based methods we develop a series of systematic statistical tests and show that these colonial documents are best described by a single latent dimension that captures constitutional change. The variation in documents is driven not by geography and culture, but by time and seems most strongly correlated with the enumeration and guarantee of political rights. The fact that the scores show a dramatic and rapid change at the time of the American Revolution confirms both what the revolutionaries claimed for the spirit of 1776—a new commitment to the guarantees of rights in founding documents—and modern theories of the importance of rights in constitutions. The dramatic change in constitutions suggests that the process of “higher-lawmaking” began well before the 1787 Constitutional Convention that is so popularly celebrated.

Word Count: 11,079

Did the American Revolution lead to radical social or political change? If so, in what ways? On the one hand, historians like Greene (2000) argue that the American Revolution was mostly a product of changes in imperial power structures and that “scholarship seriously underestimates the powerful continuities between the colonial and the national eras and thereby significantly overestimates the revolutionary character of the revolution” (p. 93). On the other hand, scholars like Gordon Wood claim that the American Revolution was far more “radical” (Wood, 1992), especially because it overturned longstanding power relationships within the colonies that were to become states. In this paper we focus narrowly on the political institutions and fundamental laws of the colonies and states. We find evidence of a dramatic and rapid change at the start of the American Revolution, earlier than the Constitutional Convention where the extant scholarship locates the most significant changes in the political institutions of the early American republic (Ackerman, 1995).

Indeed, there has probably never been a more fruitful moment of institutional design in American history. In the wake of the Declaration of Independence, former colonists threw off old charters of government and drafted new fundamental laws for their states. Changes in the national government led first to the Articles of Confederation and, eventually, the U.S. Constitution. However, by 1776 – well before those documents were drafted – American states had begun crafting new constitutions. Two broad views of this period have emerged. Some historians have argued that this was an era of extraordinary economic, social, and political upheaval (Wood, 1969; Lienesch, 1983; McDonald, 1985). Others like Klarman (1992) and Greene (2000) argue that the description of this as a “critical period” (Fiske, 1888) in American political development overstates the moment’s importance, in part because of powerful cultural continuities that reflected existing regional power bases and cultures (Elazar, 1972*b*; Kelley, 1979; Knupfer, 1991).

In this paper, we develop a new measure of document similarity based on the hundreds of formal constitutional features in the colonial charters, revolutionary state constitutions, and national constitutions of the young American nation. We use this measure to assess the degree of institutional change that took place over the course of the revolutionary period and to characterize the institutional features that drove these changes. Our findings come down firmly on the side of a significant, near universal, change in institutions that reflected a fundamental break in the governing documents of the colonies.

We show that the dominant institutional shift at the time was not rooted in factors like opposition to executive power (Wood, 1992) or in efforts to significantly redesign legislative institutions, but in a commitment to the establishment and protection of individual rights and property that the Americans believed were guaranteed them by their English heritage. Furthermore, we find that the observed variation in early American fundamental laws was unrelated to local geography and its attendant customs as would be suggested by those who see powerful institutional continuities through the pre-and post-colonial periods. Rather, the revolutionary constitutions were a clean and universal break with the colonial charters, documents that focused instead on grants of authority from the crown and institutional design. The new documents placed greater emphasis on enumerating positive political rights and liberties of the people who would be governed by these documents.

While we cannot provide evidence that the American Revolution was revolutionary along all dimensions of political and economic life, our results do provide support for the view that the American Revolution was a substantial break in the formal institutions and rules that characterized the fundamental legal underpinning of American politics. Though the American Revolution saw nothing like the dramatic upheavals and upending of social order that would be seen in the subsequent revolutions in France, Haiti, and Latin America, it was, nevertheless, a moment of higher lawmaking (Ackerman, 1995) that reflects a dramatic change in the prevailing view of constitutions and constitution writing. Furthermore, it created the eventual conditions for a new national constitution, one that fit in very well with the preceding state constitutions.

A Theory of Constitutions & Higher Lawmaking

It is widely believed that for nations to succeed they must establish the right set of formal political institutions (Rodrik, Subramanian and Trebbi, 2004; Acemoglu, Johnson and Robinson, 2005; Acemoglu and Robinson, 2013). In particular, a wide range of both empirical and theoretical scholarship places considerable emphasis on the role of national constitutions in ensuring stability and growth (North and Weingast, 1989; La Porta et al., 2004; Persson and Tabellini, 2005). Constitutions promote these outcomes by resolving the problem of coordination required of citizens to place “self-enforcing limits on the state” (Weingast, 1997, p 245). That is, to constrain exploitative

or capricious actions by sovereigns, constitutions detail the fundamental rights of citizens that, if abrogated, constitute a transgression that all agents can coordinate their punishment strategies upon.

England's Glorious Revolution is frequently cited as an ideal-typical case of the sort of revolutionary transformation of constitutional order we describe (North and Weingast, 1989). In this paper we show that echoes of 1688 resonated in the constitutions of the American colonies written in and around 1776. When it became clear that the colonists no longer trusted the government of the British Empire to respect their rights as Englishmen, they not only declared independence but drafted new constitutions—loosely modeled on the crown and corporate charters that previously existed—but with a new emphasis on guarantees of their rights. Morey (1893) writes of these documents that “the chief historical significance which attaches to the first State constitutions rests in the fact that they were the connecting links between the previous organic law of the colonies and the subsequent organic law of the Federal Union. They grew out of the colonial constitutions; and they formed the basis of the Federal Constitution, and furnished the chief materials from which that later instrument was derived” (p. 2).

While these new constitutions represent a sharp break from past British rule, these nascent constitution writers nevertheless drew on their English heritage and believed that they were recovering rights they had previously won. In fact, many of the American rebels saw the previous charters as an excellent starting point. For example, “[t]he colonists saw all constitutions as analogous to the constitutional documents with which they were most familiar—their charters. Colonial assemblies had to function within the limits imposed on them by their charters” (Adams, 2001, p. 16). However, the conflict with the mother country had set up a situation where those charters were simply insufficient to guarantee the rights inherited through the Glorious Revolution.

In light of this problem, on May 10, 1776, the Continental Congress passed a resolution “That it be recommended to the respective assemblies and conventions of the United Colonies, where no government sufficient to the exigencies of their affairs have been hitherto established, to adopt such government as shall, in the opinion of the representatives of the people, best conduce to the happiness and safety of their constituents in particular, and America in general.” Though less famous than the Declaration of Independence, this step was the first in the process of creating new governments for the former colonies. Five days later a committee of three (John Adams,

Edward Rutledge, and Richard Henry Lee) prepared a preamble to this resolution that stated, in part, that the “powers of government” should no longer be held by the crown of Great Britain and should instead be vested “under the authority of the people of the colonies, for the preservation of internal peace, virtue, and good order, as well as for the *defence of their lives, liberties, and properties*, against the hostile invasions and cruel depredations of their enemies” (emphasis added). This transition from British to American authority represents a foundational change in the nature of the fundamental laws governing the people living in what would become the United States of America. The change is signaled by the emphasis in that preamble of the need to defend one’s rights of life, liberty and property.

Despite the claim of this resolution—and the famous claim of the Declaration of Independence that “to secure these rights, Governments are instituted among Men”—historians have debated what, exactly, is special about the new constitutions written in the 1770s and 1780s. In one sense, since the colonial charters had not been amended or updated in decades, or, in some cases, for over a century, the mere fact of change implies a discontinuity. And, of course, it is true that the writers of these new constitutions were *very* different than the drafters of the previous charters. Gordon Wood argues that this new group who were drafting fundamental law cared about the excessive power of the executive in the presence of the king and his appointed governors and ministers. “[I]ndeed, the power of appointment became the great political evil against which they struck out most vigorously in their new revolutionary constitutions of 1776” (p. 80). By this reading, the fundamental change was the creation of new forms of government to better represent the people. Trust in legislatures—the body closest to the people—was the signal feature of these early constitutions for those who follow this school of thought.

There are reasons to doubt this view though. For one, as the famous declarations above make clear, the new citizens believed themselves to be engaged in a project to protect ancient political rights. It is this view that others have emphasized. “Constitution makers planned to thwart tyranny, whether it appeared in the executive, the legislature, or in some grotesque combination of the two. No part of the government could be trusted with unlimited power; government needed to be hemmed in at every turn.” Because of these facts, “delegates attempted to write constitutions that delineated the limits of government powers, identified individual rights that lay beyond the reach of government” (Kruman, 1997, p. 15). Kruman notes that the effort was to engage in “new-

modelling” of the governments rather than simply reaffirming what was in the older charters.¹

The idea of relying on new models is implicit in the ideas of Bruce Ackerman’s work on “higher lawmaking” (Ackerman, 1991). Most of politics is about the business of compromise and working within the rules to achieve an outcome satisfactory to the different groups contesting some policy. On rare occasions, however, politics is about much less mundane matters. Ackerman argues that the creation of the U.S. Constitution was just such a moment of higher lawmaking. Our contention here is that there was a moment of higher lawmaking that came *before* the drafting of the U.S. Constitution: the moment that the new American citizens created a different type of constitution that was engaged in protecting rights. This shift in higher lawmaking came at least a decade before the convention in Philadelphia in 1787.

As the May 10, 1776 resolution above makes clear, the goal was to create a new type of constitution grounded in rights and the protection of rights. It is this shift in the view of what role enumerated rights have in a fundamental governing document that we measure in this paper. Previous to this moment, fundamental laws governing the colonies had been charters—documents that explained the legal authority granted from the crown for a government to exist and govern the proprietors and settlers within a colony. And while it is the case that for many decades the colonists accepted these charters as fundamental law, by 1776 this was no longer the case. This gave them an opportunity to engage in higher lawmaking of a sort that would not only redesign their governing institutions, but also shift the focus of these documents from grants of power *from* the government to the citizens to documents outlining what powers the citizens have granted *to* the government. Many different possibilities were open to them. The new constitutions could have reflected a variety of concerns emphasized by the revolutionaries, but what did they *actually* reflect? It is here that a statistical analysis of the differences between the constitutions is most helpful.

Fundamental law could reflect any number of concerns—liberty, order, or some other set of basic values. Furthermore, there are literally thousands of possible institutional choices the founders faced when designing their governments. The colonial charters had loosely reflected the contemporary British system in its institutions. The charters further emphasized order in that they

¹The source for this term (Kruman, p. 166) was “An Address Delivered at the Opening of the Election in Dover for the Choice of Members of Convention”, August 19, 1776, in the process of drafting a constitution for Delaware.

focused on executive privileges more so than legislative power or a robust judicial system. But when the crown and parliament pushed those privileges to a place that was unacceptable to the colonists, those same colonists began to rethink what they accepted as higher law and what they valued the most. This revision process could have been either regional—based on the distinct priorities of different states or localities (Elazar, 1972*b*) or it could have been more focused on a fundamental change that affected all colonies and had more to do with time. Our data and estimates will show that time, much more than geography, is key.

As to the content of these changes, we certainly agree with Wood that the revolutionary constitutions were motivated by a concern about excessive executive power. However, the documents created in this moment of higher lawmaking were focused not simply on empowering legislatures or hemming in chief executives via checks and balances. If the claims of the former colonists are to be taken seriously then we must consider the importance of new guarantees for rights in these constitutions. Though our focus is mostly before the nineteenth century, there is modern theory that also suggests the importance of enumerated rights. Law and Veerstag (2011) argue that “rights creep, or a tendency to guarantee an increasing number of rights is a key part of modern constitutions across the globe” (p. 1194). They find that between 1946 and 2006 the fraction of rights they considered when analyzing constitutions had increased more than 70 percent on average (see p. 1195).

Though our focus is directed to constitutions authored centuries prior to their analysis, we also find that the inclusions of political rights in constitutions is just as powerfully justified in our context—though in the eighteenth century it might be better to describe this innovation as “rights emergence” rather than “rights creep”. Nevertheless, as the data and analysis below will show, the factor that best describes the content of these new constitutions is the degree to which rights provisions are included in the documents. It is this factor that most clearly shows the break with the past and confirms a moment of creative constitutional change.²

Finally, we note that our study shifts the common understanding of when the foundational ideas of American government first took root. It is common in American politics and political history to write within a framework that places the convention in Philadelphia and the Constitution

²From the point of view of the founding generation it is unlikely that they thought about changes in rights as being completely separate from other features of the constitutions like executive power or courts, but this is a feature that stands out.

that came out of that meeting as the epicenter from which the rules and forms of American politics radiated. However, this is, in many respects, a quite incomplete, and inaccurate, account. State constitutions were written more than a decade before the national constitution, and though the mythos of the US Constitution is powerful, in reality the document does not represent the beginning of contemporary American politics, but rather reflects the culmination of decades of institutional design and rethinking of what belongs in a founding document.

No one, to our knowledge, has attempted to formally show how the fundamental laws governing the colonies and then the United States changed in character. In this paper we correct that defect in the literature. The next section presents the data and estimation procedures necessary to make this claim. It is followed by sections that hone in on the exact timing and substance of the discontinuity that we have been discussing here—the protection of rights in the various colonial constitution. Finally, we show that this result is not at all dependent upon a particular methodology but is robust to several different statistical analyses. The conclusion we arrive at is that early American constitutions show a dramatic discontinuity consistent with higher lawmaking shifting towards politics centered on the protection of rights, just as the Declaration of Independence claimed in 1776.

Data & Estimation

Our object of inquiry requires a systematic measure of continuity and change in the American fundamental law around the time of the revolution. To create this measure, we have collected the text of each of the early colonial charters, constitutions of the colonial state governments, national constitutions, and constitutions of states later admitted to the Union up to 1820.

As Europeans began to colonize the east coast of North America in the late 17th and early 18th century, various colonies obtained royal charters granting them permission to establish governments under the direction of the British crown.³ We treat these documents as the first written governing documents of what would become the United States of America. The particular

³With respect to the colonial charters there are different types for different types of colonies: royal charters for colonies governed and owned by the king; proprietary charters for colonies granted to individuals; and self-governing charters for colonies like Connecticut or Rhode Island that governed themselves as a joint-stock company. We have uncovered no systematic differences between these charter types in our work, and would add that is probably because charters of all types were still subject to king and parliament.

colonies we include and the dates of these charters are shown in the first column of Table 1. As it became apparent that war between the colonists and the British was on the horizon, the Continental Congress encouraged the colonies to adopt new governing documents using the May 10, 1776 resolution cited above. Eleven of the thirteen colonies followed this recommendation and created new constitutions in 1776 and 1777.⁴ These eleven states and the year of their first constitutions are shown in the second column of Table 1 along with the Articles of Confederation and the U.S. Constitution.

Finally, we also include the constitutions of states who were later admitted to the Union up to 1820. There are nine such states, which are listed with their date of admission to the Union in the third column of Table 1. We also include the constitutions of Rhode Island and Connecticut in this column because they retained their colonial charters until 1842 and 1818, respectively (Rhode Island is the only case outside of 1820 that we consider here). Together this gives us 39 documents that span more than 200 years of American history.

Using these documents, we use trained coding to determine whether each document contained each of more than 1,000 different potential institutional features. The particular list of potential features come from the Comparative Constitutions Project (CCP) (Elkins, Ginsburg and Melton, 2007), which is an extensive collection of the text and content of national constitutions from 1800 to the present. The CCP has identified various features that could be included in a potential constitution. Currently, the codebook contains 1,329 potential features that could be included in any given constitution and is the most comprehensive list of institutional features collected to date. These features are grouped into broad categories one would expect a constitution to discuss such as the structure of the executive, the process by which the constitution is amended, the method of elections, and the composition of the legislature. Within each of these general topics, CCP identifies a number of specific provisions. For example, within the topic of elections, the CCP identifies whether or not each constitution contains rules governing the prohibition of particular political parties. There are thirteen broad categories of potential constitutional features, which are: General Characteristics; Amending; Executive; Legislature; Judiciary; Federalism; Elections; Regulatory and Oversight Bodies; International; Duties; Criminal Procedures; Rights; and Special Issues.

⁴Connecticut and Rhode Island apparently felt no need since they were already self-governing colonies.

Table 1: **Summary of Founding Documents in Dataset**

Colonial Charters	Colonial Constitutions	Post-Colonial Constitutions
Virginia - 1611	Delaware - 1776	Kentucky - 1792
Maryland - 1632	Maryland - 1776	Tennessee - 1796
Rhode Island - 1640	New Hampshire - 1776	Ohio - 1802
Connecticut - 1662	New Jersey - 1776	Louisiana - 1812
Carolinas - 1669	North Carolina - 1776	Indiana - 1816
New Hampshire - 1680	Pennsylvania - 1776	Mississippi - 1817
New York - 1683	South Carolina - 1776	Illinois - 1818
Massachusetts - 1688	Virginia - 1776	Connecticut - 1818
Delaware & Pennsylvania - 1701	Georgia - 1777	Alabama - 1819
New Jersey - 1702	New York - 1777	Maine - 1820
Georgia - 1732	Massachusetts - 1780	Rhode Island - 1842
	Articles of Confederation - 1781	
	New Hampshire - 1784	
	Vermont - 1786	
	United States of America - 1788	
	Georgia - 1789	
	USA + Bill of Rights - 1791	

However, the CCP dataset does not include the text of the American colonies’ charters and constitutions. We therefore use the list of potential features and employ trained coders to determine the presence of absence of each potential feature within the 39 American constitutions listed in Table 1. For example, one such question asks, “Does the constitution forbid the detention of debtors?” A coder reading the 1776 constitution of Pennsylvania would come across Section 28, which reads, “The person of a debtor, where there is not a strong presumption of fraud shall not be continued in prison..” and code this variable in the affirmative. On the other hand, a coder reading the 1776 constitution of Virginia would not find such a provision and would code this variable as a negative. Proceeding in this way, we assemble a dataset of yes/no answers to thousands of constitutional “questions”. After dropping features for which there is unanimity across the colonies the resulting matrix contains 538 institutional features for 39 colonial documents.⁵ In the supplemental materials we show the distribution of features across the different categories of features and show that there are a large number of potential features across each category.⁶

⁵The model omits unanimous features because they provide no information about differences across document. This is similar to regression models omitting variables where perfect collinearity exists.

⁶We include two versions of the U.S. Constitution—with and without a bill of rights—for the sake of completeness, although the results here are not affected by estimating both.

Measures of Institutional Variation

Because each colonial constitution contains hundreds of institutional features, describing the broad similarities and differences between these constitutions could become impossibly complex. One potential approach would be to *a priori* select a few important features and compare the similarities and differences across constitutions on these selected institutions. However, the particular features or dimensions that researchers emphasize are likely to reflect their own prior beliefs regarding which institutions are important, meaningful, and discriminating among the corpus of documents. A better approach would allow for all potential features to be considered equally important at the outset. We follow this approach by using a statistical model to select the features that are most informative, are similar to one another, and best describe the underlying structure of the documents. Furthermore, if several of the documents contain similar institutional features that collectively represent a broader, underlying structure of the corpus, then we can simplify the problem by identifying the latent dimensions of the documents rather than focusing on the particular component features of those underlying dimensions.

The primary method we use to identify the latent dimensions of the colonial constitutions is based on item response theory (IRT) models. The principal idea behind IRT models is that complex data can often be summarized by a few underlying latent dimensions. IRT models are most commonly used in political science to estimate the latent ideology of members of legislative bodies (Poole and Rosenthal, 1997; Clinton, Jackman and Rivers, 2004; Clinton, 2006; Shor, Berry and McCarty, 2010; Shor and McCarty, 2011). Their use in legislatures is similar to their original use in educational testing. Legislators (students) vote yea (provide correct answers) or nay (provide incorrect answers) on bills (to questions) in the legislature (on an exam). These models, however, have been applied to a number of political actors, including judges (Martin and Quinn, 2002; Bailey, 2007), presidents (McCarty and Poole, 1995), voters (Tausanovitch and Warshaw, 2013), and campaign contributors (Bonica, 2014).

Abramson and Barber (2019) extend the use of IRT models to consider their use in identifying the underlying dimensionality of constitutions. In this case, documents are analogous to legislators and the votes provided by those legislators translate to institutional features contained or not contained within the constitution. In this paper we use the same method but apply it to

a new set of previously unexamined documents – the constitutions of the American colonies. The statistical model is based on a simple theoretical model of choice.⁷ We assume a pivotal constitution writer (for example, the median voter of a colony’s constitutional convention) is faced with a decision of whether or not to include a particular feature in the state’s constitution. We assume that the pivotal actor has a preference over each feature’s inclusion or exclusion. As such, the constitution writer will choose to include the particular institutional feature if its inclusion provides greater utility than the exclusion of the particular feature. This is modeled in a Bayesian framework of the following form:

$$Pr(y_{ij} = 1) = \Phi(\beta_j'x_i - \alpha_j) \quad (1)$$

In Equation 1, y is an indicator variable equal to 1 if feature j is included in constitution i . This variable is modeled as a function of x_i , the underlying preference of the constitution writer for inclusion of the feature in constitution i . The parameter β provides an across-item measure the similarity of various features j , while α_j can be thought of as the item-by-item likelihood of a particular feature being included in all of the constitutions being analyzed. For our purposes, we are particularly interested in the estimated parameter, x_i , which uncovers the underlying institutional preferences of each constitution writer. x_i provides a measure of institutional similarity across constitutions, which we call a constitutional *Characteristic Score*. Documents with a similar suite of included institutional features will be estimated to have similar Characteristic Scores.

Empirical Results

We begin by discussing the dimensionality of the results, as it is important to be able to establish how much of the variation is captured by each latent dimension. We then shift to defining and discussing the primary latent dimension, or *Characteristic Score*, of each document. We then turn to identifying the substantive meaning of the latent dimension we have estimated.

⁷We use a Bayesian application of the traditional IRT model, developed by Clinton, Jackman and Rivers (2004). See Clinton, Jackman, Rivers (2004) for a thorough discussion of the method, its similarities to traditional IRT models, and the complete derivation of the statistical model. Our results are nearly identical using other IRT models, including a maximum likelihood model and an optimal classification method.

Dimensionality

Constitutions are complex documents, as outlining an entire system of government in one document is a daunting task. However, while seemingly complicated, it may be the case that broad, underlying, dimensions that correlate with a number of different individual features can explain a large proportion of the variation in early American founding documents. Indeed, given some of the history briefly discussed above we should expect that this is true. If the colonials really were rewriting documents to better protect their rights, then that overarching concept should permeate the documents.

Before we turn directly to the substance of the estimated latent dimensions, we note that the 39 documents are best described by a single latent dimension. A relatively large amount—a bit over half—of the variation in these 39 documents can be explained by the first dimension of the document-features matrix. This can be seen in the left panel of Figure 1, which shows the proportion of variance explained by each latent dimension. The second dimension contributes much less—slightly more than 10 percentage points—meaning that the structure of these documents is relatively unidimensional. It may be surprising that a group of documents representing the fundamental law of a diverse set of colonies is best described by a single latent dimension. However, Abramson and Barber (2019) also find that a similar single dimensional model best describes the set of international constitutions, where there is an even larger diversity of documents and institutions.

Another way of measuring the dimensionality of the data is to estimate the IRT model described above in one dimension and note the percentage of features that the model correctly classifies. While the model attempts to maximize the number of correct predictions, a certain number of document-features will be incorrectly classified; that is, the model incorrectly predicts that a constitution does or does not have a particular feature. A commonly used measure of fit is the percentage of observations that are correctly classified by the model. The right panel of Figure 1 shows that in one dimension the model correctly classifies slightly more than 80% of the observations. Adding more dimensions to the model does not improve the model’s predictive accuracy. As a result, we focus for the rest of the paper on the first dimension value uncovered by the IRT model and call this value the constitution’s *Characteristic Score*.⁸

⁸In the supplemental materials we explore the content of the second latent dimension. We hypothesize that this dimension captures the differences between the state and national documents. However, the estimates are much

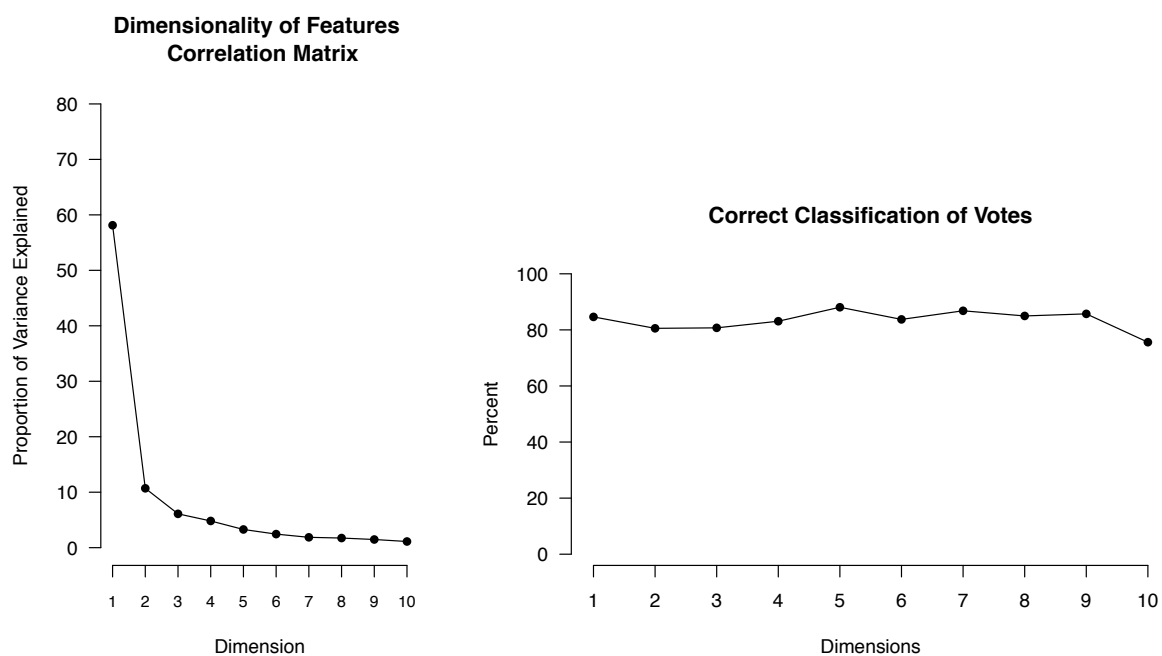


Figure 1: **Dimensionality of Colonial Constitutions** - The left panel shows the proportion of variance explained by the first 10 latent dimensions. The data suggest that the first dimension alone explains more than half of the variation in the data. The right panel shows the proportion of “votes” that an IRT model correctly classifies when estimated using different numbers of dimensions. A one dimensional model estimates slightly more than 80% of the votes correctly. Models with more dimensions do not improve the classification accuracy of the model.

Constitution *Characteristic Score*

Figure 2 displays the estimated *Characteristic Score* for each state charter, constitution, and the three national documents.⁹ The figure is ordered by the value of the *Characteristic Score*. A clear trend is apparent. Colonial charters and the Articles of Confederation cluster together and have lower scores on the similarity measure.¹⁰ The constitutions of the original 13 colonies that were written immediately prior to and during the early period of the Revolutionary war cluster together in the middle of the scale along with the U.S. Constitution (with and without the Bill of Rights). The lone exception is the New Hampshire state constitution of 1776. Finally, the states admitted into the union after the closing of the war and the ratification of the U.S. Constitution cluster together at the other end of the latent scale along with Rhode Island and Connecticut, the two original states that authored constitutions much later than their 11 sister colonies.

From this figure alone it becomes clear that there is a clear break at the moment of the American Revolution—exactly the moment suggested by the rhetoric of the American colonists who argued that they had to rewrite constitutions that would protect rights with clarity and precision, rather than the vague guarantees that were part of the traditions and precedents of the English Constitution.¹¹ To better see this break, Figure 3 focuses on the relationship between time and the estimated latent *Characteristic Score*. The horizontal axis plots the year of constitution promulgation and the vertical axis shows the estimated *Characteristic Score*. Here the pattern emerges even more clearly. The colonial charters, which were written between 1600 and 1750 are grouped together with lower scores. The period between 1776 when the Continental Congress encouraged states to draft new constitutions and the ratification of the Bill of Rights to the U.S. Constitution in 1791 includes a number of documents what have a wide range of scores. The Articles of Confederation and the New Hampshire constitution of 1776 have scores most similar

less precisely estimated given that we have only three national documents: The Articles of Confederation and The U.S. Constitution (with and without the Bill of Rights). Additionally, we note that the two versions of the U.S. Constitution are only included for the sake of completeness and our results do not hinge on this choice.

⁹We include both the Articles of Confederation and the U.S. Constitution with and without the bill of rights.

¹⁰We note that the direction of the *Characteristic Score*—i.e. that the colonial charters have low scores and the more recent states have higher scores—is arbitrary. The model is unidentified up to the order and distance between documents, but not on the sign of the estimates. In other words, multiplying every score by -1 would produce a substantively identical measure. The important is thus the comparison between the rank ordering and relative closeness of each document.

¹¹As a robustness check we omit the charters and scale only the constitutions. The resulting scores correlate with our original measure at 0.95.

One Dimensional Constitution Similarity Scores

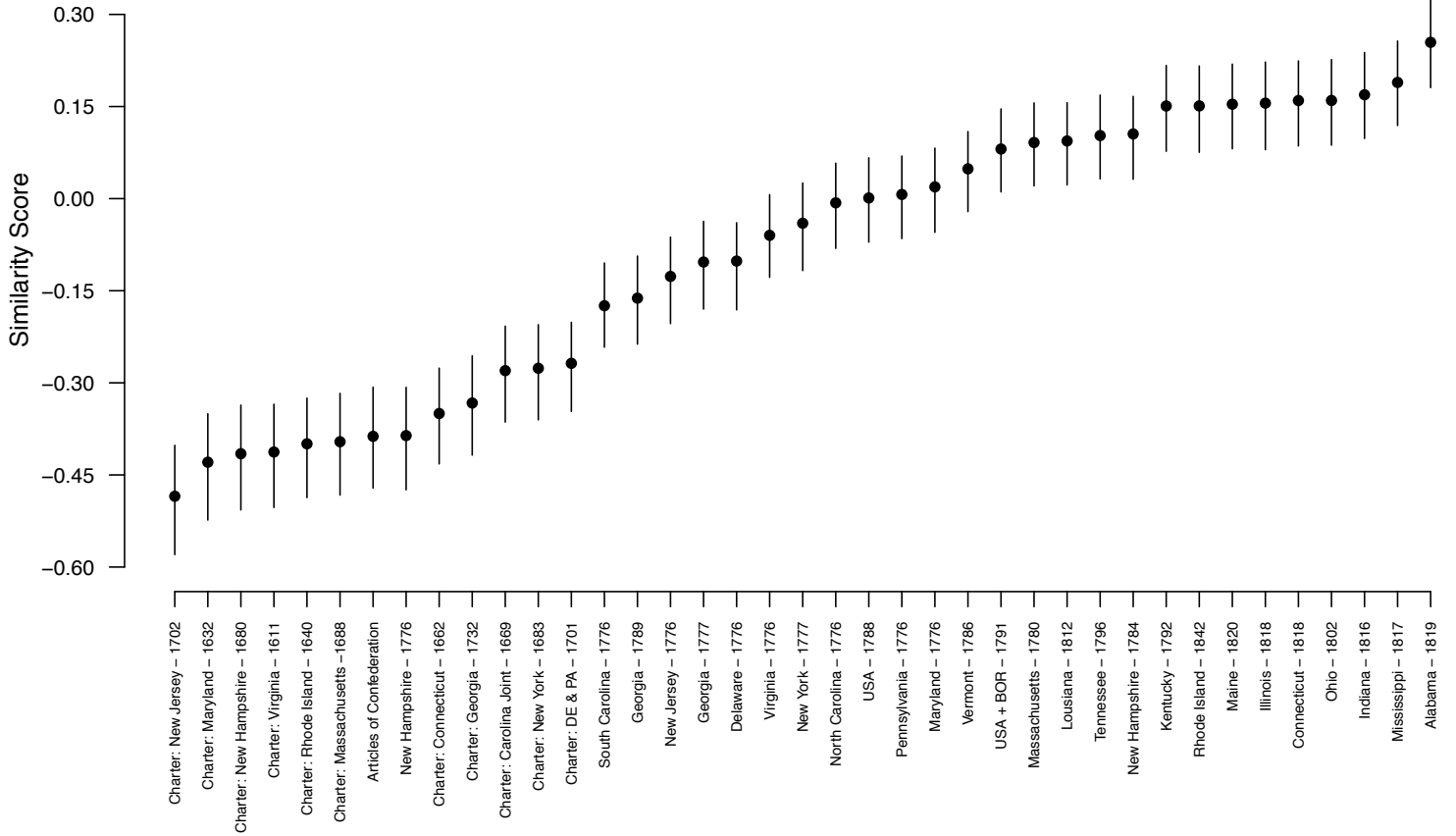


Figure 2: *Characteristic Scores* - Figure displays the estimated score on the latent dimension for each document. Scores on the low end tend to be charters, while scores on the high end tend to be constitutions that came after the founding.

to the charters while Massachusetts' constitution of 1780 and New Hampshire's constitution of 1784 have the highest scores of those written in this brief period. Finally, the new constitutions of additional states admitted after 1780 cluster at the top of the figure.

This essentially settles our first key question about the source of constitutional variation: it is clearly more about a universal shift than it is about geographical variation. The model appears to sort constitutions into two groups that are divided at the period of the American Revolution, rather than by any other geographic factor. If local culture or regionalism were an important factor, we would expect to see geographic clustering and/or a state's charter to have more in common with its future constitution than it does with the charters of the other states. However, this is not the case.

While visual inspection of the documents is fairly dispositive, we more formally test for differences between these different types of documents in Figure 3 using a series of OLS regression models with the document *Characteristic Score* as the dependent variable. As independent variables we include period indicators for whether or not the document is a colonial charter, a post-revolution constitution, or a national document (the original 11 states that wrote revolutionary documents being the omitted comparison group).¹² We also account for the overall length of the document in words and include a linear measure of time.

Across each model we see that even when considered in a multivariate model colonial charters have lower *Characteristic Scores* while post-revolution state constitutions tend to have higher scores. We also note that the R^2 of each model is around 0.8, meaning that these models—driven largely by period differences is capturing most of the variation in the documents. The appropriate conclusion—especially when comparing the results of the models with Figures 2 and 3—is that the documents at the time of the revolution were quite different from the charters and even different from the documents that came later. The national documents show a small negative coefficient, although inspection of Figures 2 and 3 reveal that this coefficient is largely driven by the Articles of Confederation which look more like the charters than the other documents.

¹²We remind the reader that Connecticut and Rhode Island did not produce revisions until decades later.

Constitution Score Across The Colonial Period

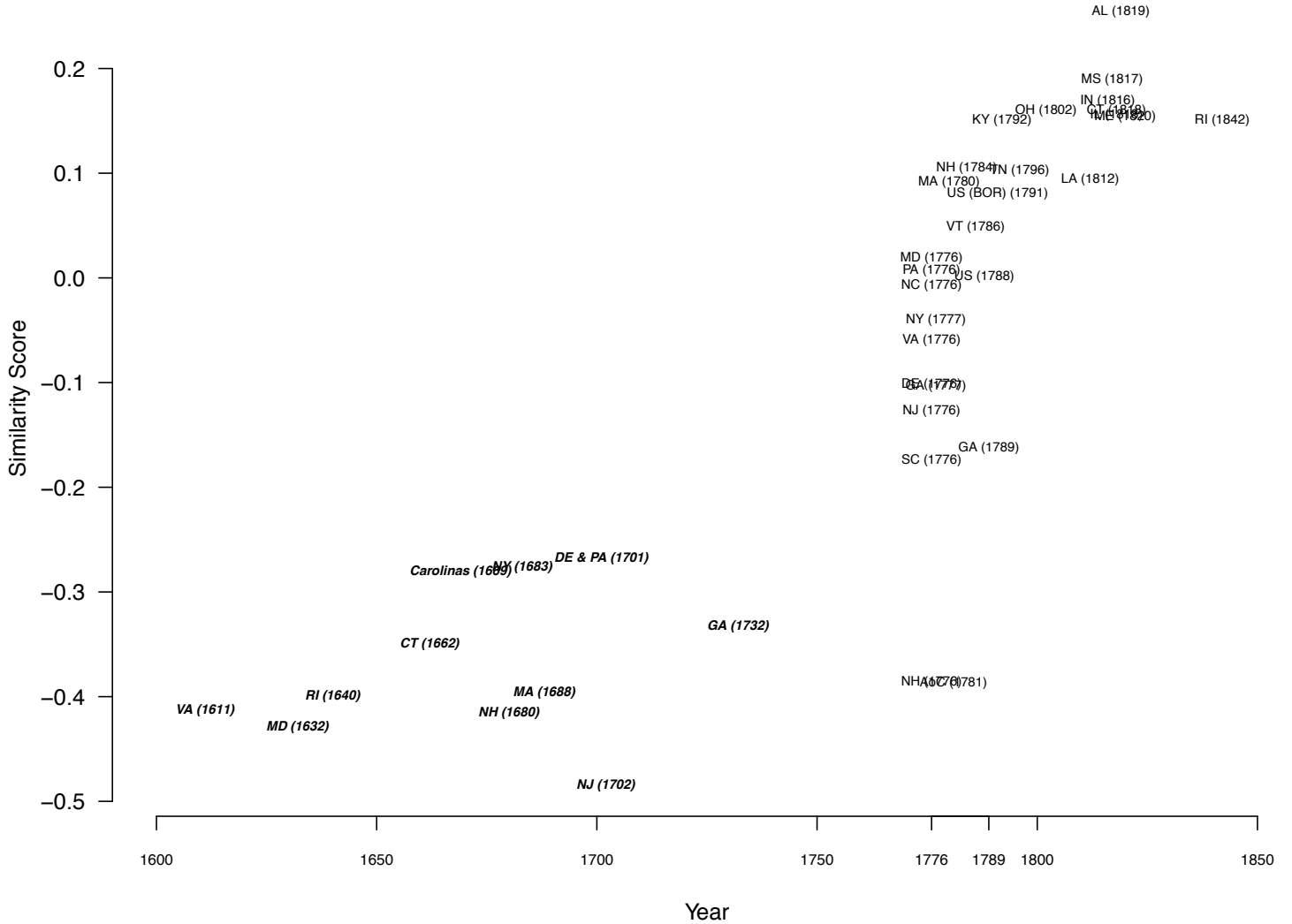


Figure 3: *Characteristic Scores by Time* - We see that the colonial charters (bolded in the figure) cluster together with lower scores on the document similarity measure. There is a dramatic change in the content of the documents in 1776 with the promulgation of a number of state constitutions. Thereafter, constitutions cluster together with higher scores. The Articles of Confederation have a low score similar to the colonial charters while the U.S. Constitution has a higher score, similar to the new state constitutions of the time.

Table 2: **Regression Results: Predictors of Document *Characteristic Score***

Dependent Variable: Document Similarity Score					
Revolutionary Constitution	0.29*** (0.05)	0.31*** (0.11)	0.17 [†] (0.11)	0.20** (0.08)	0.18 [†] (0.12)
Post-Revolution Constitution	0.50*** (0.05)	0.50** (0.05)	0.33** (0.13)	0.32*** (0.10)	0.29* (0.16)
National Document		-0.11 [†] (0.07)	-0.10 [†] (0.07)	-0.07 (0.05)	
Year			0.001 (0.001)	0.001 (0.001)	0.001 (0.001)
Document Length (Logged)				0.32*** (0.06)	0.33*** (0.10)
<i>N</i>	39	39	39	39	39
<i>Adj.R</i> ²	0.76	0.77	0.78	0.88	0.92

In each model the dependent variable is the document Similarity Score. We see that revolutionary constitutions and post-revolutionary documents have consistently higher scores than the colonial charters, which are the omitted baseline category. This is true even after controlling for the year of ratification and document length. The final model includes state fixed effects, which account for all time-invariant factors unique to each state. Significance codes $\dagger \leq .15$, $*p < .1$, $**p < 0.05$, $***p < 0.01$, two-tailed tests.

Robustness

We conduct a number of robustness checks to verify that the estimated *Characteristic Scores* of the charters and colonies is not a function of a particular method, or set of assumptions. We briefly mention these validity checks here and refer the reader to the supplemental materials where we describe these tests in greater detail. First, we estimate the *Characteristic Scores* using the NOMINATE and optimal classification procedures rather than using the Bayesian estimator we present in the main text. All three of these estimation procedures produce nearly identical results and are highly correlated (Figure A2 in the supplemental materials shows the correlations are all $\rho > 0.95$). The second robustness procedure omits one of the thirteen different categories of features and re-estimates the model with the remaining twelve categories of features. This shows that no particular group of institutional features is driving our results. The correlation matrix (Figure A3 in the supplemental materials) shows that this is the case.

Finally, we consider a completely different method of estimation that uses the text of the document rather than our coding of the various documents' features. Using the actual text of the

documents addresses concerns of systematic bias in the coding of the document-features matrix that we analyzed in the previous section. Furthermore, we earlier noted a limitation of the features-based analysis was the fact that any set of features will inevitably omit potential features that could be included in the analysis. Using the text of the documents is immune to this concern as there are no features to be coded but rather the analysis is conducted using the actual words that each constitution-writing body chose to include in their final documents. Using the ‘WordFish’ method proposed by Laver, Benoit and Garry (2003) correlates with the results presented here at 0.86 (See Figure A4 in the supplemental materials). We also use a related automated method of text analysis that uncovers the best classification, or grouping, of textual documents, the latent Dirichlet allocation method of Blei, Ng, and Jordan (2003). Figure A5 in the supplemental materials show that this estimation procedure produces three document ‘clusters’ that strongly relate to the charters, revolutionary constitutions, and post-revolutionary constitutions.

Together these results confirm that the latent dimension we have identified across the colonial charters and constitutions is the result of the underlying structure and content of these documents and not the result of any particular estimation procedure.

The Latent Dimension: Enumerated Rights

While Figure 2 plotted the different *Characteristic Scores* of each of the 39 colonial documents, we have not yet considered the substantive interpretation of the dimension from which these *Characteristic Scores* are drawn. In this section we investigate the content of the estimated latent measure of document similarity. Through a variety of methods we demonstrate that the primary dimension on which these constitutions are distinguished is the treatment of the individual rights and liberties of the citizens they govern, consistent with the principle of “rights creep”—or, perhaps better put, “rights emergence”—discussed above.

We first begin by looking at the estimated discrimination parameters from the IRT model. The discrimination parameters measures the degree to which each particular feature “moves” a document along the latent measure and are akin to estimated coefficients in a regression model. Those features with larger (positive or negative) discrimination parameters explain the largest amount of variation on the latent measure. If the largest discriminating features all relate to a particular subject or general topic, then this provides evidence that the latent scale is capturing an

overall measure of this general topic. Table 3 shows the 20 items with the largest discrimination parameters from the more than 500 possible features included in the original document-feature matrix.¹³ We see that many of the most discriminating features identified by the model address the freedoms and protections citizens have from their government and the rights of citizens to participate in that government.

Table 3: **Largest and Smallest 20 IRT Model Discrimination Parameters**

Constitutional Feature	Estimated Discrimination Parameter
Libel Law	11.29
Freedom of Association	10.20
Right to Petition	10.20
Expropriation of Property	9.76
No Compensation for Expropriation	-9.70
Speedy Trial	9.65
Self Incrimination Rights	9.52
Judge Removal Provisions	9.48
No Provision of Speedy Trial	-9.36
Who Presides over Lower House	9.36
Regulation of Evidence Collection	9.34
Fair Compensation for Expropriation	9.26
Executive Must Report to Legislature	9.25
21 Year Old Suffrage	9.19
Gender Suffrage Restrictions	9.18
Conditions Necessary for Expropriation	9.14
Legislature Can Dismiss Head of State	9.13
Suspension of Rights During Emergency	9.08
Upper House Eligibility Restrictions	9.02
Citizen Election of Head of State	9.00

Many of the most discriminating items in the model are related to the freedoms and protections citizens have from their government and the rights of citizens to participate in government.

The table broadly clusters into three types of rights. The first group are those that are captured in what Americans of today think of as the classic first amendment rights such as freedom of speech, petition and assembly. The second group are rights that are largely about protecting citizens from unfair court proceedings and, in particular unfair expropriation of property or malicious prosecution. The final group of rights found in the table are those that relate to the right to participate and remove elected officials. In the context of the eighteenth century all of these types of rights would be seen as important protections against a tyrannical government, though the specific type varies slightly.

¹³Figure A7 in the supplemental materials shows the distribution of all discrimination parameters estimated in the IRT model

While the latent dimension captures the presence or absence of all institutional features to some degree—i.e. each institutional feature has some non-zero discrimination parameter—the fact that the largest discrimination parameters are rights related shows that there is a strong correlation (stronger than with other institutional features) between the estimated latent dimension and political rights. To further show this we create an index of how many explicitly mentioned provisions each constitution contains that relate to the rights of citizens as well as their protections from government, particularly those related to criminal procedures. For example, we measure whether each constitution contains a provision guaranteeing the right to free speech and the protection of *habeus corpus*. Together, we code each document for the presence or absence of 41 different rights-related provisions.¹⁴ We then test the degree to which the first dimension of the IRT model is correlated with this index of rights. Figure 4 shows a scatterplot of this relationship. The correlation between the two variables is very strong (0.86). For example, Virginia’s 1611 charter contains six rights-related provisions and contains the word “rights” only in reference to the right of the Virginia Company to establish the colony in America. In contrast, the simple word “right” or “rights” appears no fewer than fourteen times in the 1776 Virginia Constitution. Furthermore, this is not an exhaustive catalogue of the rights that were protected by the 1776 constitution. We merely offer it as an example of how dramatically things changed in this particular colony.¹⁵

As further evidence that the estimated *Characteristic Score* is capturing the degree of positive rights included in the constitution, we look at U.S. Constitution before and after the addition of the Bill of Rights. The addition of the Bill of Rights increases the estimated score of the U.S. Constitution, and is completely related to the rights and protections that are guaranteed the citizens of the United States. Since the two documents remain otherwise identical, this addition of a number of additional enumerated rights and the subsequent shift in the document *Characteristic Score* suggests that the estimated dimension is capturing the degree to which constitutions explicitly protect the rights of its citizens.¹⁶

¹⁴Section 5 of the supplemental materials contains a list of these 41 rights provisions.

¹⁵In the supplemental materials we present a more extensive look at the case of Virginia as an example of the dramatic shift in how the founders thought about the content and purpose of their founding documents.

¹⁶Figure A6 in the supplemental materials plots the scores for each document if we estimate a two dimensional model. While the addition of a second dimension does not add dramatically to the predictive power of the model, the second dimension appears to capture differences between the national documents of the U.S. Constitution and Articles of Confederation and the subnational constitutions of the colonies and future states.

Constitution Score and Number of Enumerated Rights

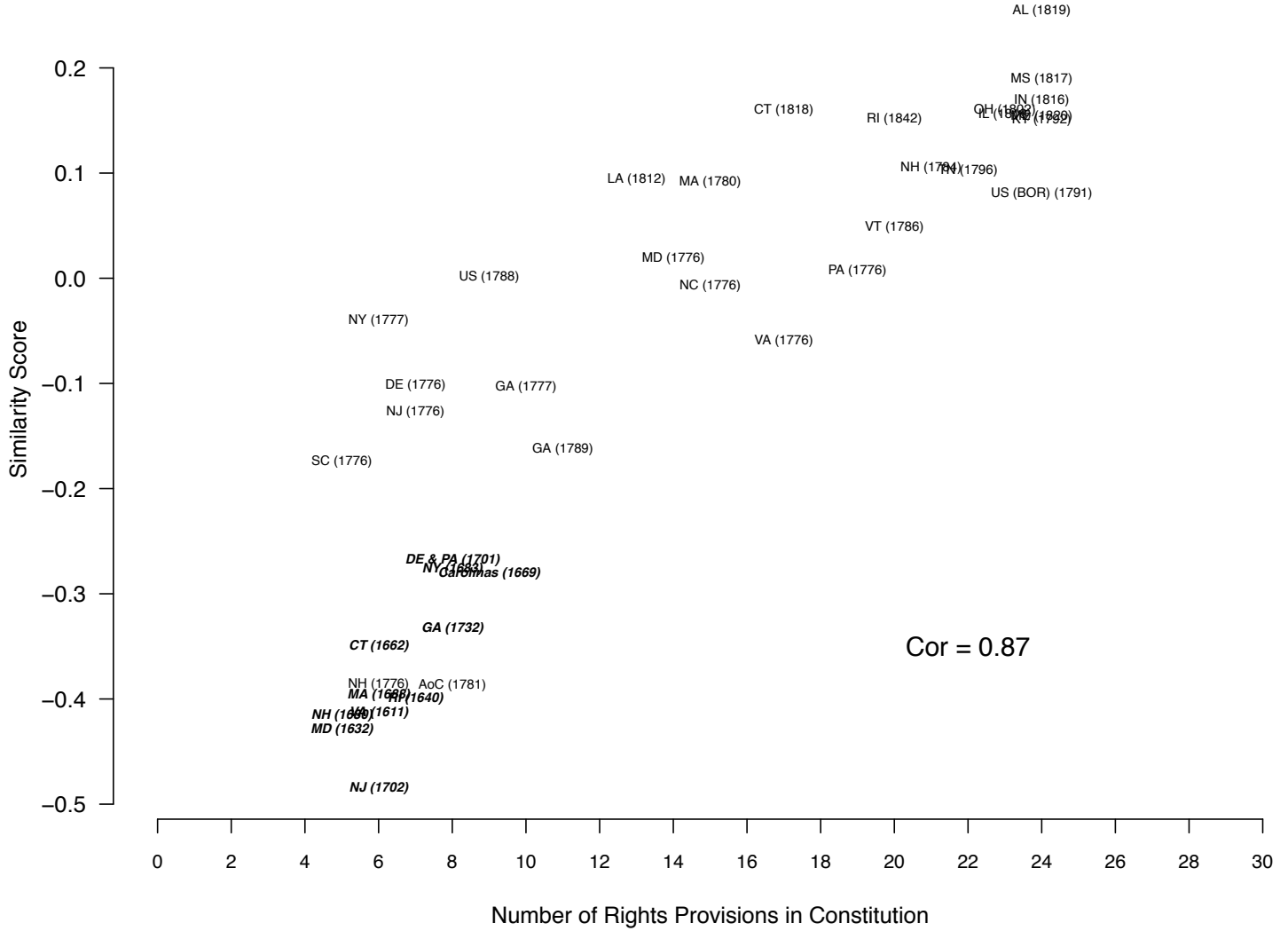


Figure 4: **Document *Characteristic Score* and Enumerated Rights** - This figure shows that there is a strong positive correlation between the latent *Characteristic Score* and the number of enumerated rights contained in the constitution. Colonial charters (bolded) have low scores on the latent dimension and contain very few enumerated rights. At the other end, the US Constitution and states admitted later into the union contain more enumerated rights. These documents were written during a time in which the fundamental purpose of a constitution had changed to focus on the need to articulate the rights of citizens.

Alternative Explanations

In this section we show that a number of alternative explanations for differences across colonial constitutions do not relate to the latent measure of constitutional similarity as well as does our measure of political rights. Ruling out possible alternative explanations further supports the case that the primary dimension of constitutional similarity (and difference) in this period centered around the provision of political rights.

It is well known that the original American colonies that would later become states were divided in significant ways. Perhaps the most prominent was the division between the slave-holding mid-Atlantic and southern states and the New England states. This difference is often cited as a major factor in the politics of the time period (Ohline, 1971; Waldstreicher, 2009). While slavery was not unheard of in the northern colonies/states, it was never a prominent feature of social life or the economy. In addition to divisions about slavery, there were also significant differences in the populations of the colonies (Rossiter, 1966; Rakove, 1996; Heckelman and Dougherty, 2013) and other regional differences (Elazar, 1972*a*; Jillson, 2002; Dougherty and Heckelman, 2008) that have also been offered as explanations for some of the political actions of the late eighteenth century. For example, population size has long been considered one of the key variables for explaining the Constitutional Convention and the discussion of representation that was central to the convention.

Table 4 is similar to Table 2 in that it reports regression results with the document *Characteristic Score* as the dependent variable. All of the same variables from Table 2 are included. However, Table 4 adds a measure of the number of enumerated rights in each constitution—a proxy for our theory—as well as several demographic and regional characteristics. The black population in the colony/state serves a proxy for the importance of slavery in a state. Given issues of data availability, we used the data that was the most consistently available from the historical statistics of the United States, published by the Census Bureau.¹⁷ State population captures the possibility that different sized states produced different types of founding documents. Finally, several dummy variables capture different aspects of each colony or state.

The results displayed in Table 4 give strong support to our proposed hypothesis that the *Characteristic Score* is largely about political rights. In all cases the number of enumerated rights is

¹⁷For both this variable and the white population variable, the regression used data from the census or count most closely related in time to the production of the charter or the constitution.

Table 4: **Regression Results: Predictors of Document *Characteristic Score***

Dependent Variable: Document Similarity Score			
Enumerated Rights	0.012*** (0.003)	0.010*** (0.003)	0.010** (0.003)
Black Population (hundreds of thousands)		0.244 (0.207)	0.287 (0.218)
State Population (hundreds of thousands)		0.127* (0.074)	0.126 (0.077)
Proprietary Colony			0.132 (0.088)
Charter Colony			0.163 (0.107)
New England State			-0.013 (0.034)
Deep South State			-0.001 (0.036)
Western State			0.019 (0.049)
Revolutionary Constitution	0.156** (0.069)	0.128* (0.063)	0.176** (0.083)
Post-Revolution Constitution	0.194** (0.091)	0.181** (0.083)	0.197* (0.099)
National Document	-0.066 (0.044)	-0.654*** (0.216)	-0.677*** (0.227)
Year	0.001 (0.001)	0.001 (0.001)	0.001* (< 0.001)
Document Length (Logged)	0.210*** (0.060)	0.222*** (0.055)	0.242*** (0.058)
N	39	39	39
$Adj.R^2$	0.901	0.912	0.914

In each model the dependent variable is the document Characteristic Score. Significance codes: $*p < .1$, $**p < 0.05$, $***p < 0.01$, two-tailed tests. Proprietary colonies include the charters of: NJ, MD, NH, Carolinas, NY, DE, PA. Charter colonies include the charters of: VA, RI, MA, CT. New England includes: NH, RI, MA, VT, ME, CT. Deep South includes: GA, NC, SC, MS, AL. Western States includes: LA, TN, KY, IL, OH, IN. Mid-Atlantic states are the omitted category.

statistically significant and in the expected (positive) direction. None of the colony type or regional variables are statistically significant at any reasonable level. Similarly, the black population is not associated with the document *Characteristic Score*. The one new explanatory variable that is statistically significant at the 0.10 level is state population in the specification (in Model 2 but not Model 3). While this is suggestive that larger states may have designed systematically different documents from the smaller states, even after accounting for this difference the enumerated rights variable is a strong, consistent predictor of the document *Characteristic Score* (the two variables have a bivariate correlation of 0.76).

While we recognize the problems associated with making causal claims with observational data, we do think that these results highlight the plausibility of our explanation that the period of constitution writing in 1776 centered around a movement towards including enumerated rights in these founding documents. The fact that other plausible variables fail to correlate with the *Characteristic Score* allows us to rule out a number of other competing theories.

Constitutions and the Battle Over a Bill of Rights

As a final check on our theory about the substance of rights as a key point of contention with regard to the drafting of constitutions we consider how the shift towards including political rights in the founding documents of the American colonies may have affected the drafting of the U.S. Constitution. The key debate over this document was had in 1787 - 88 and the most contentious issue was a bill of rights (Maier, 2010). The Anti-Federalists refused to ratify without one. When James Madison and the other Federalists agreed to enact such amendments (after ratification) it was, perhaps, the key concession that secured ratification of the Constitution.

Alone, this suggests that constitutions were intimately connected to rights provisions. Can we go any further and ask if states with a greater number of political rights in their own constitutions—and thus perhaps a greater political culture favoring the explicit protection of rights—were more inclined to support the ratification of the U.S. Constitution?

Our theory is that the nature of constitutions was changing because of a commitment to rights that was spreading across the American states. Figure 4 shows that there was variation across the states in how much each state enshrined rights in their own constitutions. If this is

accepted as a proxy for each state’s commitment to enumerated rights, we may expect our measure of state constitutional similarity to correlate with the contemporaneous debate occurring in the various states over the federal constitution that focused on the lack of a bill of rights. This could especially be the case since many of the people involved in the drafting of these state constitutions were also involved in the drafting of the federal constitution and the ratification debates that took place in each state.

We should recognize at the outset that this is not a question that can be answered with an abundance of data since we are limited to the eleven states that held ratification votes and also drafted new constitutions prior to the ratification debate (Rhode Island and Connecticut continued operating their governments based on past practice and their colonial charters rather than drafting new written constitutions at this point). However, the correlation between our estimates of constitution similarity and the margin of the final ratification vote in each state’s convention is relatively high (-0.56). This indicates that states with higher *Characteristic Scores* (which relate to a greater number of enumerated rights within the document) had smaller margins in favor of adopting the federal constitution. Figure 5 plots this relationship.

As can be seen in the figure, the correlation is strong, although we emphasize that the data are sparse. States with the higher *Characteristic Scores* had narrower margins in debate, $p = 0.07$. Though we would hesitate to make too much of this single event, it is a striking pattern. The traditional story told about ratification (Maier, 2010) is that it was the political forces of delay that caused those in favor of ratification trouble. However, there is no correlation between length of time between the federal convention and the margin of victory for the pro-ratification side in a state, $p = 0.334$. In a model where the ratification margin is regressed on the two variables (time and our *Characteristic Score*) the *Characteristic Score* retains a negative coefficient with a slightly larger p-value ($p = 0.11$). The coefficient remains essentially unchanged from the model that uses only the *Characteristic Score*. A likelihood ratio test comparing the difference between the two coefficients yields a p -value of 0.90 indicating that the two models are not different, suggesting that time is not contributing to the model.¹⁸ Taking these limited data at face value, the evidence is more strongly in favor of a state’s commitment to rights being a predictor of the margin of victory in the different state convention votes over the adoption of the Constitution than it is for the traditional story of a

¹⁸We again add caution regarding regression analysis with only eight or nine degrees of freedom.

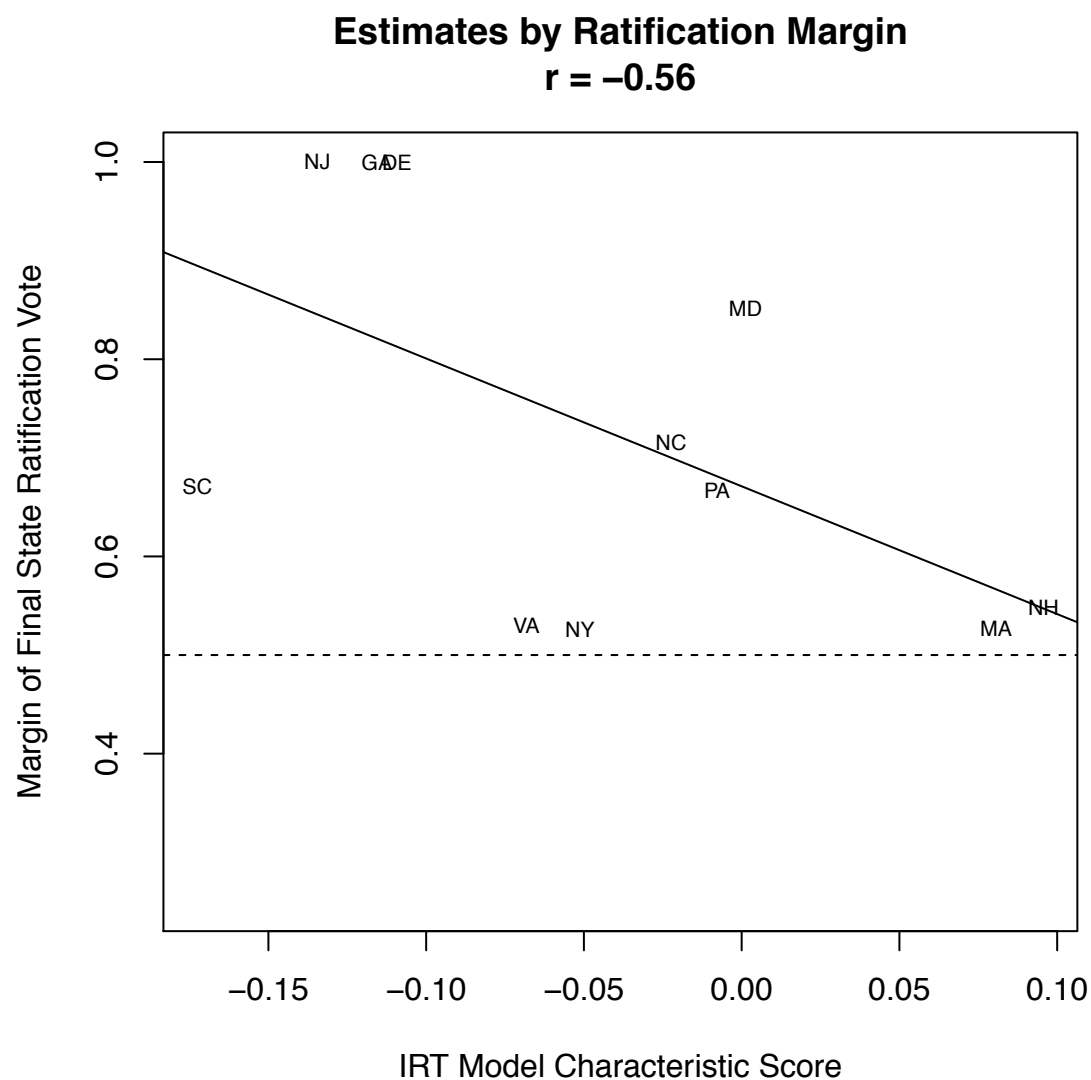


Figure 5: Figure plots the margin of the final ratification vote in state conventions by our estimates of the constitutional similarity. The solid line represents the regression line and the dashed line represents the margin necessary to “pass” the constitution in state conventions. Since they did not have new constitutions at this point (though they would subsequently) Connecticut and Rhode Island are omitted from this plot.

delay in time. Furthermore, the relationship aligns with the stated concerns of those who opposed adoption that we describe above.

Discussion

The American Revolution was a movement filled with people who consciously argued that their motivation was securing their political rights from a tyrannous government. Consistent with the Glorious Revolution, the colonists emphasized the protection of rights in both their rhetoric and newly drafted constitutions. By 1776 they were actively creating new political institutions that could protect rights. This moment in time represented a clear break in the fundamental laws of the colonies. While previous to the revolution such documents had been about grants of authority and limited institutional design (largely to justify the mother country's authority), with the American Revolution the character of the laws fundamentally shifts to being one about rights. The fact that this shift took place at a single moment in time shows that it was about a change in global attitudes across the continent and not about any kind of regional or local cultural variation.

From everything we can measure about the changes in fundamental law the American Revolution managed to codify the aspirations of the former colonists. We note that this finding is apparently *very* robust as it is confirmed by the IRT analysis and two separate forms of text analysis. No matter how we look at these documents this is the picture that emerges.

These results are consistent with the theory laid out above that Constitutions help provide “self-enforcing limits on the state” Weingast (1997, p 245) to avoid capricious governmental actions and promote the cause of liberty. Of course the new American citizens probably saw the results in even broader terms. Gordon Wood reflected their hopes when he wrote retrospectively that “this astonishing transformation took place without urbanization, without railroads, without the aid of any of the great forces we usually invoke to explain ‘modernization.’ It was the Revolution that was crucial to this transformation. It was the Revolution, more than any other single event, that made America into the most liberal, democratic, and modern nation in the world” (Wood, 2011, p. 7). While we could not go that far, we do think that the event was seminal, in part because the introduction of rights as the fundamental aspect of new institutional designs helped spread the contagion of liberty (Bailyn, 1967).

Certainly these new constitutions had other aims, like the importance of creating union (Matson and Onuf, 1990), the trimming of executive power (Wood, 1969), or the creation of new institutions that balanced aristocracy with a coming popular politics (Wirls and Wirls, 2004), but

the key change in fundamental law came upon all of the colonies at once with a strong emphasis on enumerated political rights. It is worth noting that this is just what the revolutionaries of the period claimed over and over again. Those claims, therefore, deserve to be taken seriously even if the young republic hardly lived up to all of its aspirations for liberty. The American Revolution, whatever other shortcomings it had, was essentially about the protection of rights, a belief that would spread from this moment across political time and space even reverberating today (Law and Veerstag, 2011).

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Supplemental Materials for:
A Revolution of Rights in American Founding Documents

1 Distribution of Features Across Institutional Categories

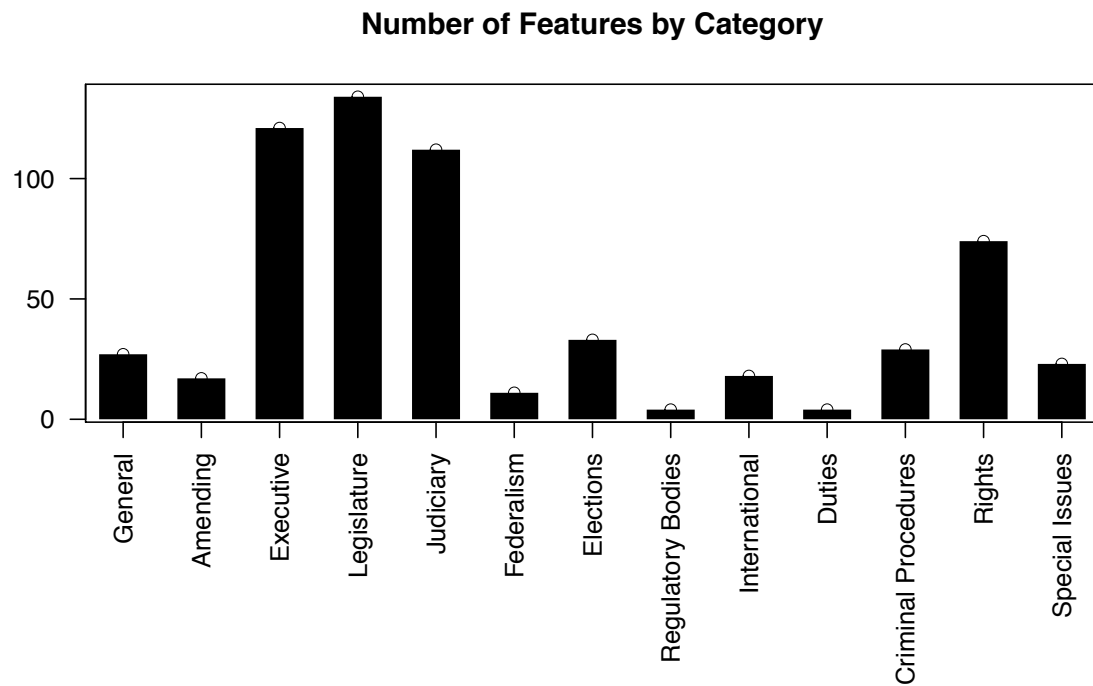


Figure A1: This figure shows the number of features contained in each of the 13 institutional categories that are included in the Comparative Constitutions Project dataset.

2 Comparison of Different Scaling Methods

Bayesian, WOMINATE, and Optimal Classification

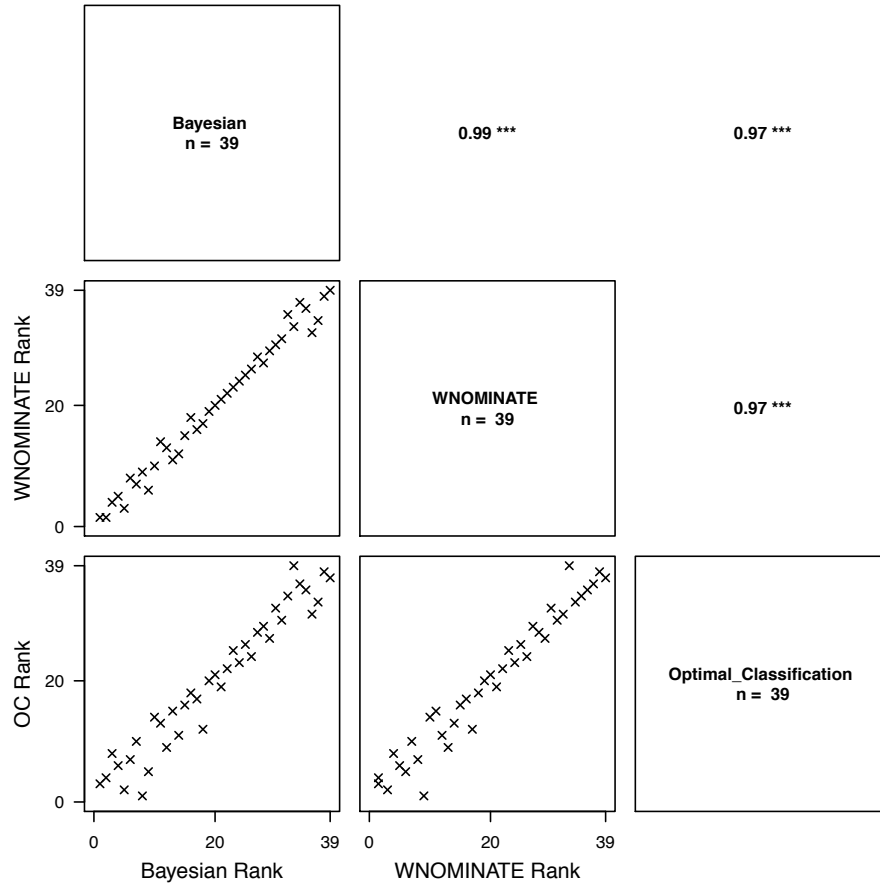


Figure A2: Using a Bayesian estimation procedure (as used in the main text) produces estimates that are highly correlated with other estimation procedures - the WNOMINATE procedure and an optimal classification model.

2.1 Omit One Category of Features at a Time

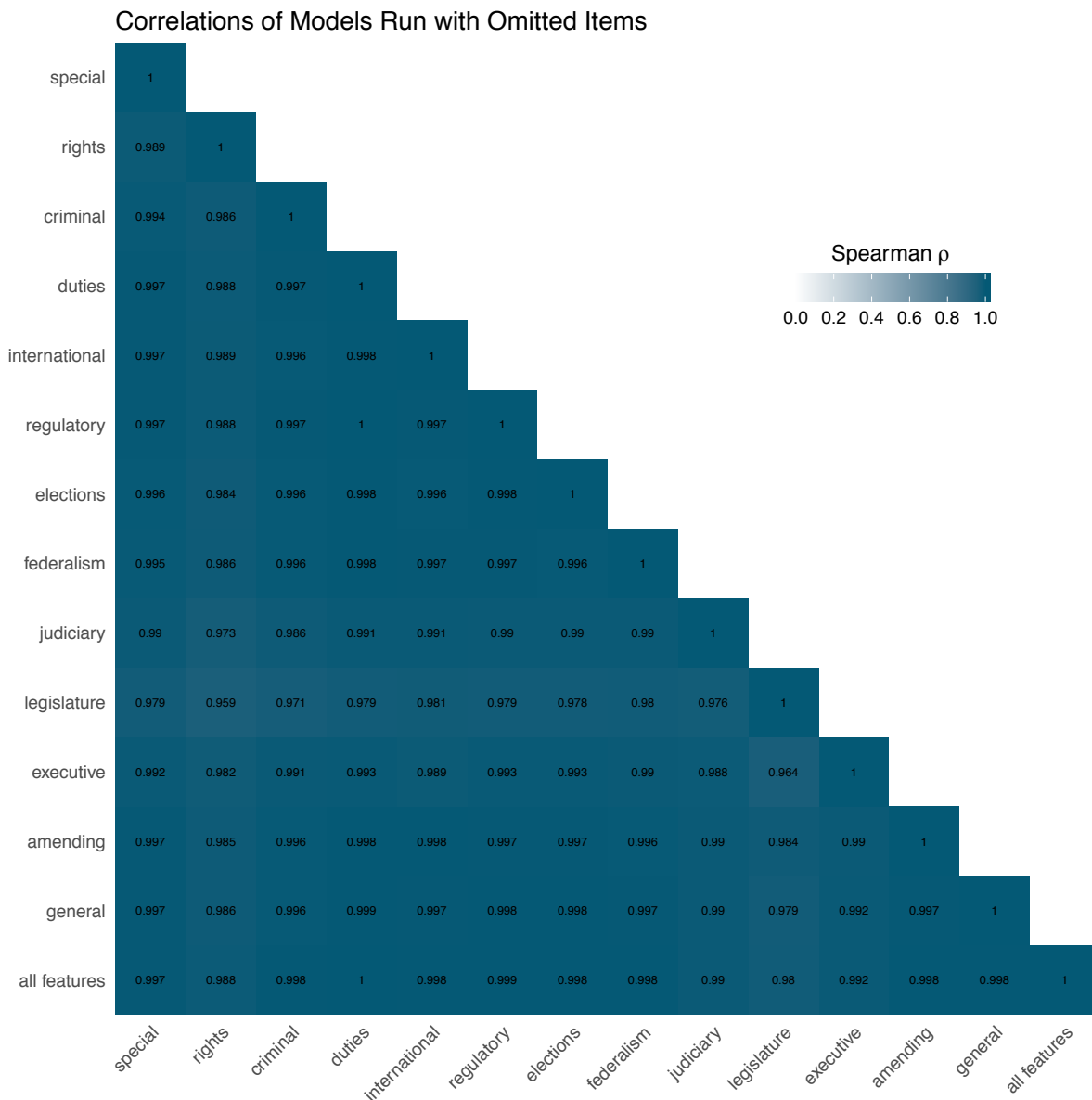


Figure A3: This matrix shows the correlation between estimates when one of the 13 institutional categories is omitted. In this way, we show that the estimated latent dimension is robust to the exclusion of different categories of institutional features. Most correlations are above 0.95, and no category is systematically driving the latent estimates described in the manuscript.

2.2 A Short Case Study: Virginia

The empirical data and statistical analyses in the main paper strongly support the claim that constitutions became more about the rights of citizens' protections from government with the advent of the American Revolution. In this section we take a brief moment to document exactly how this shift played out and use the state of Virginia as an example case study.¹

While under the king, subjects retained rights that were protected from the sovereign. However, the colonists were dissatisfied with these protections. About two months before the Declaration of Independence was adopted in Philadelphia, George Mason of Virginia began drafting a kind of preamble to the new Virginia Constitution. He eventually drafted ten articles (though three others were added in committee). Mason drew his inspiration from the English Bill of Rights (assented to by King William III and Queen Mary II in 1689) as well as colonial sentiment and philosophy. Consider a portion of the document that was finalized and adopted. It opens with the following passage:

A declaration of rights made by the representatives of the good people of Virginia, assembled in full and free convention; which rights do pertain to them and their posterity, as the basis and foundation of government.

SECTION 1. That all men are by nature equally free and independent, and have certain inherent rights, of which, when they enter into a state of society, they cannot, by any compact, deprive or divest their posterity, namely, the enjoyment of life and liberty, with the means of acquiring and possessing property, and pursuing and obtaining happiness and safety.

The document goes on to describe the rights of the people, the equality of the citizens, the importance of free elections, and several restrictions on the government such as legal protections, the freedom of the press and of religion, as well as the idea that “a well-regulated militia, composed of the body of the people, trained to arms, is the proper, natural, and safe defense of a free state . . . and that in all cases the military should be under strict subordination to, and governed by, the civil power.” This beginning stands in stark contrast to the beginning of the 1611 Virginia Charter:

JAMES, by the Grace of God, King of England; Scotland, France, and Ireland; Defender of the Faith; To all to whom these Presents shall come, Greeting. WHEREAS at the humble Suit of divers and sundry our loving Subjects, as well Adventurers as Planters of the first Colony in Virginia, and for the Propagation of Christian Religion, and Reclaiming of People barbarous, to Civility and Humanity, We have, by our Letters-Patents, bearing Date at Westminster, the three-and-twentieth Day of May, in the seventh Year of our Reign of England, France, and Ireland, and the two-and-fortieth of Scotland, GIVEN and GRANTED unto them that they and all such and so many of our loving Subjects as should from time to time, for ever after, be joined with them as Planters or Adventurers in the said Plantation, and their Successors, for ever, should be one Body politick, incorporated by the Name of The Treasurer and Company of Adventurers and; Planters of the city of London for the first Colony in Virginia.

The remainder of the document is no less tedious. And indeed, the only section of that document that uses the term “right” is the following quotation which, after naming the key planters who are to be given authority in the colony, states:

¹For more on how the Virginia state constitution evolved over time see ?.

[they] are become Adventurers, and have joined themselves with the former Adventurers and Planters of the said Company and Society, shall from henceforth be reputed, deemed, and taken to be, and shall be Brethren and free Members of the Company; and shall and may respectively, and according to the Proportion and Value of their several Adventures, HAVE, HOLD, and ENJOY, all such Interest, Right, Title, Privileges, Preheminences, Liberties, Franchises, Immunities, Profits, and Commodities, whatsoever, in as large and ample and beneficial Manner, to all Intents, Constructions, and Purposes, as any other Adventures nominated and expressed in any our former Letters-Patents, or any of them have or may have by Force and Virtue of these Presents, or any our former Letters-Patents whatsoever.

In contrast, the simple word “right” or “rights” appears no fewer than fourteen times in the 1776 Virginia Constitution. Furthermore, this is not an exhaustive catalogue of the rights that were protected by the 1776 constitution. We merely offer it as an example of how dramatically things changed. Both the rhetoric and the substance of rights changed significantly in the fundamental laws of the colonies in 1776. Though not all colonies have as stark a story as does Virginia, a glance at Figure 3 in the main manuscript reveals that Virginia’s record on rights was far from an outlier of any sort.

2.3 Text-based scaling methods

As an additional validation of our estimates, we exploit the textual content of each document. In this analysis we re-estimate the latent position of each constitution or charter using the actual language contained within the document rather than as a function of a features-based coding. Using the actual text of the documents addresses concerns of systematic bias in the coding of the document-features matrix that we analyzed in the previous section. Furthermore, we earlier noted a limitation of the features-based analysis was the fact that any set of features will inevitably omit potential features that code be included in the analysis. Using the text of the documents is immune to this concern as there are no features to be coded but rather the analysis is conducted using the actual words that each constitution-writing body chose to include in their final documents. Political scientists have used text analysis to study the public statements of U.S. legislators (Grimmer, 2013), the manifestos of political parties (Volgens and Hearl, 1992), and national constitutions (Rockmore et al., 2018). We take this method of document analysis and apply it to the charters and constitutions of the early American republic.

To accomplish this, we first use the “WordFish” method proposed by Laver, Benoit and Garry (2003) which estimates the following model:

$$y_{ij} \sim \text{Poisson}(\lambda_{ij})$$

$$\lambda_{ij} = \exp(\alpha_i + \psi_j + \beta_j x_i)$$

Where the outcome y_{ij} is the count of word j in document i . As before we treat this outcome as a function of a set of unobservable latent parameters where α_i is an estimate of the “loquaciousness” of each document. The parameter ψ_j gives us an estimate of how frequently a given word appears across documents and is analogous to the difficulty parameter in our IRT setting. Similarly, the parameter β_j is analogous to the discrimination parameter in the IRT framework and gives us the word specific weight capturing the importance of word j in discriminating across constitutions. Last, our parameter interest x_i gives the ideal point estimate of document i based upon its text.

The goal of this exercise is to compare the estimates of x_i derived from our IRT procedure to our estimates of the equivalent parameter derived from the WordFish estimator.² In the IRT analysis of the documents of the early United States we found that documents are best differentiated by the degree to which they delineate the rights of citizens. We, likewise, expect to find a similar pattern when considering the text of these documents. In Figure A4 we display the IRT (y-axis) and wordfish estimates (x-axis) for each document in a simple scatterplot. The strong correlation between the two measures of the location of each document in the underlying latent space is immediately apparent. The correlation in the full set of charters and constitutions between the IRT and WordFish estimators is .86. Excluding the clear outlier of the Articles of Confederation increases the correlation to .92.

We note that the Articles of Confederation are a distinct outlier in this plot. While the Articles group with the charters in the features-based analysis, they cluster with the state constitutions of 1776 in the wordfish text analysis. This may be the case because the Articles represent a unique document in the corpus of charters and constitutions. As the first national constitution of the early United States, they represented the first attempt at the idea of a federal document that applied to the entire nation rather than an individual state. Given the view at the time of the

²We follow standard stemming procedures and remove numbers, punctuation and common English stopwords. In the supplemental materials we provide results indicating that our results are strongly robust to the degree of sparsity we admit.

federal government acting as a weak confederation of strong and largely independent states, the Articles lacked many of the references to individual rights that the state constitutions contained. In this way, the features contained in the Articles are more similar to the charters than they are to the state constitutions or the US Constitution of 1788. However, the Articles were composed and ratified several years after many of the state constitutions that were drafted in 1776. Thus, the text and language used in the Articles may be more similar to the documents that were written during the same time period. Thus the Articles represent an interesting link between the charters and constitutions as they use the language of post-revolutionary constitutions but contain the features of the pre-revolutionary charters

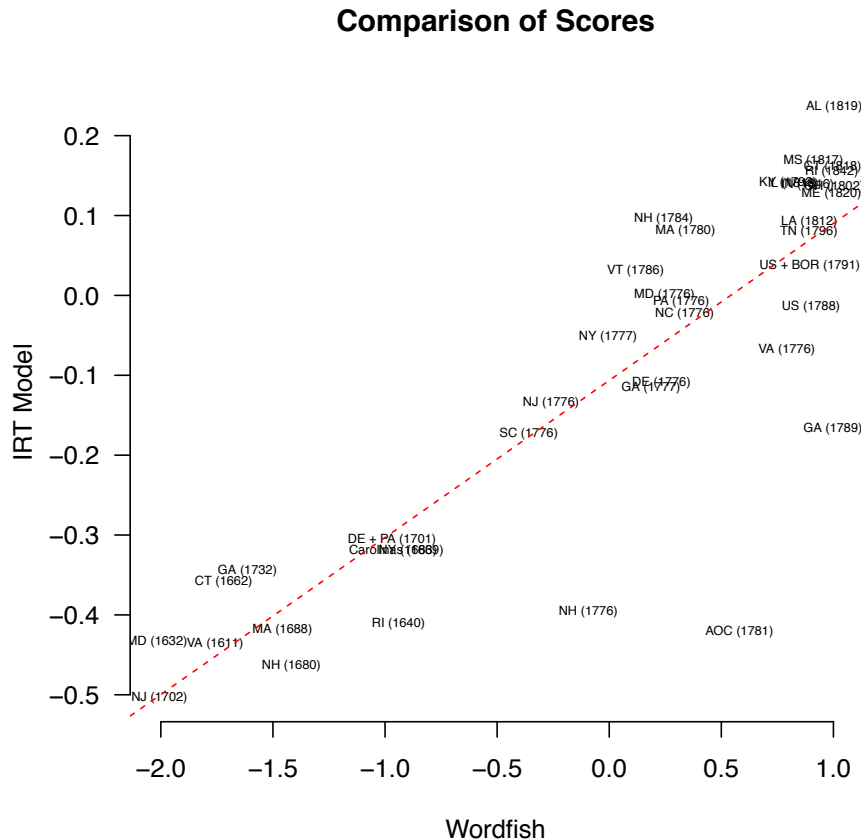


Figure A4: The x-axis displays the *Characteristic Score* for each constitution when estimated using the Wordfish text scaling method. The y-axis displays the *Characteristic Score* for each constitution when estimated using the IRT model. We see a strong correlation between the two different methods, despite their very different methods of estimation.

In Table A2 we replicate Table 2 in the main text but now treat the WordFish estimate of each document's latent similarity as the outcome variable. The results are nearly identical to those using the IRT measure and indicate that there are three broad clusters of documents: pre-revolutionary charters, revolutionary constitutions, and documents composed after the promulgation of the Federal constitution of 1789. The only substantive difference between Table A2 and Table 2 is the insignificance of the coefficient on document length when it is included as a regressor (Column 4). Of course, this is because when estimating WordFish scores, unlike as in

the IRT model, document length is accounted for directly in the loquaciousness parameter of the model.

Table A1: Regression Results using Wordfish Estimation Procedure

Dependent Variable: Text-Based <i>Characteristic Score</i>					
Revolutionary Constitution	1.67*** (0.13)	1.44*** (0.30)	1.38*** (0.29)	1.37*** (0.30)	1.35** (0.46)
Post-Revolution Constitution	2.36*** (0.13)	2.07*** (0.38)	2.01*** (0.36)	2.02*** (0.37)	1.71** (0.59)
National Document			0.37* (0.19)	0.37* (0.19)	
Document Length (Logged)				-0.03 (0.23)	-0.41 (0.38)
Year		0.002 (0.003)	0.002 (0.002)	0.002 (0.003)	0.005 (0.004)
<i>N</i>	39	39	39	39	39
<i>Adj.R</i> ²	0.90	0.90	0.91	0.90	0.87

In each model the dependent variable is the estimated document *Characteristic Score*. Revolutionary and post-revolution constitutions have consistently higher scores than colonial charters, which serve as the baseline category. This is true even after controlling for the year of ratification and document length. The final model includes state fixed effects, which measure the within state effects and account for time-invariant features unique to each state. Significance codes $*p < .1$, $**p < 0.05$, $***p < 0.01$, two-tailed tests.

Both our analyses of the features and text based estimates of constitutional similarity indicate that there are three broad clusters of documents—pre-revolutionary charters, the constitutions of the revolutionary period, and the constitutions of states admitted after the formation of the Union in 1789. To further explore the grouping of these different documents, we exploit a related automated method of text analysis that uncovers the best classification, or grouping, of textual documents, the latent Dirichlet allocation method of Blei, Ng, and Jordan (2003). This particular method of analysis assumes that each document is a mixture of latent topics and assigns and recovers numerical estimates describing the proportion of each “topic” that best characterizes each document. Given our hypothesis of three distinct periods of constitution writing, we constrain the number of latent topics to be equal to three. We note that the particular substance of the topics will be an amalgamation of concepts, ideas, words, and phrases. The substance of each topic is, however, less important here. We are instead primarily interested in the clustering of documents within topics, not the content of the topics themselves. Figure A5 then plots the topic that best characterize each document against our IRT and Wordfish estimates. It is apparent in Figure A5 that our regression based method of describing the clusters of constitutions and charters matches this text-based method of clustering with, generally, the same three classes of documents emerging.

The colonial charters are represented by triangles and are exclusively classified as belonging best to Topic 1. The revolutionary constitutions are represented by circles and tend to best belong to Topic 2. Finally, the post-revolutionary constitutions are shown in Figure A5 by squares and mostly cluster around the third topic. In sum, while there are a few misclassifications, across all

three classification techniques—IRT, text-based, and topic modelling—we find very close alignment of our measures of document similarity.

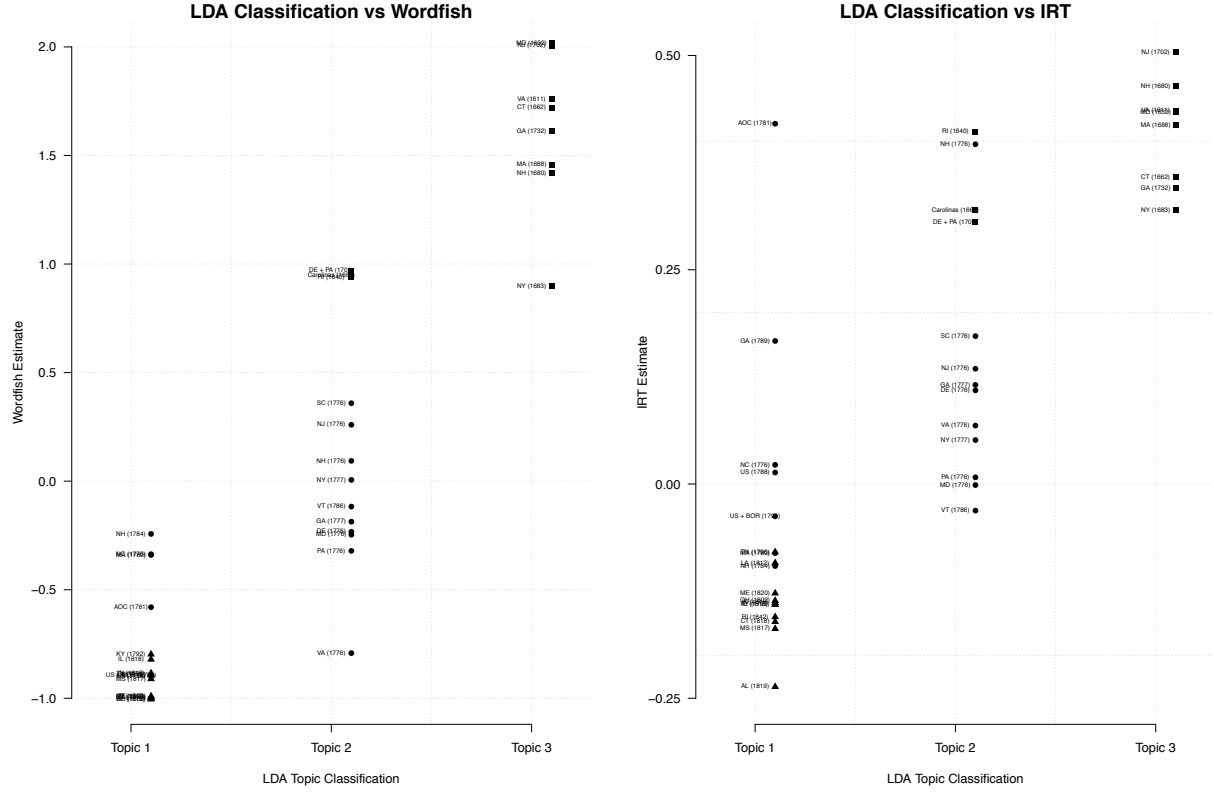


Figure A5: The x-axis displays which documents are classified as belonging to each of the three latent “topics” using a topic modelling method of estimation. The y-axis of the left panel shows the *Characteristic Score* of each document when estimated using the wordfish text scaling method. The y-axis of the right panel shows the *Characteristic Score* of each document when estimated using the IRT scaling method. The strong correlation indicates that all three methods of estimation produce very similar results.

3 Second Dimension

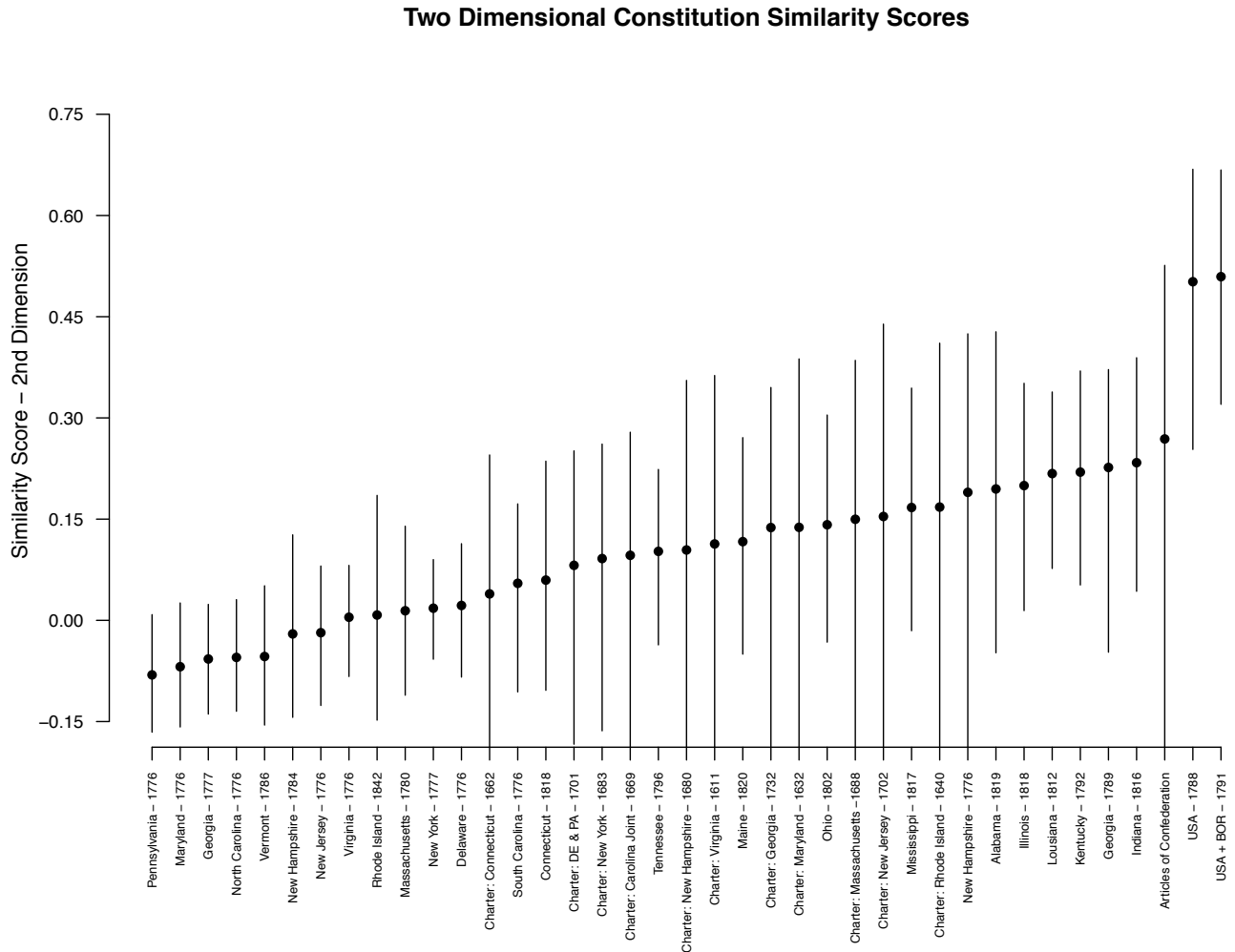


Figure A6: This figure plots the estimated latent scores for the second dimension of the Characteristic Score. In the main manuscript we present and discuss the first dimension only. This is, as we say in the manuscript, largely because the second dimension (and additional dimensions beyond that) explains significantly less of the variation in documents than does the first dimension. However, we show the second dimension here and hypothesize that the second dimension is capturing the difference between state and national documents. Note that the three largest scores are the three national documents - the Articles of Confederation and the US constitution (with and without the Bill of Rights). This dimension, however, is estimated with much greater uncertainty, as is evidenced by the larger confidence intervals around the latent scores.

4 Full Distribution of Discrimination Parameters

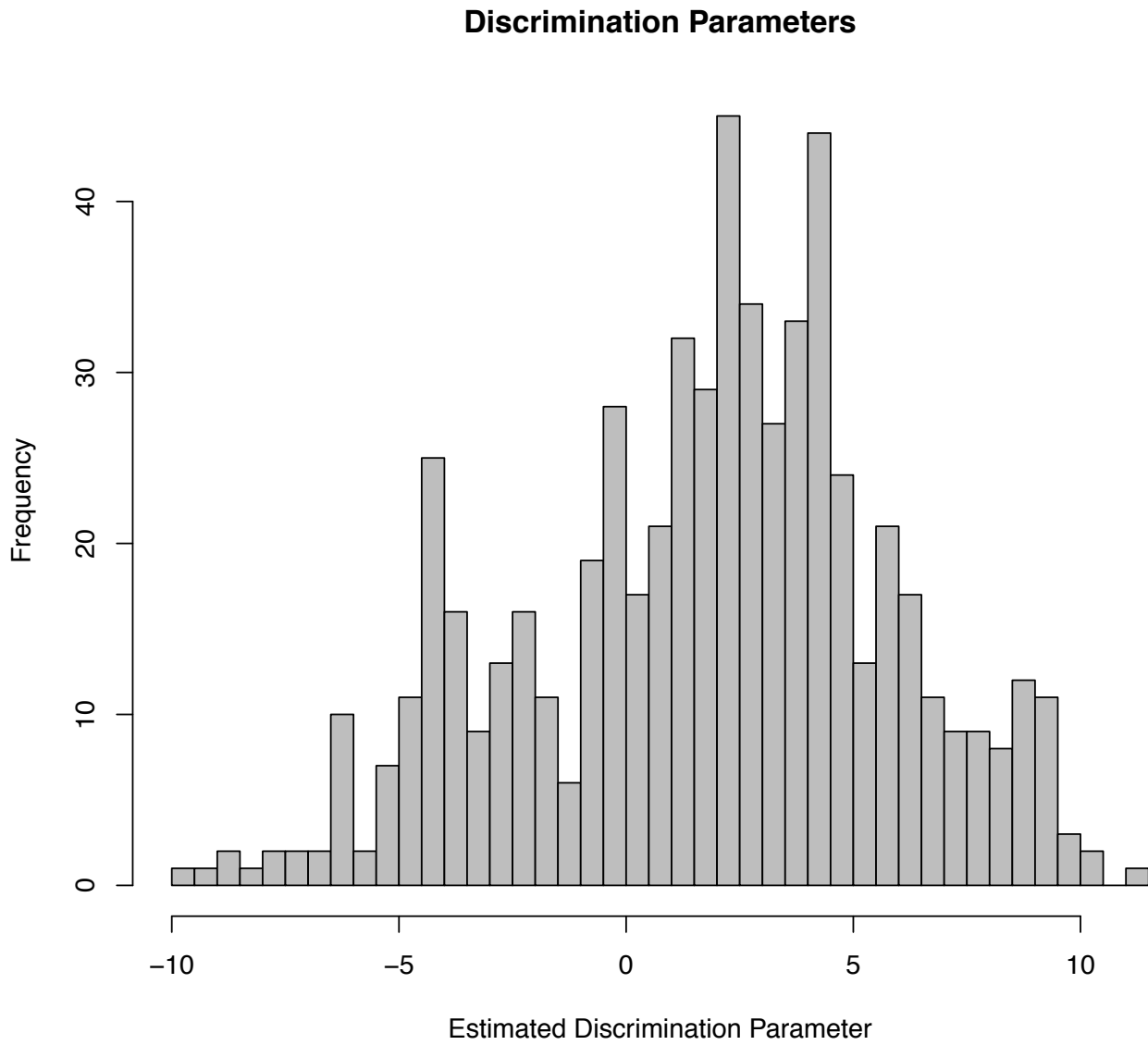


Figure A7: This figure shows the full distribution of discrimination parameters produced when estimating the first dimensional model.

5 List of Rights Provisions Used in Analysis

- Requirement of juries for criminal trials
- Citizen involvement in indicting process
- Regulation of collection of evidence
- Pre-trial release
- Habeus Corpus
- Capital punishment prohibited
- Corporal punishment prohibited
- Due Process
- Right to confront witnesses
- No ex post facto laws
- False imprisonment redress
- Fair trial guarantee
- Public trial guarantee
- Presumption of innocence
- Double jeopardy prohibition
- Right to counsel
- Detention of debtors forbidden
- Equality before the law
- No Property ownership restrictions
- No Women's rights restrictions
- No other groups rights restrictions
- Official religion prohibited
- Freedom of religion
- Expropriation protections
- Right to own property
- Provision for civil marriage
- Right to life
- Prohibition on slavery
- Prohibition on torture
- Prohibition on cruel treatment
- Right of privacy
- Freedom of movement
- Freedom of opinion
- Freedom of speech
- Prohibition on censorship
- Freedom of the press
- Freedom of assembly
- Freedom of association
- Conscientious objector to military service
- Right to bear arms

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