

The Incredible Shrinking State

EXPLAINING CHANGE IN THE TERRITORIAL SIZE OF COUNTRIES

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The effects of economies of scale in government, trade openness, preference heterogeneity, and regime type are used to explain why the average size of states within the international system nearly doubled between 1816 and 1876 and then contracted over the 20th century. No one variable appears to explain the trend fully. Results suggest that the rise in territorial size during the 19th century is the product of a growing number of federal democracies, which tend to be large, and that the decline in average size during the 20th century is the result of a growing number of unitary democracies, which tend to be small. Increasing economies of scale in the 19th century may have led to the rise of large federal democracies, whereas economic liberalism may have allowed unitary democracies to prosper in the 20th century.

Keywords: territory; democracy; globalization; conflict; disintegration

The average size of states within the international system steadily expanded during the 19th century and then contracted in the 20th. In 1816, the average state was 832,000 square kilometers. By 1876, the average state had more than doubled in size to nearly 1.9 million square kilometers. Today, the average state has shrunk once again to approximately 854,000 square kilometers. Moreover, the distribution of state size around this evolving mean has remained similar over time. The trend toward greater size in the 19th century and then smaller size in the 20th century was broadly based.

This secular rise and decline in state size has, we believe, gone unnoticed by scholars of international relations. It has certainly gone unexplained. This is unfortunate.

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State size is, we believe, an important variable that underlies many contemporary political debates. The world today is torn by competing trends toward disintegration, as individuals and groups reconstitute themselves into smaller, more localized, and often more ethnically homogeneous units; and integration, as states increasingly turn to supranational entities to cope with global problems (see Rosenau 1990; Friedman 2000). Demands for smaller political units may well lead to yet smaller states in the future. Conversely, it may be the declining size of contemporary states, on average, that is prompting calls for new supranational authorities to cope with problems of larger geographic scope. If we are to understand these dual trends toward fragmentation and integration, we must consider the changing size of states as well.

In a similar way, state size may be related to conflict patterns within the international system. Size is a primary determinant of a state's international power, setting the basic dynamics of who has to "balance" against whom and how this can be carried out. As average state size more than doubled over the 19th century, in turn, territorial aggrandizement was a frequent source of interstate conflict, and as average state size has declined in the 20th century, interstate wars have given way to internal and secessionist conflicts (Holsti 1991, 308-9). Understanding the factors that shape state size may also shed light on what drives conflict between peoples.

We document the trend in state size and test alternative hypotheses for the observed historical pattern. Our method is simple but nontraditional. Having identified an empirical puzzle, we turn to the small but important literature on state size, identify several prominent variables with testable implications, deduce the values the relevant independent variable must have taken to produce the trend in state size, examine the historical record, and finally draw preliminary conclusions on each variable's causal effect. In this way, we test the effects of economies of scale in government, trade openness, preference heterogeneity, and regime type. No one variable appears to explain the trend in state size fully. Our tentative conclusion is that the rise in state size during the 19th century is the product of a growing number of federal democracies, which tend to be large, and the decline in average size during the 20th century is produced by the growing number of unitary democracies, which tend to be small. This "uncaused cause," however, begs for further investigation. We speculate that increasing economies of scale in the 19th century led to the rise of large federal democracies, whereas economic liberalism allowed unitary democracies to prosper in the 20th century.

THE CHANGING SIZE OF STATES

We begin with a brief census of the modern states system, starting in 1815 at the end of the Napoleonic Wars and ending in 1998. The origins of the states system go back much further, of course, but we are constrained here by data availability. The data set we have constructed identifies all sovereign states during this period, applying an essentially juridical definition of sovereignty that focuses on recognition by other

states.¹ Territory is defined as home or national land mass, generally a contiguous area governed as a single political unit (thereby excluding colonial territories; for a description and sources for our territorial data, see the appendix).

Our system begins in 1815 with 35 states and grows to 46 states in 1890, 68 in 1930, and 154 in 1998 (see Table 1). There is, of course, a substantial amount of missing data here. There are currently 191 members of the United Nations, for instance, but we possess territorial data for their complete histories on only 80% of them.

Figure 1 shows the average size for all countries in the system by year. The period with the largest average size of states is between 1875 and World War I. From a peak in the period from 1876 to 1885 and a secondary peak in 1901, there is a steady decline in average state size. To smooth changes in this series, we fit a trend line to these data (created as a two-power polynomial function), which shows the same general pattern peaking around the turn of the 20th century. To establish whether the difference between initial average state size in 1815 and its peak is significant, we created two subsets: the first, comprising the years 1815 to 1866, captures the period of expansion in average state size; and the second, covering 1867 to 1913, represents average state size at its peak. A difference of means test indicates that these two subsets are significantly different from one another, suggesting that the trend evinced in Figure 1 is not simply illusory but rather a product of systemic change.² It is this steady rise and then decline in average state size that is the principal explanandum of this article.

Equally striking is that the distribution in state size around this evolving mean has not changed significantly over time. Using our data and essentially replicating an earlier finding by Russett (1968), Cederman (2003) finds that for each year in our sample,

1. We compiled the list of sovereign states from Arthur S. Bank's (1976) Cross National Times Series data set, the Correlates of War project (Singer and Small 1994), the Polity IV database (Marshall and Jaggers 2000), and Gleditsch and Ward (1999). Disagreements between "birth" and "death" dates for states were settled by reference to the *Statesman's Yearbook* (various years), which provides concise explanations for the historical events in question. We followed the coding decisions used in the above sources to determine whether mergers of states created new entities (e.g., Germany and Italy in the 19th century) or simply larger but continuing entities (e.g., the Federal Republic of Germany after reunification). In using a juridical notion of sovereignty, we thereby include some "semisovereign" states, such as Canada or Australia, that might otherwise be excluded; and some "divided" states, such as China in the early 20th century, that might be disaggregated. After inspecting the data, we do not find any systematic measurement errors that are likely to bias our results.

2. This relationship remains robust when the United States and Russia are excluded from the average. The following table reports the average state size means and 95% confidence intervals from each of the two time periods, both when the United States and Russia are included and when they are not.

| <i>Time Period</i> | <i>Mean</i> | <i>Lower Bound</i> | <i>Upper Bound</i> | <i>t Statistic</i> |
|------------------------------------|-------------|--------------------|--------------------|--------------------|
| Including United States and Russia | | | | |
| 1815-1866 | 1,088,874 | 1,036,513 | 1,141,234 | |
| 1867-1913 | 1,814,029 | 1,800,918 | 1,827,139 | 25.8 |
| Excluding United States and Russia | | | | |
| 1815-1866 | 909,703 | 881,480 | 937,926 | |
| 1867-1913 | 1,214,122 | 1,204,964 | 1,233,291 | 19.8 |

TABLE 1
Territorial Change in Existing States

| <i>Decade^a</i> | <i>States in System</i> | <i>Average State Size (in 100,000 Square Kilometers)</i> | <i>Absolute Change as Percentage of All Territory</i> | <i>Percentage of States with Territorial Changes</i> | <i>Territorial Changes</i> |
|---------------------------|-------------------------|--|---|--|----------------------------|
| 1815-1820 | 38 | 8.7 | 1 | 2 | 4 |
| 1821-1830 | 47 | 10.8 | 3 | 3 | 13 |
| 1831-1840 | 51 | 9.7 | 2 | 2 | 8 |
| 1841-1850 | 54 | 9.5 | 1 | 2 | 10 |
| 1851-1860 | 55 | 13.2 | 3 | 4 | 20 |
| 1861-1870 | 44 | 18.5 | 4 | 5 | 20 |
| 1871-1880 | 46 | 18.1 | 4 | 4 | 19 |
| 1881-1890 | 46 | 18.2 | 2 | 2 | 11 |
| 1891-1900 | 48 | 17.5 | 2 | 3 | 14 |
| 1901-1910 | 53 | 17.6 | 4 | 4 | 22 |
| 1921-1930 | 68 | 14.3 | 4 | 4 | 24 |
| 1931-1939 | 65 | 14.1 | 3 | 3 | 18 |
| 1951-1960 | 108 | 10.6 | 2 | 1 | 16 |
| 1961-1970 | 132 | 9.6 | 2 | 2 | 23 |
| 1971-1980 | 138 | 9.5 | 2 | 2 | 29 |
| 1981-1990 | 138 | 8.5 | 1 | 1 | 11 |
| 1991-1998 | 154 | 8.5 | 1 | 1 | 17 |

a. Except for 1815-1820, 1931-1939, and 1991-1998.

state size approximates a log-normal distribution.³ Using a different methodology, Cederman also replicates the trend in average state size in Figure 1. Neither Russett nor Cederman explains—or even speculates—why state size is consistently log-normally distributed, and neither do we. Descriptively, however, their results indicate that the distribution of states by size has not changed significantly over the period from 1815 to 1998, despite considerable change in the mean. This suggests that there was a single broadly based pattern of change in state size in the 19th and 20th centuries.

To understand better this trend in territorial size, we disaggregate the system into different types of states, examining whether this dynamic is driven by the entry of new states or by changes in existing states. We begin by comparing the entry of new states to the system average. In a system that grew from 35 to 154 states and in which territorial change in any individual country remains a relatively rare event, it would seem that state entry and exit might play an important role in determining average state size. There is no strong pattern in the number of states born in the 19th century, but the 20th century is characterized by three waves—one in Eastern Europe after World War I, a

3. Russett (1968) examines the distribution of state size, defined by population, between 1938 and 1967. Cederman (2003) analyzes territorial size in the period between 1815 and 1998. Cederman calculates that the mean absolute error (MAE) in the actual distribution of state size from a “pure” log-normal distribution is approximately .04 for the period from 1815 to 1945 and .03 from 1945 to 1998. The MAE estimates do not appear to correlate with average size. This remarkably robust log-normal distribution certainly deserves greater attention in the future.



Figure 1: Average State Size, 1815-1998

second in the former European empires after World War II, and a third with the breakup of the Soviet Union after 1991. The majority of states are created from peripheral or colonial territories (see below), not from the disintegration of existing states. Figure 2 depicts the average size of all states (same as Figure 1) and new states. Because state entry is a rare event, these data are averaged by decade rather than year. In the 19th century, the size of new states oscillated widely. Since World War I, however, new states have been consistently smaller than the average state.

Much of the volatility in average size reflects the small number of new states entering the system in each decade. To again smooth this series, we present a trend line (also created as a two-power polynomial function) that demonstrates that, on average, the size of new states has declined over time. This differs markedly from the trend for all states, suggesting that the pattern captured in Figure 1 is not driven by new state entry. Most important, the trend line suggests that the movement toward larger states in the 19th century cannot be explained simply by bigger states entering the system over time.

At the same time, average state size cannot be explained by state exit either. There are 29 state “deaths” in the data set (roughly 16% of the total number of states identified), challenging the common wisdom that states “never die” and that only weak selection mechanisms exist within the international system.⁴ State death is also epi-

4. There is some ambiguity in how to count cases here because some countries, such as Estonia, die and are then resurrected later. Nonetheless, 16% is a remarkably large number, given the prevailing view of international selection mechanisms. On state death, Fazal (2000) reports a nearly 30% rate of state elimination. Her figure is higher than ours because she identifies a set of states missing from the standard Correlates of War and Polity III data sets and she codes as deaths cases in which states were conquered during World War I and World War II (even though they were reborn in essentially the same form immediately after hostilities).

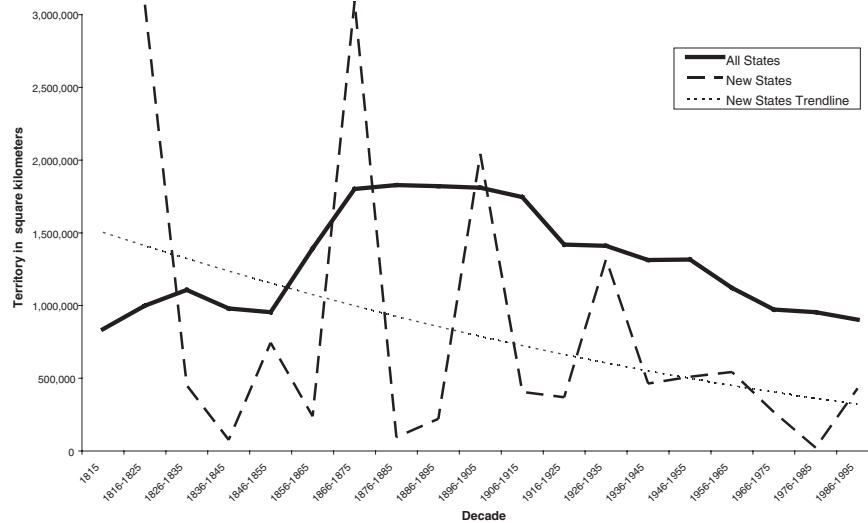


Figure 2: Average State Size versus Average New State Size by Decade, 1815-1995

sodic, with nearly half occurring in the context of German and Italian unification. Not surprisingly, expired states are always smaller than the average state in the system and the average new state (not shown), indicating that the selection mechanism, such as it is, works against the smaller members of the system.

Rather than reflecting changes in the composition of states in the international system, the rise and decline in average state size appears to be driven by changes in the territorial size of existing states. We now turn to two measures of territorial change in existing states. First, we examine the percentage of territory in the system that is affected by changes in the territorial size of existing states. Second, we look at the number of territorial changes as a percentage of the number of states in the system. These two measures are compared to the trend in average state size in Figure 3 and Table 1.

Our first measure is constructed as the absolute value of all territorial changes occurring in existing states as a percentage of average territorial size, by decade. As can be seen in Figure 3, the percentage of territory in the system that is in flux corresponds roughly to changes in average state size—the greatest percentage of territory changes hands when average state size is largest. This suggests that, unlike the effect of new states entering the system (as seen in Figure 2), changes in the territorial size of existing states appear to drive the trend in average territorial size.

This pattern is closely mirrored by our second measure, which captures the number of territorial changes as a percentage of states in the system annually (these two measures correlate at .91). Not only is more territory in flux during the peak period in average state size, but this territorial change cannot be explained simply by a small number



Figure 3: Territorial Change in Existing States

of large territorial exchanges. Rather, it is composed of many small territorial transactions involving many states.

Taken together, these two measures demonstrate three points. First, territorial borders are not immutable; there have been substantial changes in states' territorial possessions since 1815. Second, average state size appears to be driven by changes in the territorial holdings of existing states rather than by the birth and death of states. Finally, the degree to which territorial boundaries are in flux varies concomitantly with changes in average state size; more territory appears to be "in play" as average size increases.

Within these average trends, of course, there is considerable variation across cases and time. In general, there appear to be three patterns.

- Territorial expansion: The unification of the German states, centering on Prussia (Figure 4a) and the westward expansion of the United States (Figure 4b), parallel the upward trend in average state size in the 19th century.
- Territorial contraction: Turkey, with the demise of the Ottoman empire (Figure 4c), broadly mirrors the overall contraction of the 20th century. Although predating the average trend, the Netherlands, as shown in Figure 4d, also represents a case of territorial contraction, with territorial losses to Belgium in 1830 and 1839 and to Luxembourg in 1867.
- Territorial expansion and contraction: Representing a combination of both territorial expansion and contraction, Thailand (Figure 4e) closely tracks the overall pattern in average territorial size, expanding in 1867 with the acquisition of Cambodia from France and contracting again in 1909 with the loss of the Malay States to the United Kingdom. Colombia (Figure 4f) follows a similar pattern, expanding in the 1820s and 1830s as Spain gradually withdrew from the region and the strengthening of the central government allowed it to wrest territory from Ecuador (1832) and Peru (1934), and contracting

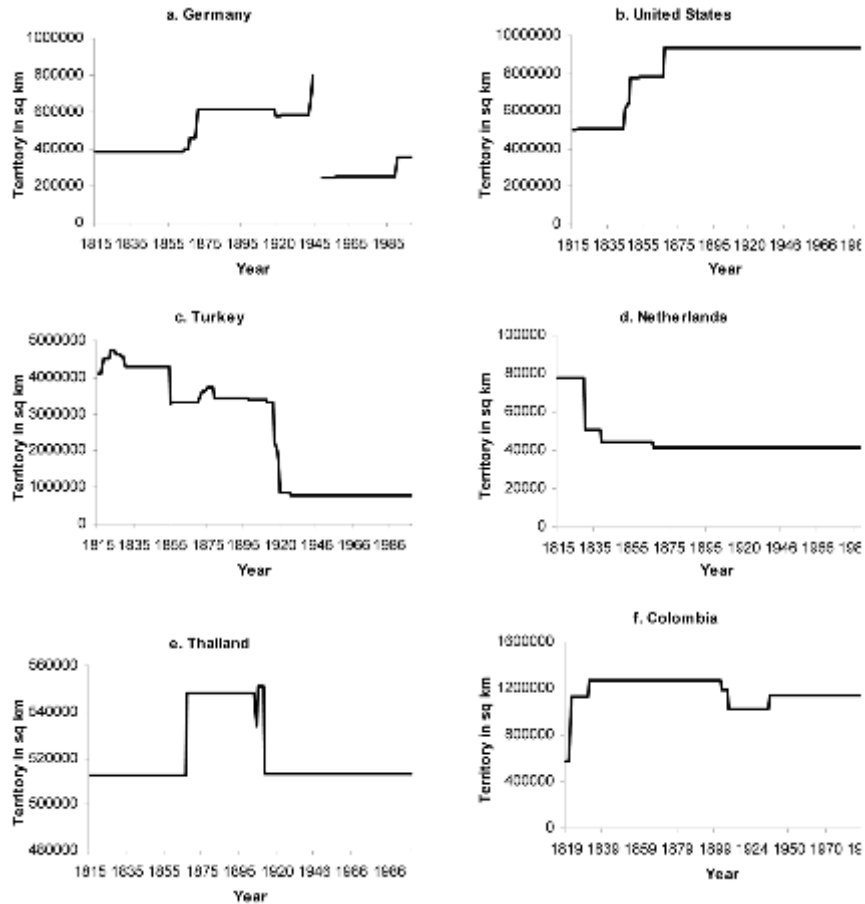


Figure 4: Territorial Change Trends by Country

in the early 1900s, first with Panamanian independence in 1903 and, then, the resolution of a long-standing border dispute with Brazil (1907).

Although colonial holdings by the various European powers are not included in the above analysis, it is striking that the period of greatest growth in average state size mirrors what is known about the colonial empires.⁵ Like states, the European empires grew steadily over the 19th century, more rapidly after midcentury, and reached a peak in the decades before World War I. Whatever forces were propelling the growth in average state size during this period may also have contributed to the growth of empires, although, given the differing political relationships within states and empires, a different cause might well have been driving the similar result. In turn, the

5. Figures on territorial size for the European empires are devilishly difficult to find in systematic form. We are currently compiling this data.

European empires began to disintegrate after World War II, increasing the number of states in the system and paralleling and, in part, driving the overall trend toward smaller average size.

The trend toward smaller states in the 20th century, however, is not simply an artifact of increasing numbers and a fixed landmass—although that itself would require some explanation. Rather, for most of the period covered here, we can reasonably treat the periphery as a nearly infinite source of potential states and potential additions to existing states. Because colonial territory is not included in the averages presented above, most new states in the 20th century are created from previously “uncounted” territory; they are net additions to the system, not simply a reconfiguration of existing states. Only after the 1960s, when nearly all the globe is composed of sovereign states, is a “fixed” territory necessarily being redistributed. Only for the last several decades, then, does number necessarily affect average size.

Nor is the decline in average state size an artifact of “fixed” colonial borders. Even if this were true, why colonies that became independent states later were systematically smaller than those that became independent earlier would remain an interesting question. But more important, despite the widespread myth that current borders were somehow “frozen” or predetermined by colonialism, there has actually been wide flexibility in setting the territories of newly independent states.⁶

- The 13 North American colonies that became the United States were governed separately under different charters and often different colonial governors, but they elected to federate at independence and again under the second Constitution in 1787.
- At the same time, their sister colonies in Canada remained in the British Empire, opting for independence only later and, despite entreaties and occasional threats from the south, for a separate state. Here again, however, the individual colonies, riven by cultural and linguistic differences, chose to federate rather than fracture into independent states.
- In this same period, federal experiments in Gran Colombia and the United Provinces of Central America were stillborn, quickly breaking down into separate states along the administrative boundaries previously created by the Spanish. Both cases were “near misses” that seriously considered federal structures, implying that the eventual creation of several sovereign states in each region was not preordained.
- Despite numerous attempts at federation, the states that became Argentina fought a civil war on -and off-again for nearly 50 years before they were finally subordinated to the centralized rule of Buenos Aires in 1863.
- The individual colonies of Australia tried to federate in 1891 but failed, achieving this goal only in a second attempt in 1901. New Zealand, part of the original compact, did not ratify the second constitution and chose instead to become an independent state.
- South Asia, led by Britain toward independence as a single state, fractured into India and Pakistan immediately on independence. The latter split again to create Bangladesh in 1971.
- In British East Africa, serious negotiations over a federal union between Uganda, Kenya, Tanganyika, and Zanzibar fell apart; the latter two states chose to combine into Tanzania soon after independence.
- As a final example, Cameroon, a German colony, was divided between Britain and France following World War I. French Cameroon became independent in 1960. British

6. On postcolonial federations and amalgamations, see Rector (2003).

Cameroon split, however, with part joining Nigeria in 1961 and the remainder joining the former French colony to form present-day Cameroon.

As these examples demonstrate, colonial borders were by no means immutable. If countries remain within the administrative boundaries set by their colonial overlords, it is at least in part because they *choose* to do so. Despite examples like Cameroon and Tanzania, the myth of fixed colonial borders is strongest for Africa (Jackson and Rosberg 1982; Herbst 2000). But if African borders were inherited from colonialism, we still need to explain why they were more rigid in this than other postcolonial settings. It is precisely the cumulative effect of these choices about state size that we try to explain.

EXPLAINING VARIATION IN AVERAGE STATE SIZE

State size is an enduring topic of political theory (reviewed in Dahl and Tufte 1973), and there have been several inquiries into the internal and external consequences of size (Katzenstein 1985; Keohane 1971). Only recently, however, has a small literature begun to emerge that seeks to explain state size. In this article, we do not develop new theory. Rather, we extend this nascent literature to see if and how it can help explain the puzzle we outlined above. Although the particulars of the models differ markedly, collectively they generate a core set of comparative static predictions on economies of scale, international openness, preference heterogeneity, and regime type.⁷ Even though our inventory of potential propositions embedded in this growing literature is not exhaustive, these four variables are the most plausible candidate explanations and yield testable implications relevant to changes in average state size. We cannot exclude the possibility that other variables may ultimately prove more important than those we test here, but these four are, at least initially, the most promising.

ECONOMIES OF SCALE

Central to nearly all models of state size are economies of scale in producing public services (protection from invasion, infrastructure, public health and education, etc.), administering peoples and territories (largely tax collecting), or exercising the state's monopoly of the legitimate use of violence (repressing rebellion). Bean (1973) examines changes in the art of war and administration, positing that a contraction in the economies of scale of these activities led to the breakup of the Western Roman and Carolingian Empires and that a later expansion led to the reamalgamation of states in Western Europe after AD 1500. Dudley (1991) surveys a series of innovations in information processing and military control technologies and correlates these with increases and decreases in state size over an even longer period. In a similar way, Quester (1977) provides a short history of how changing economies of scale in warfare shaped state size from the ancient Greeks to the present (see also Wittman 1991,

7. Earlier versions of this article included tests of a transactions costs explanation, derived from Friedman (1977). We found little evidence to support this explanation and exclude it for reasons of space.

1998). More abstractly, economies of scale are basic building blocks in the models of Alesina and Spolaore (1997, 2003), Lake (1992), and Hiscox and Lake (2002).

The primary prediction here is that when economies of scale are large, states will, on average, be large as well. When economies of scale exist, it becomes progressively cheaper per unit of territory to produce services, collect revenue, or exert force. This can either reduce the tax burden on members of society or increase returns to the ruler. In this way, average costs decline over distance. As the authors just cited suggest, technological innovations can cause economies of scale to increase or decrease, expanding or reducing the optimal size of states, respectively.

Evidence. To explain the observed trend in average state size described above, it must be that economies of scale are government services expanded in the 19th and then contracted in the 20th centuries. Economies of scale are hard to measure directly. Even in the case of the European Union, where the principle of subsidiarity mandates that public services be produced at the scale and level of government that can do so most efficiently, no clear estimates of scale economies exist. Operationalization is complicated, moreover, by variations in scale across different government activities. Fire protection, with few economies of scale, is typically provided locally. Protection from invasion, with larger economies of scale, is normally provided by the central government or, in recent decades, by coalitions of states (Lake 1999). Most studies that trace the effects of economies of scale over time are largely anecdotal, and subsidiarity remains a normative standard rather than a practical guide to locating policy.

As a rough proxy for economies of scale, we examine long-distance transportation and communication costs. Transportation and communication are central to the “reach” of the state. Even when representatives of the center are responsible for local administration, they must get their orders from the center, submit tax receipts, and be monitored periodically by their superiors. The central government must also be able to deploy troops to enforce its writ. In this, local constabularies are typically augmented by heavier forces deployed by the center. The costs of relaying information to and from the center and getting troops to trouble spots set the outer bounds of the state.

We compile an index of oceanic shipping costs to capture the relative difficulty involved in transporting material over distance (see the appendix for definitions and sources for all indicators). Although the subindices from which this single index is derived are heavily weighted toward Europe, we nonetheless take our combined index as a proxy for the “systemic” costs of transport that are potentially available to all states. As illustrated in Figure 5, shipping costs declined dramatically in the 19th century. Between 1815 and the prewar low in 1908, the index fell by more than 75%. Freight costs skyrocketed during World War I, increasing eightfold within a decade. Even after the war, rates remained approximately 50% higher than their prewar lows. Unfortunately, this series ends in 1936. Anecdotally, however, we know the trend continues. Hufbauer (1991) reports that in 1930 and 1940, average ocean freight and port charges per short ton of import and export cargo were approximately \$60 (constant 1990 US\$). By 1960, these charges had fallen to approximately \$27 per ton, and they have remained relatively constant thereafter. If we take Hufbauer’s estimate for the 1930s to be roughly equivalent to our index, this implies that, by the 1960s, shipping

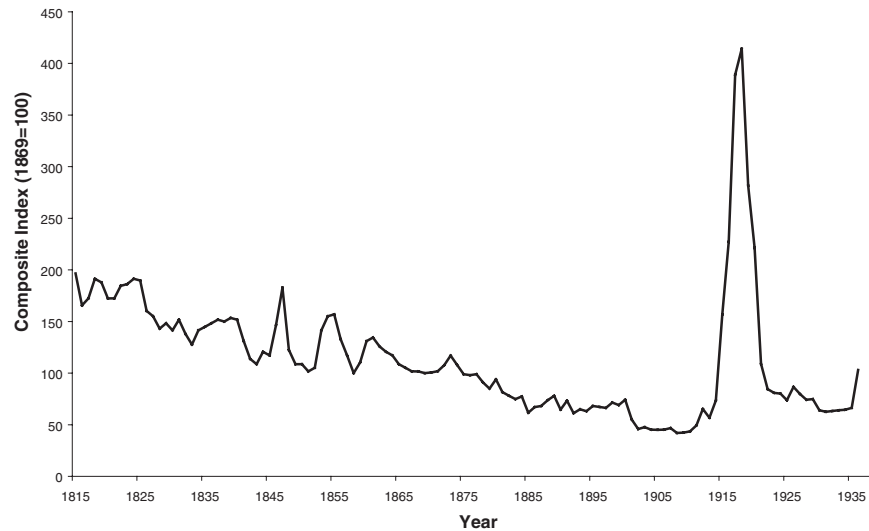


Figure 5: Oceanic Shipping Costs, 1815-1936

costs had returned in real terms to only about their pre-World War I lows. This seems unlikely to us, because containerization, implemented in the 1960s, is widely believed to have led to a dramatic fall in oceanic shipping costs. Nonetheless, the evidence suggests that the greatest decline in shipping costs occurred in the course of the 19th century.

Later, shipping is augmented by other forms of transportation, including air freight and passenger travel (Hufbauer 1991). These costs more clearly declined over the 20th century. Air transport revenue fell from approximately \$0.68 per passenger mile in 1930 to \$0.10 in 1980 (constant 1990 US\$), an 85% decline in 50 years. Similarly, the cost of a transatlantic telephone call (three minutes, New York to London) declined from \$244.65 in 1930 to just \$3.32 in 1990 (constant 1990 US\$), a decline of nearly 99% in just 60 years.

By whatever measure is used, the costs of transportation and communications have fallen sharply and significantly over time. This suggests that increasing economies of scale in producing public goods and collecting government revenue have increased fairly steadily since the early 19th century. This would imply that, all else considered, states should have grown in average size. As we have seen, however, this is true only for the 19th century. Economies of scale probably do influence state size, but they are clearly not the only factor at work.

INTERNATIONAL ECONOMIC OPENNESS

A second key variable in theories of state size is international economic openness. The primary intuition here is that large national markets—in other words, larger

states—and an open international economy are substitutes for each other (see Alesina and Spolaore 1997, 2003; Bolton and Roland 1997). Economic gains from specialization can be achieved by trading with either a large and diverse set of domestic producers and consumers or a large and diverse set of foreign producers and consumers. In a world of autarky, large states will prosper relative to small states because of their more extensive internal divisions of labor. Citizens in small states will benefit from amalgamating with their neighbors to achieve gains from exchange that would be otherwise unobtainable. Conversely, in a world of free trade and factor movements, neither large nor small states will have an inherent advantage, and because there are other policy costs to being large (see discussion of preference heterogeneity below), citizens will prefer to form smaller states. In short, this variable predicts a trend toward larger states on average in a world of economic closure and protectionism and a tendency toward smaller states in a world of economic openness and free trade.

Evidence. To explain the observed trend in average state size, the international economy must have become more closed to trade over the 19th century and more open to trade over the 20th century. Measures of economic openness and interdependence, readily available, can be used to assess this hypothesis. Here, we use imports plus exports relative to gross domestic product (GDP) as a measure of “trade openness” (see the appendix for all variables). More difficult is determining the direction of causality. Even in models in which state size is not endogenous, small states are expected to be more open to trade and factor flows. Because our concern is with the average size of states, we abstract from this “chicken-and-egg” problem and examine the overall openness of the international economy and changes in state size over time.

Figure 6 depicts the trade openness of Europe and North America since 1820. We focus on Europe and North America because we have the best data for these regions and they represent the primary markets not only for each other but also for the rest of the world throughout the entire period we examine. The trend observed here is consistent with that found by many others but is difficult to reconcile with the observed trend in average territorial size.

The international economy became more open throughout the 19th century, with a rapid expansion of trade in the decades before World War I—the first era of “globalization” (O'Rourke and Williamson 1999).⁸ After the Great War, trade flows fell precipitously, and state policy became even more protectionist, especially in the 1930s. Trade began to recover only after World War II, due to liberalization under the General Agreement on Tariffs and Trade and declining transport costs. Starting in the 1970s, as

8. This measure of trade openness is partially at odds with trade policies undertaken by states in Europe and North America during this period. As is well known, after a brief flowering of free trade policies in midcentury, most continental countries returned to protection in the 1880s and 1890s. The United States was relatively protectionist from the end of the Civil War until the eve of World War I. Yet, trade increased relative to gross domestic product (GDP) throughout this period. We speculate that this increase in trade is a product of rapidly declining costs of international transport, manifested in the oceanic shipping costs discussed above. Although policy became more protectionist, transport costs fell and offset much if not all of the rise in tariff barriers.



Figure 6: Trade Openness by Decade, 1820-1990

Figure 6 shows, trade flows accelerated rapidly relative to overall GDP, ushering in the second era of globalization.⁹

In the 19th century and interwar periods, the relationship between trade openness and average state size is exactly the opposite of what theory predicts. As trade expanded in the 19th century, states grew larger, not smaller as expected. In the interwar period, as trade collapsed, states started to become smaller, not larger. Only after 1945 does increasing openness appear to produce the anticipated result, namely, progressively smaller states. When combined with questions about the direction of causality, it would appear that trade openness does not exert a strong effect on the average size of states. At best, trade produces its anticipated impact only in the post-World War II period.

PREFERENCE HETEROGENEITY

If economies of scale and larger internal markets are the benefits of bigger states, greater preference heterogeneity is typically modeled as the cost of greater size. As states get larger, all else equal, they possess more individuals with more diverse political preferences over public policy. Because government policy usually applies equally to all individuals, greater numbers suffer from policies further from their unique bundles of policy preferences (ideal points). Greater preference heterogeneity is a primary constraint on state size.

In the most developed version of this argument, Alesina and Spolaore (1997, 2003) assume that ideology (a composite of an individual's policy preferences, represented

9. The dip in trade seen after 1990 is almost exclusively in North America, especially in the smaller states of Central America.

as an ideal point along a single dimension) and geography are positively correlated. Practically, this assumption implies that an individual's policy preferences are more closely aligned with her neighbors, less closely aligned with her neighbors once removed, even less closely aligned with her neighbors twice removed, and so on. In responding to the preferences of its citizens, a government selects as its policy the ideal point of its median citizen, perfectly satisfying her preferences, satisfying less well the preferences of her neighbors once removed, and onwards. The further an individual lies along the dimension of ideology/geography from the median voter, the less satisfied she is with the government's chosen policy. On this dimension alone, the best government would have a mass of 1—with each individual living within a separate state composed only of herself. The “optimal” size of the state balances the gains from economies of scale or larger markets against less preferred government policies, both of which increase with state size. This implies that as economies of scale or the benefits of a national market contract, individuals at the periphery of the state, who benefit comparatively less from policies at the center or median, will opt to secede and form a new state.¹⁰

Evidence. If preference heterogeneity is to explain the trend in average state size identified above, it should have declined in the 19th century, allowing states to expand at lower cost, and increased in the 20th century, prompting smaller states to form with policies closer to the ideal points of their citizens. Preference heterogeneity is difficult to measure directly. Indeed, short of detailed opinion polling, it is not directly observable. Simple intuition, however, points to two potentially countervailing trends in the contemporary world. On one hand, as the role of the government in the economy and society has expanded, more policies affect more individuals. Even if latent preferences have remained unchanged over time, more and more policy preferences are now activated and brought into play politically. This suggests that “effective” preference heterogeneity may have increased over the 20th century. On the other hand, economic interdependence, falling transportation and communications costs, and increasing flows of goods and people around the globe may have led to a homogenization of preferences, especially in the waning years of the 20th century. This is certainly the view held by critics of globalization, who bemoan the growth of multinational corporations selling similar products and services and crowding out local producers and cultures—exemplified by the ubiquitous McDonald's hamburger. It is also the view espoused by the “end of history” proponents (Fukuyama 1992), who see a political consensus emerging after the cold war in favor of free markets, democracy, and human rights. This

10. A second and more specific type of preference heterogeneity follows from intraregional and interregional income differentials. Bolton and Roland (1997) present a model in which two regions have identical per capita income levels but different distributions, with region B more skewed than region A. Region A would prefer a less redistributive policy in its area; region B would prefer a more redistributive policy. If the benefits of national integration are not too great, both regions may prefer independence so as to enact their preferred redistributive schemes. Gourevitch (1979) focuses on interregional income differentials, explaining why poorer regions are often not politically mobilized and richer regions—eager to escape claims on wealth exerted by those poor regions that are mobilized—are often more separatist. In a large-*n* study based on European regions, Fearon and Van Houten (1998) find some support for Gourevitch's prediction. Lacking good data on intraregional and interregional income distribution, and having no strong priors on how income distribution has changed over time, we do not examine this line of argument.

implies that preference heterogeneity has declined over the 20th century. The net effect of these countervailing trends is ambiguous, but it seems relatively implausible that preferences became sufficiently homogeneous in the 19th century to account for the expansion in average state size and then sufficiently heterogeneous in the 20th century to explain the contraction.

Beyond this impressionistic assessment, one possible measure that may capture the bundles of different preferences for government services and policies desired by social groups is ethnolinguistic fractionalization (ELF), which measures the ethnic heterogeneity of a country (see the appendix). Ethnicity may not always be the primary vehicle for expressing political demands by groups, but it is often an important one. Indeed, this is the measure that Alesina, Baqir, and Easterly (1999) use in a widely cited work that tests for in-group preferences for educational spending in cities in the United States.

Unfortunately, cross-national data on ELF are available for only 1961 and 1985.¹¹ We cannot, therefore, systematically track trends in this proxy variable over time. Nonetheless, we can pursue a cross-sectional analysis of ELF. All of the theories of state size examined here are based on comparative statics; that is, each identifies variables that, when combined, yield predictions about “optimal” outcomes in equilibrium. Tests are then conducted by varying one covariate and observing the change, if any, in the outcome variable—in our case, average state size. In a longitudinal analysis, as above, we assume that the system is tending toward equilibrium (following an equilibrium “path”), given changes in the covariates. If the covariates are stable and do not change, we would expect average state size to “settle down” and become stable as well, as appears to have happened in the closing decades of the 19th century. It is unlikely, of course, that in any given year the system will be fully in equilibrium. Given the “sticky” nature of national borders, we do not expect state size to respond immediately to changes in the environment. Nonetheless, it is still appropriate to conduct cross-sectional tests of any comparative static argument. Any “out of equilibrium” cases will simply produce larger standard errors and make it less likely that we will find any statistically significant results (biasing us toward a type II error). Recognizing this, we should be cautious in rejecting the importance of ELF even if it appears that the null hypothesis of no effect is true.

It follows from Alesina and Spolaore (1997, 2003) that greater preference heterogeneity, as captured by a higher ELF, should correlate with a smaller state size. This should be offset by economic closure. Even though a high degree of political diversity is costly, the benefits of a larger national market, in the absence of international openness or greater economies of scale, should offset the costs of greater heterogeneity. Citizens should, in equilibrium, accept a higher level of preference diversity in return for access to a larger national market or cheaper public goods. We test these expectations through a cross-sectional regression on territorial size, examining the effects of ELF and trade openness (both of which should be negatively signed) and controlling for GDP per capita (no priors on its sign), urban population, and population density

11. Ethnolinguistic fractionalization (ELF) for 1961 and 1985 correlate at .96. As a result we use only the 1985 data in the following results. For our analysis, this suggests that preference heterogeneity may be relatively constant.

TABLE 2
Effects of Preference Heterogeneity, Democracy, and Federalism on State
Size, 1985—Dependent Variable: Territory (100,000 Square Kilometers)

| | <i>Model 1</i> | | <i>Model 2</i> | | <i>Model 3</i> | |
|--|-----------------|----------|-----------------|----------|-----------------|----------|
| | <i>Estimate</i> | <i>t</i> | <i>Estimate</i> | <i>t</i> | <i>Estimate</i> | <i>t</i> |
| Ethnolinguistic fractionalization | -5.99 | 0.88 | | | | |
| Trade openness (natural log) | -10.01*** | 3.72 | -11.24*** | 3.80 | -10.21*** | 3.82 |
| Democracy | -0.51* | 2.03 | 0.15 | 0.57 | -0.50* | 2.01 |
| Federalism | 5.08 | 1.54 | | | 5.43 | 1.66 |
| Democracy × Federalism | 0.99* | 2.45 | | | 0.86* | 2.29 |
| GDP per capita (thousands of dollars) | 1.36** | 2.82 | 2.05*** | 4.00 | 1.36** | 2.82 |
| Population density (thousands of people per square kilometer) | -6.40 | 1.35 | -6.50 | 1.25 | -6.01 | 1.28 |
| Urban population as percentage of total population | 25.15* | 2.28 | 19.57 | 1.61 | 25.24* | 2.29 |
| North America | 17.84** | 3.10 | 21.40*** | 3.51 | 16.72** | 2.98 |
| South America | 11.24 | 1.68 | 16.17* | 2.34 | 9.43 | 1.48 |
| Africa | 14.66* | 2.29 | 16.41** | 2.86 | 11.52* | 2.17 |
| Middle East | 7.54 | 1.30 | 8.93 | 1.43 | 6.48 | 1.15 |
| Asia | 12.96 | 1.97 | 16.65* | 2.46 | 11.04 | 1.78 |
| Oceania | 12.84 | 1.36 | 25.66** | 2.63 | 11.34 | 1.22 |
| Constant | -17.24*** | 3.41 | -20.49*** | 3.79 | -18.33*** | 3.74 |
| <i>n</i> | 108 | | 108 | | 108 | |
| Adjusted <i>R</i> ² | .44 | | .31 | | .44 | |

* $p < .05$. ** $p < .01$. *** $p < .001$.

(proxies for the distribution of population within the country, with no priors on its sign) (see the appendix). We also control for democracy (which should be positively signed, because autocrats can more easily depart from social optimality), federalism (no independent effect), and the interaction between federalism and democracy (which should be positively signed), which will be explored in more detail in the following section. Finally, we employ regional dummies to capture any locally significant omitted variables. The results are reported in Table 2. In model 1, we find that although ELF carries the correct sign, it is not a statistically significant predictor of territorial size ($p = .381$). Contrary to expectations, greater preference heterogeneity does not appear to exert a strong downward pressure on state size. Trade openness, in turn, does appear to contribute to lower state size and is statistically significant, suggesting that open international markets may act as a good substitute for a large national market.

ELF is, at best, an indirect measure of preferences, and given the bias toward type II errors, we should be skeptical of these null results (although the coefficients are nowhere near standard levels of statistical significance). Nonetheless, these cross-sectional results offer little support for preference heterogeneity as a determinant of state size. Even if we cannot dismiss preference heterogeneity as an explanation of state size, it does not appear to be robustly supported by the available evidence.

POLITICAL REGIME TYPE

Forms of government have long been believed to interact with state size. In classical theory, noted above, democracy was expected to be most effective and durable in small polities. Plato even calculated the maximum size for a democracy as 5,040 heads of households, the limit of the number of individuals who could gather for debate in one place. Modern political theory is more ambiguous. Specifically, in justifying the large federation forming in North America, James Madison reversed this classical position, reasoning that democracy would be more (or equally) secure in a larger republic that encouraged cross-cutting political cleavages. Despite the absence of clear philosophical expectations, all models of state size predict that democracies will tend to be relatively smaller than autocracies.

Alesina and Spolaore (1997, 2003) predict that because individuals on the periphery of the state suffer the full costs of policies distant from their preferences, but do not internalize the full benefits of a larger national market and other economies of scale (see above), they will elect to form smaller states more aligned with their preferences than is socially desirable. Conversely, in a world of autocracies, they reason, states will tend to be "too large." Alesina and Spolaore do not directly test the relationship between regime type and size.

Hiscox and Lake (2002) start from different theoretical foundations and arrive at broadly similar but, nonetheless, distinct hypotheses. They assume homogeneous preferences, allow for cross-national variations in regime type, and permit federal bargains between units based on the principle of subsidiarity. The principal arguments of their model are that states are local monopolists in the provision of public goods, democracy is a constraint on the state's ability to extract monopoly rents, and autocrats possess an incentive to expand to capture additional monopoly rents. Like Alesina and Spolaore (1997, 2003), Hiscox and Lake predict that democracies will tend to be smaller than autocracies, and democracies may federate but autocracies will not. They also predict that federal democracies will tend to be large, limited only by the public good with the largest economies of scale. Their model does not make predictions about the relative size of autocracies and federal democracies, which is contingent on the ability of autocrats to extract rents relative to the economies of scale in producing public goods, both of which may change over time.

Evidence. These models offer suggestive predictions about changes in the average size of states. To be consistent with observed trends, it must be that states, on average, became more autocratic or federal and democratic in the 19th century and more democratic and unitary in the 20th century. This hypothesis receives surprisingly strong support.

We begin with a cross-sectional investigation of regime type and size, subject to the same caveats on such tests above. For this analysis, and following emerging convention, we use the combined democracy and autocracy scales in the Polity IV data set, creating a democracy variable that ranges from *least democratic* (0) to *most democratic* (20). We also use the Polity III centralization variable as an indicator of federalism. Even though we report results for only one cross-section, we have examined a

large number of years, and the results are highly robust across different cross-sections. In this set of tests, because we find support for the hypothesis and reject the null, any “out of equilibrium” observations will make it less likely for us to find statistically significant results; any problems in using individual cross-sectional tests are, thus, likely to cut against our findings.

Alesina and Spolaore (1997, 2003) predict only a negative relationship between democracy and size. Model 2 in Table 2 is one possible test of their hypothesis.¹² Although democracy is properly signed, it is not statistically significant in this specification. Hiscox and Lake (2002) predict that democracies will come in two sizes: small unitary democracies and large federal democracies. Model 3 in Table 2 tests this expectation and finds relatively strong support. In this model, democracy is negatively and significantly related to territorial size, as expected, and federal democracies (captured in the interaction term) are positively and significantly related to size. Thus, unitary democracies are significantly smaller than other states, and federal democracies are significantly larger. It is the failure to distinguish between these two types of democracies that leads model 2 to disconfirm Alesina and Spolaore's primary hypothesis on regime type.

These cross-sectional results are suggestive, but they do not necessarily explain the change in state size over time. Although democracy, federalism, and state size correlate in cross-sectional analyses, size may determine political regime type rather than vice versa. Unfortunately, at the level of individual states, both territorial size and regime type are nonstationary, precluding a time series analysis or Granger causality test. As a result, even though we cannot resolve the question of the direction of causality here, the theories reviewed in this section all posit that regime type drives state size, lending some analytical backing to the results.

Looking at changes in average state size and the proportion of states in the system of a particular regime type can, however, shed some additional light on the relationship. For this analysis, we distinguish between democracies (≥ 16 on the combined Polity measure), autocracies (≤ 4), and anocracies (5 to 15). Countries that are scored 1 on the Polity III centralization variable are coded as unitary, and those that scored 3 are coded as federal (see the appendix). As Figure 7a shows, there is no strong correlation between the percentage of democracies in the system and the average size of states. The proportion of the system that was democratic grew steadily over the 19th century, implying that average size should decline, but it rose; fell after World War I to the 1970s, implying that average size should have increased, but it fell; and climbed again after the mid-1970s, suggesting again that average size should have declined, which it did, but not sharply. Only the last period is consistent with expectations. Tracking the proportion of the system that was autocratic produces an inversion of this pattern, but with the same anomalies. The simple relationship posited between democracy and size does not seem to explain changes in the average size of states over time.

But if we disaggregate between unitary and federal democracies, a much clearer picture emerges. Figure 7b shows that the proportion of states that were federal and democratic grew in the 19th century, reaching a plateau in the 1870s, about the time

12. The control variables included in model 2 mirror those included in model 1.

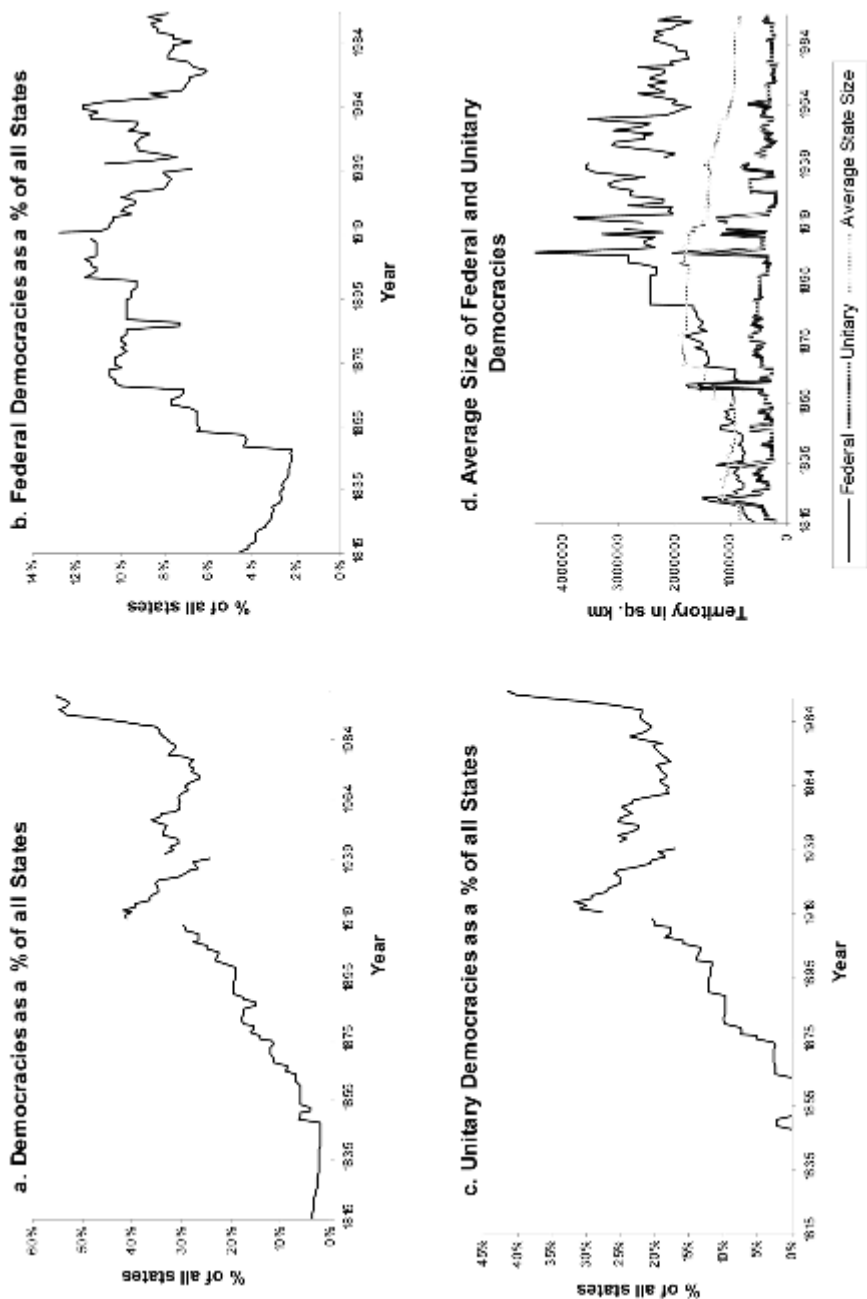


Figure 7: Democracies, 1815-1993

that the average size of states also reached its peak. Figure 7c shows how unitary democracies began to multiply rapidly only in the late 19th century, dropped after World War I, and then began to grow again in the 1960s and exploded in the 1980s. Finally, Figure 7d shows that federal democracies are throughout the period substantially larger than unitary democracies.

Combined, these three figures allow us to conclude that, although there is no apparent relationship between democracy in general and the average size of states, the growth in average state size during the 19th century was associated with a growing number of large democratic federal states entering the system, including Canada in 1867 (coded as democratic only after 1888) and Australia in 1901, as well as continuing territorial expansion in the United States. After 1870 or so, however, few new federal democracies arose, halting the growth in the average size of states. Instead, the new democracies that subsequently formed were unitary and, in turn, substantially smaller in size than either federal democracies or autocracies, pulling down the average size of states in the system as a whole. This is the best explanation, so far, for the trend in average state size that we observe between 1815 and the present.

CONCLUSION

Of our four candidate explanations, none provides a wholly accurate and satisfying explanation of the rise and then decline in average state size.

- Economies of scale increase over the 19th century with state size but continue to expand in the 20th century even though states, on average, do not.
- Trade openness, which should produce smaller states, has the expected effect only for the latter half of the 20th century.
- Preference heterogeneity, which should produce smaller states, does not appear to have a statistically significant effect on state size.
- Political regime type, appropriately disaggregated into federal and unitary democracies, offers the best “fit” with trends in average state size. Federal democracies are larger and increased as a proportion of all states in the 19th century, pulling the average size of states up; unitary democracies tend to be smaller and proliferated in the 20th century, pulling the average down.

Our conclusions are limited by the bivariate research design we employ throughout most of this study. Given the disparate nature of the data available, we cannot easily control the effects of other independent variables while examining the independent influence of any particular cause. That the apparent correlation between a variable and trends in average state size is weak does not necessarily imply that an appropriate multivariate research design would reach the same conclusion or vice versa.

Although political regime type offers the “best” proximate explanation for average state size, we recognize that—for political scientists, at least—it is not satisfying to treat this variable as entirely exogenous. Rather, we want to know why federal democracies formed far more frequently in the 19th than the 20th century, what conditions favored this institutional form then but not in the more recently de-colonized regions,

and why unitary democracies proliferated in the 20th century. Such questions are beyond the scope of this study. Nonetheless, we speculate, largely on the basis of theory and the trends discussed above, that federal democracies arose, in part, to capture the growing economies of scale in the 19th century. In turn, although economies of scale continued to expand, their effects may have been offset by economic liberalization in the 20th century, a process that permitted smaller, more unitary democracies to prosper.

The relationship between our several independent variables remains poorly explored, and these closing remarks are only suggestive. We nonetheless hope to have posed an interesting puzzle, “cleared the brush” to reveal more and less promising lines of inquiry, and offered a tentative answer for the incredible rise and decline in average state size in modern history.

APPENDIX

Data

Democracy: An index of democracy derived from the Polity IV data set (Marshall and Jaggers 2000). The Polity IV data set includes eight factors, ranging from the degree of competitiveness of political participation to the degree of constraints on the chief executive, which are used to derive two weighted summary indicators, AUTO and DEMOC. We adopt the growing convention of combining the two scales into a single index, DEMOC-AUTO, which runs from 0 to 20, with 20 being *most* democratic. Data available at <http://www.cidcm.umd.edu/inscr/polity/>.

Ethnolinguistic fractionalization: An index of linguistic heterogeneity by country. Philip G. Roeder (2004). Data available at <http://weber.ucsd.edu/~proeder/elf.htm>.

Federalism: An index of centralization included in the Polity III data set (Jaggers and Gurr 1996), coded 1 for centralized governments that have no more than moderate decision-making authority vested in local or regional governments, 2 for moderate centralization, and 3 for decentralized governments in which local and/or regional governments have substantial decision-making authority. Data available at <ftp://isere.colorado.edu/pub/datasets/polity3/politymay96.data>.

GDP per capita: Gross domestic product per capita in constant 1995 dollars. World Bank (2001).

Oceanic shipping costs: A composite index is composed of three subindices, all converted to a base of 1869 = 100:

1. Harley (1988, 873-75), a price series based on freight factors to London from, variously, the Baltic, Black Sea, east coast of North America, South America, and Australia.
2. Mitchell (1962, 224), an index of tramp (i.e., unscheduled) shipping rates.
3. *Statistical Abstract of the United States* (U.S. Department of Commerce n.d.), a price series of freight rates on grain from Chicago to Liverpool via rail to seaboard and then by ship.

The composite index is a simple average of the three subindices available for any year. Constructed by authors.

Population density: Total population divided by territorial size. World Bank (2001).

Territorial size: Territorial size in kilometers. Territorial data in Banks (1976) and apparently used in the Correlates of War (Singer and Small 1994) and Polity IV (Marshall and Jaggers

2000) data sets do not capture all known territorial changes. We rebuilt the territorial data from scratch, using Banks and current World Bank (2001) territorial estimates as our starting point. We reconciled these two territorial size estimates using Goertz and Diehl's (1992) territorial change data set to highlight the timing and magnitude of territorial changes, relying upon the *Statesman's Yearbook* (various years) to confirm and elaborate on each entry in the Goertz and Diehl data set.

Trade openness: Imports plus exports, divided by gross domestic product. Mitchell (1998a, 1998b, 1998c).

Urban population: Urban population as a percentage of total population. World Bank (2001).

References

- Alesina, Alberto, Reza Baqir, and William Easterly. 1999. Public goods and ethnic divisions. *Quarterly Journal of Economics* 114 (4): 1243-84.
- Alesina, Alberto, and Enrico Spolaore. 1997. On the number and size of nations. *Quarterly Journal of Economics* 112:1027-56.
- . 2003. *The size of nations*. Cambridge, MA: MIT Press.
- Banks, Arthur S. 1976. *Cross-national time series, 1815-1973*. Ann Arbor, MI: Inter-University Consortium for Political and Social Research.
- Bean, Richard. 1973. War and the birth of the nation state. *Journal of Economic History* 33:203-21.
- Bolton, Patrick, and Gerard Roland. 1997. The breakup of nations: A political economy analysis. *Quarterly Journal of Economics* 112:1057-90.
- Cederman, Lars-Erik. 2003. Generating state-size distributions: A geopolitical model. Manuscript, Center for Comparative and International Studies, Zurich, Switzerland.
- Dahl, Robert A., and Edward R. Tufte. 1973. *Size and democracy*. Stanford, CA: Stanford University Press.
- Dudley, Leonard M. 1991. *The word and the sword: How techniques of information and violence have shaped our world*. Cambridge, MA: Blackwell.
- Fazal, Tanisha. 2000. Born to lose and doomed to survive: State death and survival in the international system. Presented at the annual meeting of the American Political Science Association, August 31 to September 3, in Washington, DC.
- Fearon, James, and Pieter Van Houten. 1998. The politicization of cultural and economic differences: A return to the theory of regional autonomy movements. Presented at the annual meetings of the American Political Science Association, September 2-5, in Boston.
- Friedman, David. 1977. A theory of the size and shape of nations. *Journal of Political Economy* 85 (1): 59-77.
- Friedman, Thomas L. 2000. *The Lexus and the olive tree*. New York: Random House.
- Fukuyama, Francis. 1992. *The end of history and the last man*. New York: Free Press.
- Gleditsch, Kristian S., and Michael D. Ward. 1999. Interstate system membership: A revised list of the independent states since 1816. *International Interactions* 25:393-413.
- Goertz, Gary, and Paul F. Diehl. 1992. *Territorial changes and international conflict*. New York: Routledge.
- Gourevitch, Peter Alexis. 1979. The reemergence of "peripheral nationalisms": Some comparative speculations on the spatial distribution of political leadership and economic growth. *Comparative Studies in Society and History* 21:303-22.
- Harley, C. Knick. 1988. Ocean freight rates and productivity, 1740-1913: The primacy of mechanical invention reaffirmed. *Journal of Economic History* 48:851-76.
- Herbst, Jeffrey. 2000. *States and power in Africa: Comparative lessons in authority and control*. Princeton, NJ: Princeton University Press.

- Hiscox, Michael J., and David A. Lake. 2002. Democracy, federalism and the size of states. Manuscript, University of California, San Diego.
- Holsti, Kalevi J. 1991. *Peace and war: Armed conflicts and international order 1648-1989*. New York: Cambridge University Press.
- Hufbauer, Gary. 1991. World economic integration: The long view. *International Economic Insights* 2 (3): 26-27.
- Jackson, Robert H., and Carl G. Rosberg. 1982. Why Africa's weak states persist: The empirical and the juridical in statehood. *World Politics* 35 (1): 1-24.
- Jagers, Keith, and Ted Robert Gurr. 1996. *POLITY III: Regime change and political authority, 1800-1994*. Ann Arbor, MI: Inter-University Consortium for Political and Social Research.
- Katzenstein, Peter J. 1985. *Small states in world markets: Industrial policy in Europe*. Ithaca, NY: Cornell University Press.
- Keohane, Robert O. 1971. The big influence of small allies. *Foreign Policy* 2:161-82.
- Lake, David A. 1992. Powerful pacifists: Democratic states and war. *American Political Science Review* 86 (1): 24-37.
- . 1999. *Entangling relations: American foreign policy in its century*. Princeton, NJ: Princeton University Press.
- Marshall, Monty G., and Keith Jagers. 2000. *Polity IV: Political regime characteristics and transitions, 1800-2002*. College Park: University of Maryland—College Park, Center for International Development and Conflict Management. <http://www.cidcm.umd.edu/inscr/polity/>.
- Mitchell, B. R. 1962. *Abstract of British historical statistics*. New York: Cambridge University Press.
- . 1998a. *International historical statistics: Africa, Asia and Oceania, 1750-1993*. London: MacMillan.
- . 1998b. *International historical statistics: Europe, 1750-1993*. London: MacMillan.
- . 1998c. *International historical statistics: The Americas, 1750-1993*. London: MacMillan.
- O'Rourke, Kevin H., and Jeffrey G. Williamson. 1999. *Globalization and history: The evolution of a nineteenth-century Atlantic economy*. Cambridge, MA: MIT Press.
- Quester, George H. 1977. *Offense and defense in the international system*. New York: John Wiley.
- Rector, Chad. 2003. Federations and international politics. Ph.D. diss., University of California, San Diego.
- Roeder, Philip G. 2004. Ethnolinguistic Fractionalization (ELF) Indices, 1961 and 1985. May. <http://weber.ucsd.edu/proeder/elf.htm>.
- Rosenau, James N. 1990. *Turbulence in world politics: A theory of change and continuity*. Princeton, NJ: Princeton University Press.
- Russett, Bruce M. 1968. Is there a long-run trend toward concentration in the international system? In *Economic theories of international politics*, ed. Bruce M. Russett. Chicago: Markham.
- Singer, J. David, and Melvin Small. 1994. Correlates of War Project: International and civil war data, 1816-1992. Ann Arbor, MI: Inter-University Consortium for Political and Social Research.
- The Statesman's Yearbook*. Various issues from 1866-2002. New York: St. Martin's.
- United States Department of Commerce, Bureau of the Census. n.d. *Statistical abstract of the United States*. Various issues. Washington, DC: Government Printing Office.
- Wittman, Donald. 1991. Nations and states: Mergers and acquisitions; dissolutions and divorce. *American Economic Review* 81 (2): 126-29.
- . 1998. The wealth and size of nations: An efficiency explanation. November. Manuscript, University of California, Santa Cruz.
- World Bank. 2001. *World development indicators*. CD-ROM. Washington, DC: World Bank.