State Freedom Indices and Legislative District Population Sizes

29-September-2009

1. INTRODUCTION

1.1. Purpose

Thirty-Thousand.org contends that, in a representative democracy, reducing the population size of legislative districts forces legislators to be more accountable to those they are elected to represent. All other things being equal, smaller electoral districts ensure that greater freedom will be enjoyed by the citizens. Conversely, as legislative districts grow larger, so does the tendency for the government to become increasingly authoritarian.

Though the relationship between district population size and freedom may not seem obvious, it is easy to understand by considering this thought experiment: imagine a continuum between two extremes of representation. On one end is a legislature comprised of *one representative for every 1,000 citizens*. At the other end of the spectrum is a government ruled by a *single elected official* (e.g., a governor). It is easy to imagine that the highly democratic government would afford more liberties to its citizens, whereas the oligarchic one is likely to be highly statist. In addition to being intuitively evident, it is possible to validate this relationship empirically. For example, several papers have shown that government spending *declines* as the number of representatives is increased.[1]

The purpose of this report is to illustrate the correlation between *smaller districts* and *increased freedom* using a simple analysis. The basis of this analysis is a set of rankings known as "freedom indices".

Freedom indices rank all the states (which comprise the U.S.) according to the degree of freedom permitted by each of their respective governments. Cited in this report are three different Freedom Index reports – each was produced by a different think tank (all of which are unaffiliated with *Thirty-Thousand.org*).

Each of those reports provides various freedom indices that focus on specific areas such as *regulatory policy*, *economic freedom* or *fiscal policy*. For each category, the states are evaluated relative to a variety of pertinent criteria in

[1] "Constituency Size and the Growth of Public Expenditures: The Case of the United Kingdom", George S. Ford, Mark Thornton, Marc Ulrich, Journal of Public Finance and Public Choice (PFPC) / Economia delle scelte pubbliche, Vol. XXIV; and,
"The Law of k/n: The Effect of Chamber Size on Government Spending in Bicameral Legislatures", Jowei Chen and Neil Malhotra; American Political Science Review, November 2007; and
"Constituency Size and Government Spending", Mark Thornton and Marc Ulrich, Finance Review, November 1999.

order to determine their respective freedom scores. In order to fully understand the criteria used, and how they were weighted, the reader should study each of those Freedom Index reports (links to which are provided within this report). As a general description, however, their evaluation criteria are fundamentally *libertarian* in nature[2]; that is, greater personal and economic freedom is attributed to reduced governmental restrictions and taxation.

Though the various freedom rankings rely upon somewhat different data sets and methodologies, their results are highly consistent with one another. For example, in each of the three report's overall rankings, *New Hampshire* is always included in the top ten (most free) states, and *California* is included in the bottom ten (least free) states. However, the various freedom index reports do *not* propose fundamental underlying causes that would explain the states' differing levels of freedom. Instead, the states' manifestations of freedom are simply treated as measureable phenomenon.

The analysis described in this Information Brief examines each of those freedom indices *relative to* the *population size* of the states' legislative (or electoral) districts. Because the size of legislative districts vary widely from *state to state* (in the U.S.), the fifty states provide an ideal laboratory for evaluating the correlation between *district population size* and *freedom*.

This simple analysis can be illustrated with an example: as stated above, "Live Free or Die" *New Hampshire* is always ranked as a high-freedom state while *California* is always listed near the bottom. With that in mind, consider those two states' average district sizes.[3] As of the 2000 Census, New Hampshire's total population was approximately *1.2 million*. Dividing that by the *400 representatives* in their lower house returns an average district size of *3,096*. In contrast, despite a total population of approximately *34 million*, California has only *80 representatives* in their lower house. Consequently, the average size of their lower house district is *424,135*. Even though California is *27* times larger than New Hampshire, their electoral district size is *137 times larger*!

The fact that high-freedom New Hampshire has very small electoral districts while low-freedom California has very large districts begs this question: is that a random occurrence or is it indicative of a broader underlying relationship? *This analysis confirms that there is, in fact, a correlation between smaller districts and greater freedom*. Moreover, *Thirty-Thousand.org* argues that this is a *causal relationship*.

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[2] In this context, "libertarian" refers to the concept of *classical liberalism* which emphasizes laissez-faire economics and strict constructionism (i.e., judicial restraint and fidelity to the originally-intended meaning of the Constitution and amendments thereto).

[3] As explained in the next section, a state's *average district size* is simply its total population divided by the number of Representatives in the lower house of their state legislature.

1.2. Population Size of State Legislative Districts

District population size is a function of two variables: the *total state population* and the *number of representatives*. Whereas the total population is not a controllable variable, *the number of representatives is set by each state legislature*. As a result, the citizens of some states have much greater representation than do the citizens of other states. For example, there are *seven* states which have exactly *100* representatives in their lower house. The total population of these states ranges from *905,316* (Montana) to *7,100,702* (Virginia). Though all of those states have the same *number* of representatives in their lower houses, the Montanans obviously enjoy much greater *representation* (relative to the number of citizens) than do the Virginians.

Every state except one (Nebraska) has a bicameral state legislature that is comprised of two chambers: a "lower house" and an "upper house". For each house chamber (lower or upper), the state is divided into single-member legislative (or electoral) districts. Pursuant to the constitutional principle of "One person, one vote", all the districts within each state must be equally-sized (or quite nearly so). Consequently, for each state, this district size can be determined by calculating the *average number of people per representative* (i.e., by dividing the state's total population by the number of representatives). The result is illustrated in Chart A (below) and shown in Table 1 (following page).

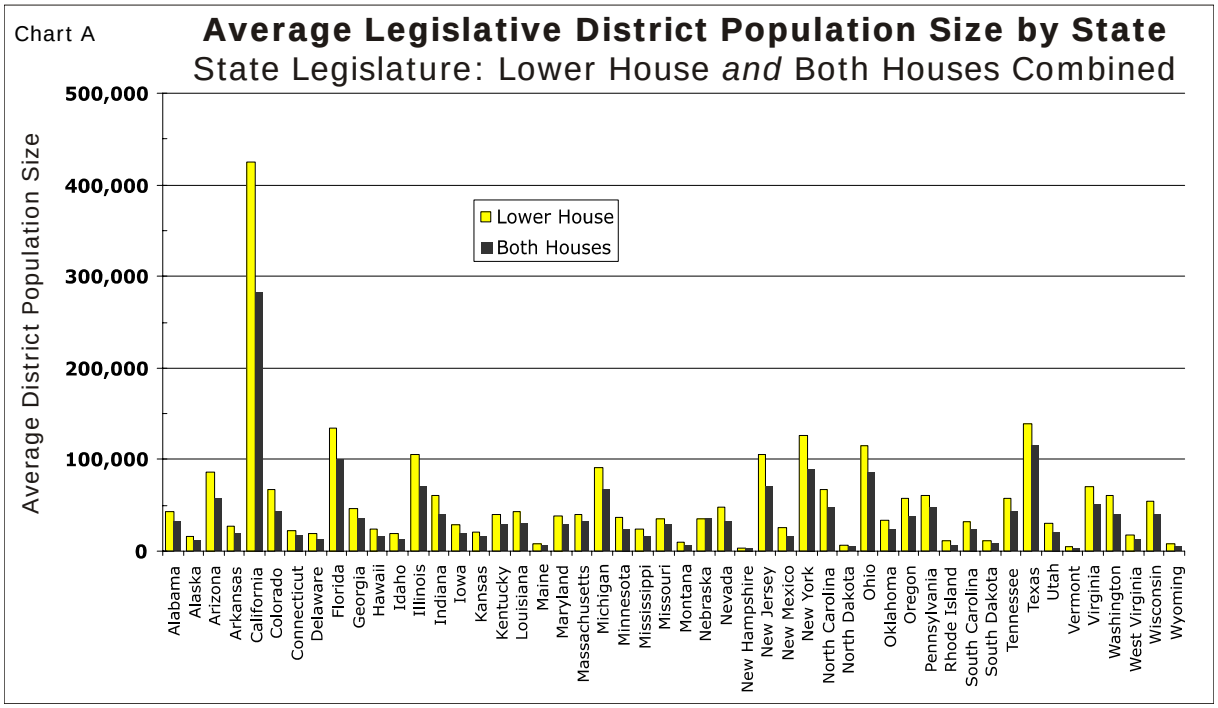

Table 1

State	Population	Lower House		Upper House	Both Houses	
Total:	281,424,177	Members	District Size		Total	Combined
Alabama	4,461,130	105	42,487	35	140	31,865
Alaska	628,933	40	15,723	20	60	10,482
Arizona	5,140,683	60	85,678	30	90	57,119
Arkansas	2,679,733	100	26,797	35	135	19,850
California	33,930,798	80	424,135	40	120	282,757
Colorado	4,311,882	65	66,337	35	100	43,119
Connecticut	3,409,535	151	22,580	36	187	18,233
Delaware	785,068	41	19,148	21	62	12,662
Florida	16,028,890	120	133,574	40	160	100,181
Georgia	8,206,975	180	45,594	56	236	34,775
Hawaii	1,216,642	51	23,856	25	76	16,008
Idaho	1,297,274	70	18,532	35	105	12,355
Illinois	12,439,042	118	105,416	59	177	70,277
Indiana	6,090,782	100	60,908	50	150	40,605
Iowa	2,931,923	100	29,319	50	150	19,546
Kansas	2,693,824	125	21,551	40	165	16,326
Kentucky	4,049,431	100	40,494	38	138	29,344
Louisiana	4,480,271	105	42,669	39	144	31,113
Maine	1,277,731	151	8,462	35	186	6,870
Maryland	5,307,886	141	37,645	47	188	28,233
Massachusetts	6,355,568	160	39,722	40	200	31,778
Michigan	9,955,829	110	90,508	38	148	67,269
Minnesota	4,925,670	134	36,759	67	201	24,506
Mississippi	2,852,927	122	23,385	52	174	16,396
Missouri	5,606,260	163	34,394	34	197	28,458
Montana	905,316	100	9,053	50	150	6,035
Nebraska	1,715,369	49	35,008	0	49	35,008
Nevada	2,002,032	42	47,667	21	63	31,778
New Hampshire	1,238,415	400	3,096	24	424	2,921
New Jersey	8,424,354	80	105,304	40	120	70,203
New Mexico	1,823,821	70	26,055	42	112	16,284
New York	19,004,973	150	126,700	62	212	89,646
North Carolina	8,067,673	120	67,231	50	170	47,457
North Dakota	643,756	98	6,569	47	145	4,440
Ohio	11,374,540	99	114,894	33	132	86,171
Oklahoma	3,458,819	101	34,246	48	149	23,214
Oregon	3,428,543	60	57,142	30	90	38,095
Pennsylvania	12,300,670	203	60,594	50	253	48,619
Rhode Island	1,049,662	100	10,497	50	150	6,998
South Carolina	4,025,061	124	32,460	46	170	23,677
South Dakota	756,874	70	10,812	35	105	7,208
Tennessee	5,700,037	99	57,576	33	132	43,182
Texas	20,903,994	150	139,360	31	181	115,492
Utah	2,236,714	75	29,823	29	104	21,507
Vermont	609,890	150	4,066	30	180	3,388
Virginia	7,100,702	100	71,007	40	140	50,719
Washington	5,908,684	98	60,293	49	147	40,195
West Virginia	1,813,077	100	18,131	34	134	13,530
Wisconsin	5,371,210	99	54,255	33	132	40,691
Wyoming	495,304	60	8,255	30	90	5,503

The population totals used in this report were provided by the 2000 Census.[4] For the sake of thoroughness this analysis uses two different, but related, representational ratios as follow:

- **Lower House District Size** is the state's total population *divided by* the number of representatives in the lower house.
- **Combined Representational Ratio** is the state's total population *divided by* the total number of representatives *from both houses* (lower and upper chambers combined). Unlike the lower house district size, this measure does *not* describe an actual electoral district.[5]

The average district size nationwide is *53,715* for the *lower house* and *38,442* for *both houses combined*.[6] For the lower house, the districts range from *3,096* (New Hampshire) to *424,135* (California). For every state, each of the chambers (lower and upper) has its own set of equal-sized legislative districts.

1.3. Methodology

As previously explained, the purpose of this analysis is to determine if states with smaller districts tend to foster greater freedom than those with larger districts. Using the various freedom indices cited herein, all fifty states are sorted by level of freedom *from most to least*. That list is then divided into tertiles (thirds) as follows:

- The *top tertile* is the 17 states with the highest freedom ratings. These are called the "high freedom" states for this report.
- The *bottom tertile* is the 17 states with the lowest freedom ratings. These are called the "low freedom" states for this report.
- The *middle tertile* is the group containing the remaining 16 states

The average district size is then calculated for each of the three groups. The average district size of the bottom tertile is then compared to that of the top.

For example, if the average district sizes of the bottom and top tertiles are *73,136* and *45,842*, respectively, then the least-free group of states has an average district size *60% larger* than the most-free group.

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[4] The population totals are from the 2000 population census (as provided by the U.S. Census Bureau). More specifically, the population data are the apportionment population totals that were used to calculate the *federal apportionment*. The apportionment population totals are slightly larger than the resident population totals as they include an estimate of residents living abroad. The total difference between the two data sets is approximately *0.20%* and is therefore statistically insignificant relative to this analysis. This distinction is noted here only to avoid any confusion among those familiar with the two types of apportionment data.

[5] A lower house is comprised of one set of equal-sized electoral districts and an upper house has its own set of equal-sized districts. Combining the two into a single representational ratio provides a secondary measure to complement the lower house district size.

[6] Those are the *simple averages*. The weighted averages are slightly different for the lower House (51,271) and both houses combined (37,912).

2. MERCATUS FREEDOM INDEX

2.1. Description

The first Freedom Index to be examined in this report is "*Freedom in the 50 States: An Index of Personal and Economic Freedom*". This report was produced in February of 2009 by Jason Sorens and William P. Ruger of the Mercatus Center at George Mason University.[7]

According to the report's description, this index was developed by examining state and local government intervention across a wide range of public policies ranging, for example, from income taxation to gun control, and from homeschooling regulation to drug policy. They weighted the policies according to the number of people affected, the intensity of preferences on the issue, and the importance of state policy variation.

The Mercatus Freedom Index ranks all the states relative to each of the five areas indicated below:

Index	Table	Description
Fiscal Policy Ranking	Table I	Takes into account a variety of spending and taxation issues (both policy and numerical data) in order to provide measures of the size of the government.
Regulatory Policy Ranking	Table II	Takes into account regulatory policies such as labor regulation, health insurance mandates, occupational licensing, eminent domain, the tort system, land & environmental regulation, and utilities.
Economic Freedom Ranking	Table III	Includes measures of social and personal freedoms, includes many variables on economic policies, and measurements of key variables such as state fiscal policies.
Personal Freedom Ranking	Table IV	Personal freedom criteria are driven by constitutional implications, and number of people affected. Takes into account marijuana & alcohol regulation & taxation, gun control, gaming laws, and other "paternalistic" concerns.
Overall Freedom Ranking	Table V	This is merely the summation of the *Economic Freedom* and *Personal Freedom* scores.

In their overall ranking, the top five states are New Hampshire, Colorado, South Dakota, Idaho, and Texas (in that order). The five states with the least amount of freedom are Maryland, California, Rhode Island, New Jersey, and New York.

The Mercatus report should be directly referenced for a fuller understanding of the results of their analysis and the methodologies used therein.

[7] The Mercatus "Freedom in the 50 States" report can be downloaded from this page: http://www.mercatus.org/PublicationDetails.aspx?id=26154

2.2. District Size Analysis

For each of their five freedom rankings, the methodology (described in Section 1.3) was applied. **Relative to the *lower house districts*, the average district size for each of the three groups is illustrated in Chart B below.**

Chart B

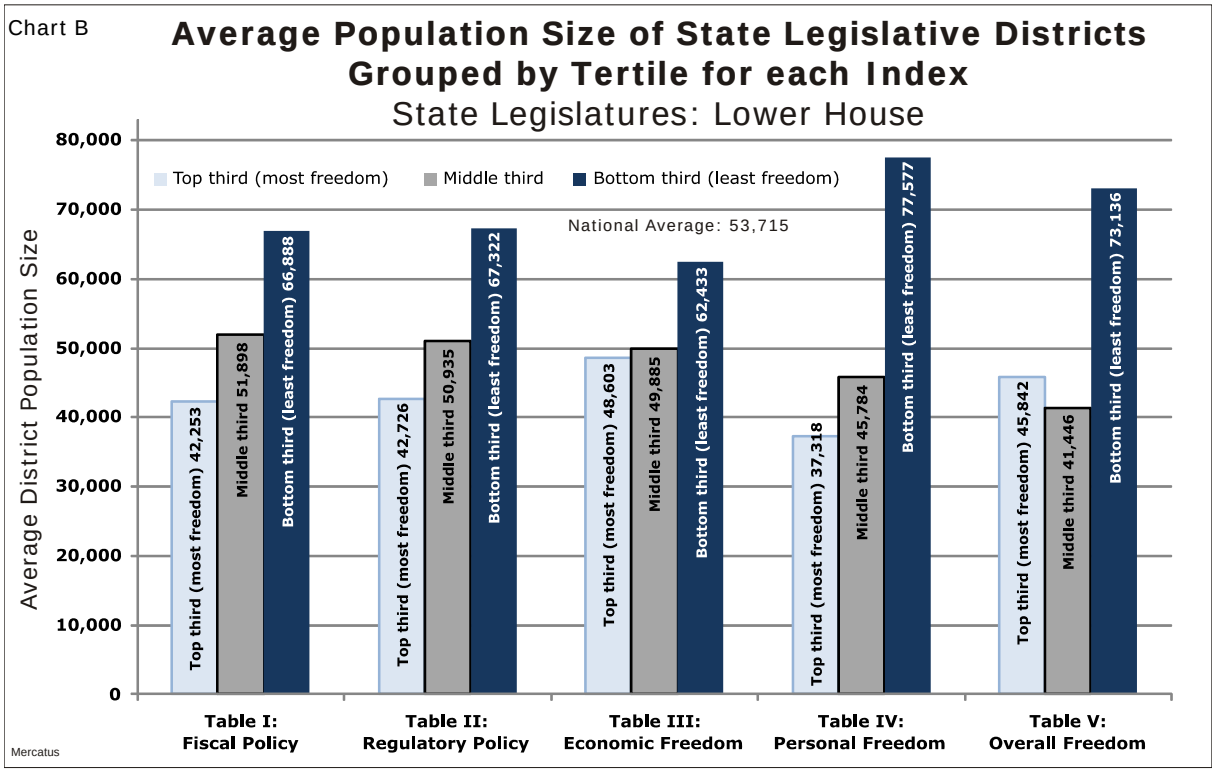
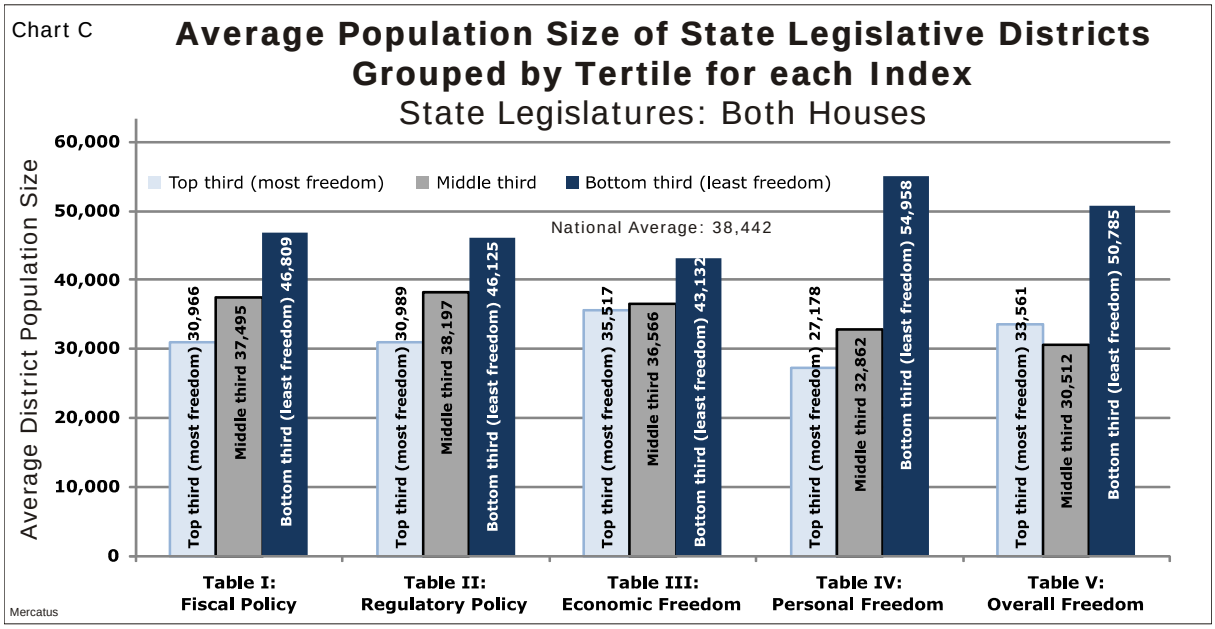


Chart C (below) repeats the analysis depicted above, except that it utilizes the average number of people per state legislator for *both houses combined*.

Chart C



As is apparent in the two preceding charts, the average district size of the low-freedom states (bottom tertile) is significantly larger than that of the high-freedom states (top tertile) *across all five rankings*. Note also that the results are similar for both sets of representational ratios (lower house and both houses combined).

For each of their freedom indices, the table below indicates how much larger bottom group's average district's size is than the top group's.

Table 2

	Bottom third % larger than top third	
	Lower House Only	Both Houses Combined
Table I: Fiscal Policy	58.3%	51.2%
Table II: Regulatory Policy	57.6%	48.8%
Table III: Economic Freedom	28.5%	21.4%
Table IV: Personal Freedom	107.9%	102.2%
Table V: Overall Freedom	59.5%	51.3%

The smallest disparity occurs relative to "Economic Freedom" wherein the average district size of the low-freedom states were less than 30% larger than those of the high-freedom states. The largest disparity is evinced by the "Personal Freedom" ranking wherein the low-freedom states' districts are more than *twice the size* of the high-freedom states.

3. PRI Freedom Index

3.1. Description

The next freedom index to be considered is the "*U.S. Economic Freedom Index: 2008 Report*". This was produced by the Pacific Research Institute (PRI) by Lawrence J. McQuillan, Michael T. Maloney, Eric Daniels, and Brent M. Eastwood.[8]

According to their description, the methodology used to develop this Freedom Index consists of four parts: 1) they gathered data on 143 indicators from each state from which they created five data sets; 2) these data sets were converted into 35 unique indices using different weighting techniques; 3) each index was compared to the others in terms of its ability to explain, other things equal, human migration across the 50 U.S. states; and 4) the index with the greatest statistical link to migration was chosen as the best and was used to rank the U.S. states in terms of economic freedom.

[8] The "U.S. Economic Freedom Index 2008 Report" (ISBN-13: 978-1-934276-10-5) is available from: http://special.pacificresearch.org/pub/sab/entrep/2008/Economic_Freedom/study.html

The PRI Freedom Index ranks all the states relative to each of the six areas indicated in the table below:

Index	Description
Welfare	Measures the involuntary transfer of private assets from one group to another.
Fiscal	The higher the tax rates and tax revenues, the more that government is violating economic freedom.
Regulatory	Measures the extent to which government regulation imposes restrictions on people's behavior in order to (ostensibly) maintain social order or promote the general welfare.
Judicial	Attempts to measure the extent to which frivolous lawsuits are pursued, with a focus on medical-liabilities.
Government Size	This is a measure of the state government enforcement machinery (people, capital, and money) used to enforce government infringements on economic freedom.
Economic Freedom	This is the overall score derived by a weighted consolidation of the five preceding sectors.

In their overall ranking, the top five states are South Dakota, Idaho, Colorado, Utah and Wyoming (in that order). The five states with the least amount of freedom are Pennsylvania, California, New Jersey, Rhode Island, and New York.

The PRI report should be directly referenced for a fuller understanding of the results of their analysis and the methodologies used therein.

3.2. District Size Analysis

For each of their six freedom rankings, the methodology (described in Section 1.3) was applied. **Relative to the *lower house districts*, the average district size for each of the three groups is illustrated in Chart D** (following page).

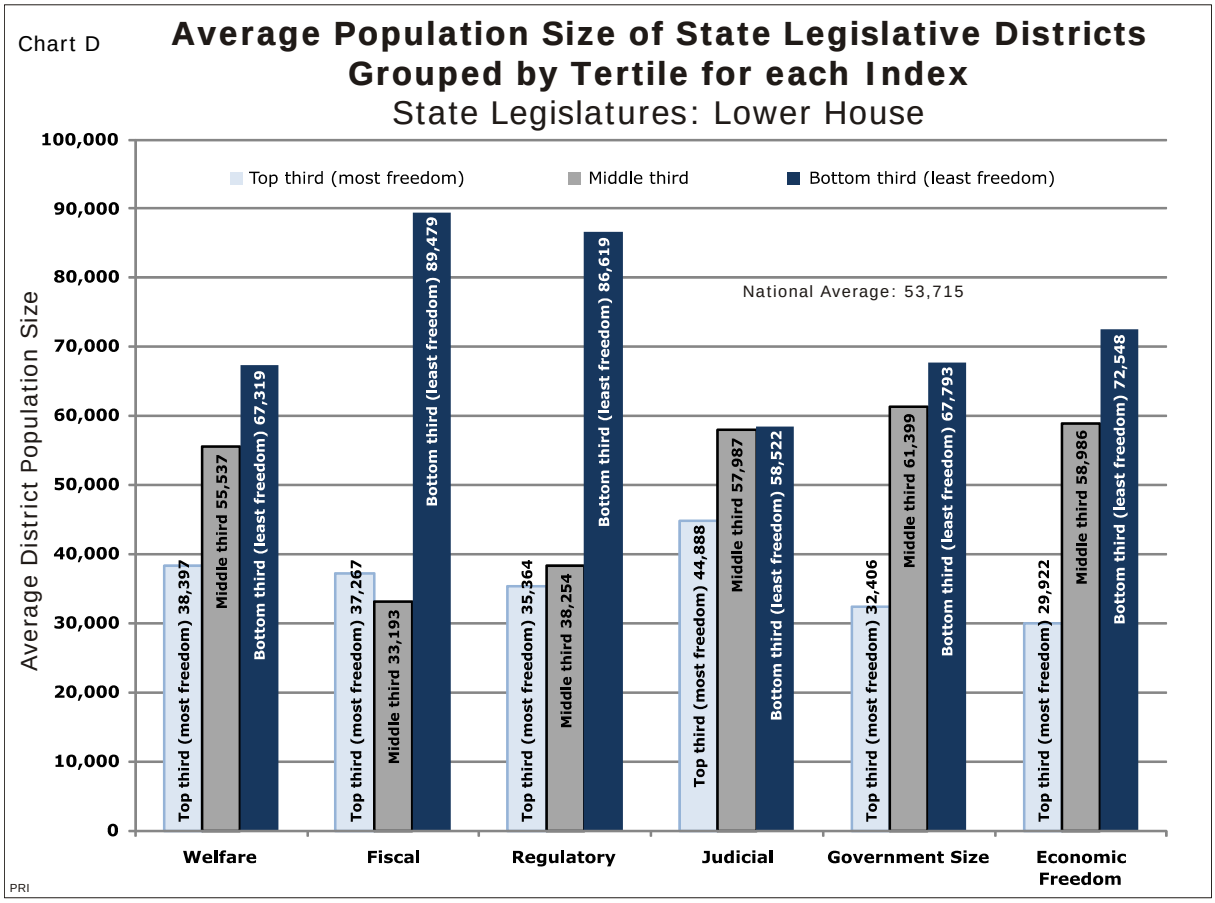
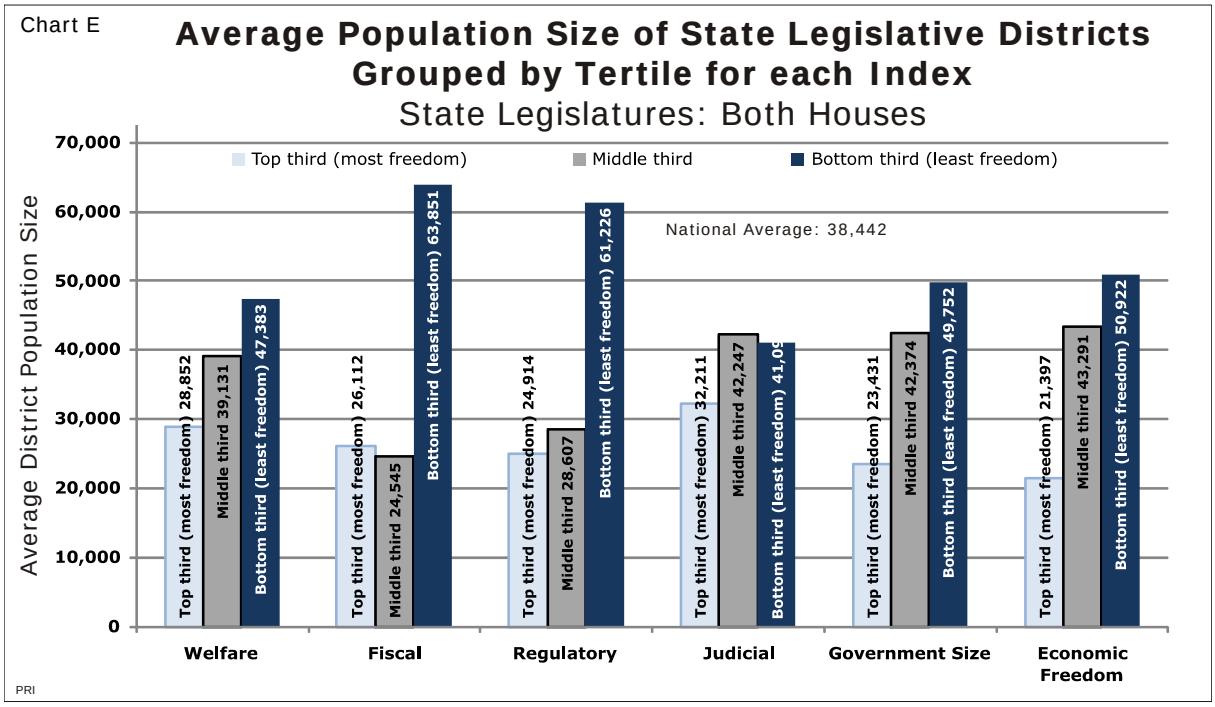


Chart E (below) repeats the analysis depicted above, except that it utilizes the average number of people per state legislator *for both houses combined*.



As is apparent in both of the preceding charts, the average district size of the low-freedom states (bottom tertile) is always significantly larger than that of the high-freedom states (top tertile) *across all six rankings*. Note also that the results are similar for both sets of representational ratios (lower house and both houses combined).

For each of their freedom indices, Table 3 indicates how much larger the bottom group's average district size is than the top group's.

Table 3	Bottom third % larger than top third	
	Lower House Only	Both Houses Combined
Welfare	75.3%	64.2%
Fiscal	140.1%	144.5%
Regulatory	144.9%	145.7%
Judicial	30.4%	27.6%
Government Size	109.2%	112.3%
Economic Freedom	142.5%	138.0%

The smallest disparity occurs relative to the "Judicial" ranking wherein the average district size of the low-freedom group of states were about a third larger than that of the high-freedom group. The largest disparity is evinced by the "Regulatory" ranking wherein the low-freedom states' districts are more than *twice the size* of those in the high-freedom states.

4. FRASER FREEDOM INDEX

4.1. Description

The final freedom index evaluated herein is the "*Economic Freedom of North America 2008 Annual Report (Canadian Edition)*". This was produced by the Fraser Institute by Amela Karabegović & Fred McMahon, Nathan J. Ashby & Russell S. Sobel. [9]

According to the report's description, to develop their ranking the authors employed ten components in three areas: 1) Size of Government; 2) Takings and Discriminatory Taxation; and 3) Labor Market Freedom.

The Fraser Freedom Index ranks all the states relative to each of the four areas indicated in the table below:

[9] The "Economic Freedom of North America: 2008 Annual Report (US Edition)" (ISBN: 978-0-88975-239-9) is available from: http://www.fraserinstitute.org/researchandpublications/publications/5741.aspx

Index	Area	Description
Size of Government	Area 1	Takes into account the following as a percentage of GDP: General Consumption Expenditures by Government, and Transfers and Subsidies.
Takings and Discriminatory Taxation	Area 2	Takes into account the following as a percentage of GDP: Total Tax Revenue, Top Marginal Income Tax Rate, Indirect Tax Revenue, Sales Taxes Collected.
Labor Market Freedom	Area 3	Minimum Wage Legislation, Government Employment as a Percentage of Total State/Provincial Employment, Union Density,
Overall Score		This is the overall score derived by a weighted consolidation of the preceding sectors.

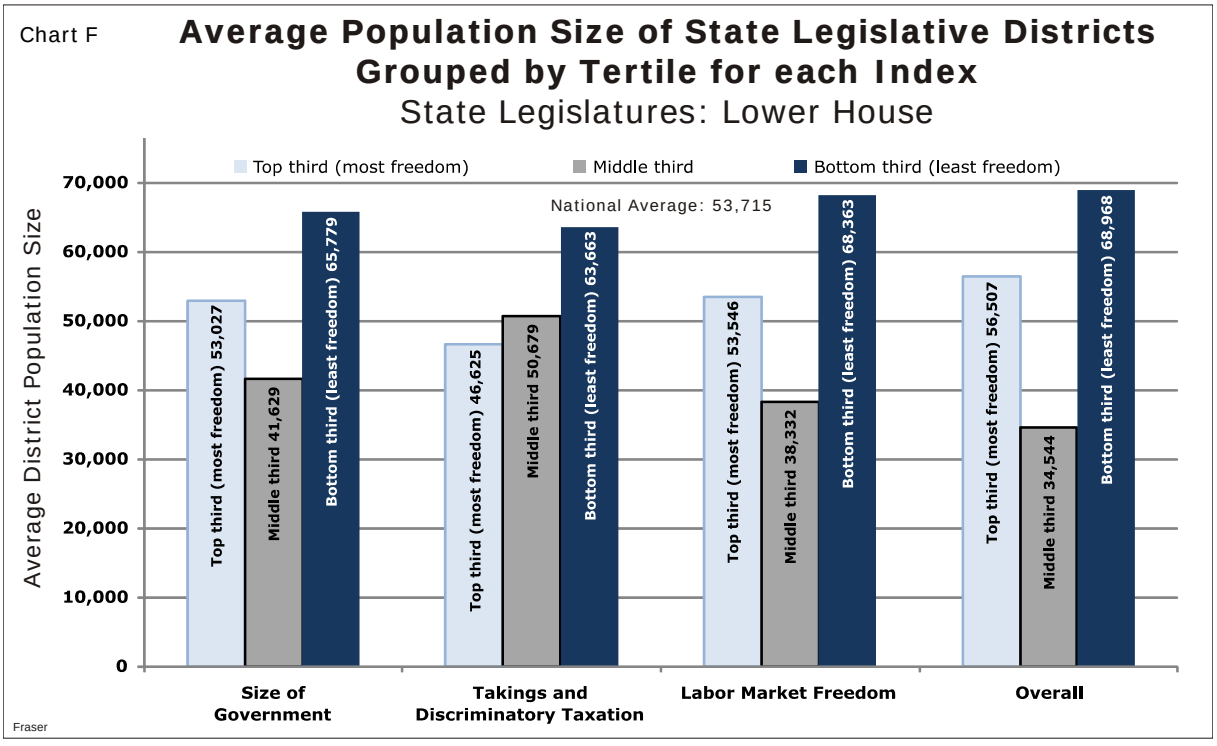
In their overall ranking, the top five states are Delaware, Tennessee, South Dakota and Virginia (in that order). The five states with the least amount of freedom are Maine, Rhode Island, Alaska, New York, and West Virginia.[10]

Their report should be directly referenced for a fuller understanding of the results of their analysis and the methodologies used therein.

4.2. District Size Analysis

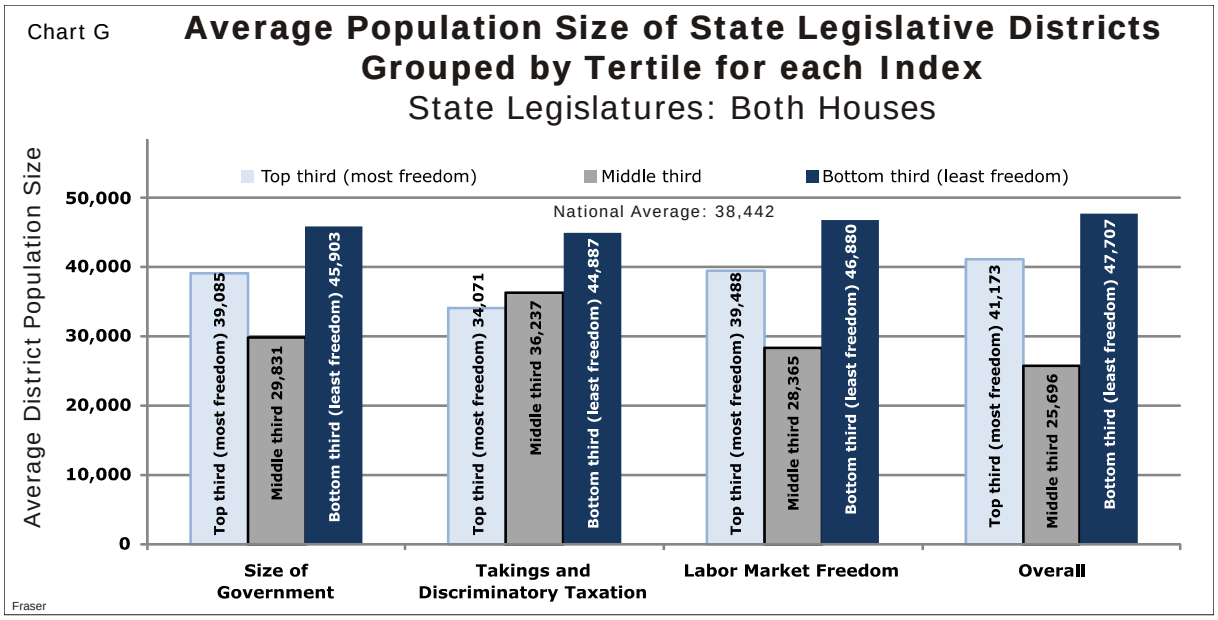
For each of these freedom rankings, the methodology (described in Section 1.3) was applied. **Relative to the *lower house districts*, the average district size for each of the three groups is illustrated in Chart F below.**

Chart F



[10] These are the "subnational" analytical results; i.e., the state level data which does not include any federal impacts.

Chart G repeats the analysis depicted above, except that it utilizes the average number of people per state legislator *for both houses combined*.



As is apparent in the preceding charts, the average district size of the low-freedom states (bottom tertile) is consistently larger than that of the high-freedom states (top tertile) *across all four indices*. Note also that the results are relatively similar for both sets of representational ratios (lower house and combined). However, the *middle third* did not always fall in the middle with respect to average district size because the Fraser freedom indices were calculated to a single decimal place.[11]

For each of the comparisons provided in the charts above, Table 4 indicates how much larger the bottom group's average district size is than the top group's.

Table 4

	Bottom third % larger than top third	
	Lower House Only	Both Houses Combined
Size of Government	24.0%	17.4%
Takings and Discriminatory Taxation	36.5%	31.7%
Labor Market Freedom	27.7%	18.7%
Overall	22.1%	15.9%

The smallest disparity occurs relative to the "Overall" ranking. The largest disparity is evinced by the "Takings and Discriminatory Taxation" ranking wherein the low-freedom states' districts are a third larger than those of the high-freedom states.

[11] Unlike the other freedom indices considered, the Fraser freedom indices were calculated only to a single decimal place and, as a result, several states have the exact same scores as other states. Therefore, it was not possible to actually rank *all* of the states relative to one another. This is why the middle group of states, with respect to the freedom scores, was not always in the middle with respect to average district size.

5. ADDITIONAL ANALYTICAL CONSIDERATIONS

5.1. Factors Not Controlled by State Legislatures

Some of the freedom indices took into account additional factors that are *not* directly attributable to the state legislature. For example, their analyses included various sub-state factors (i.e., those attributable to municipalities at the city or county level). However, because the state-level factors are more prevalent in their impact, they were generally weighted more heavily into the final determination of the freedom indices.

In addition, there are inherent economic differences among the states which are likely to affect some of the freedom indices. For example, consider the regional differences related to the expense of essential services: it costs more to heat government buildings or remove snow in Massachusetts than in Georgia. And a state with hundreds of miles of coastline incurs expenses that are unfamiliar to an inland state. Some states enjoy higher tourist revenue, while others may benefit from larger numbers of federal employees.

For this analysis, no attempt was made to evaluate the various factors which comprise the freedom index rankings; instead, the analytical results provided by those reports were accepted in their totality. And, *for every index*, there was a correlative relationship between smaller districts and greater freedom.

That not withstanding, for the purposes of better evaluating the impact of district size it would be worthwhile to create a freedom index that is comprised *only* of those factors which are largely attributable to the actions of the state legislatures. Such a freedom index would exclude the submunicipalities and adjust for those regional economic differences that are largely outside the control of the states' legislatures.

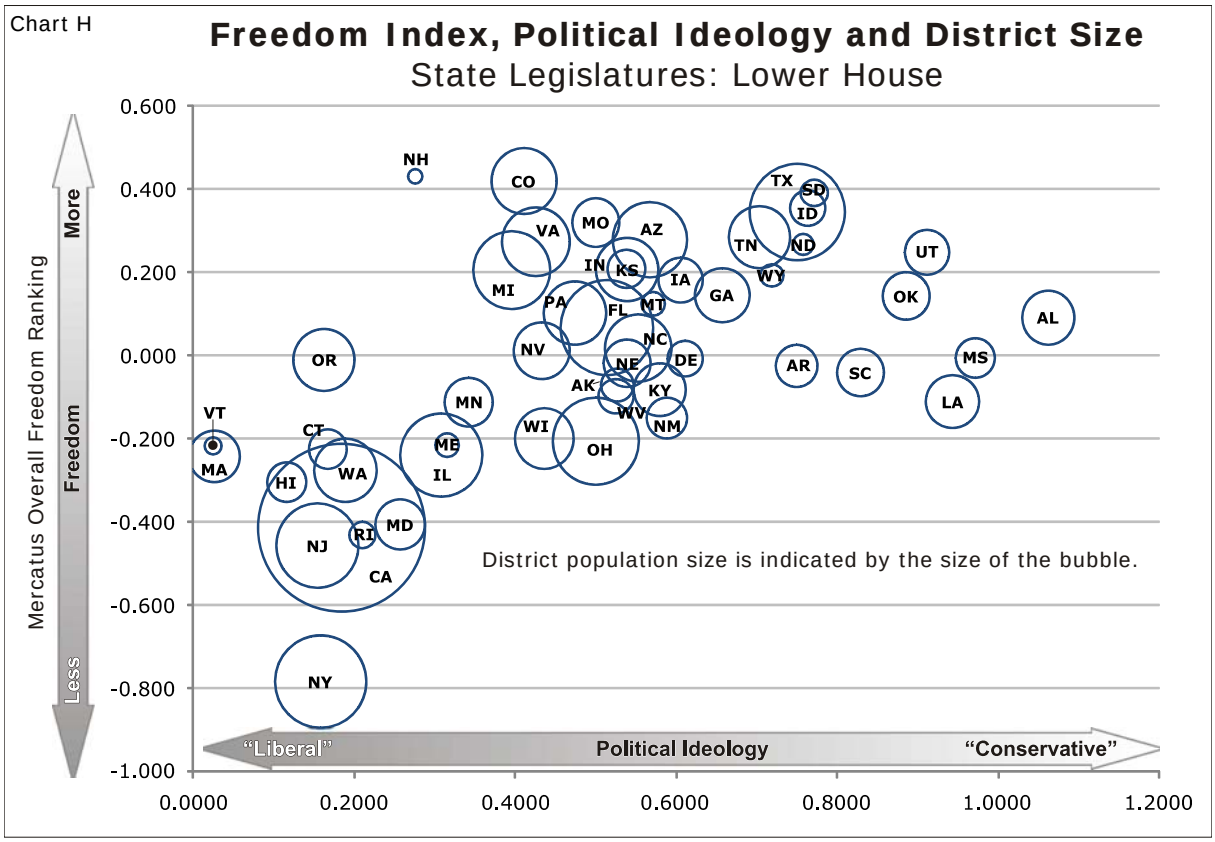
5.2. Freedom and Political Ideology

District population size is undoubtedly *not* the only causal factor underlying the freedom rankings. There are also regional political and cultural differences that would affect the states' scores.

While it seems reasonable to attempt to correlate the freedom indices with the states' dominant political ideologies, there are some limitations that must be considered. As explained in the introduction of this report, the indices are essentially a libertarian concept which emphasizes laissez-faire economics and strict constructionism relative to the Constitution. In some cases (depending on the index) that means the freedom score for a state like Georgia, for example, is increased due to limited gun controls, but is also decreased for prohibiting

alcohol sales on Sunday. The final freedom score depends on how these two items (and many others) are ultimately weighted.

That notwithstanding, it would be informative for an expanded analysis to take into account the predominant political ideology of the states. This concept is illustrated in Chart H (below), in which the *district population size is indicated by the size of the bubble*.



In the chart above, the vertical (y) axis is the freedom index.[12] The larger a state's freedom value, the higher is its "bubble" on the chart.

The horizontal (x) axis indicates the states' predominant political ideology relative to the concepts of "liberal" versus "conservative" based on a recent Gallup poll.[13] In the chart, the states to the right are more conservative than those to the left.[14] (For the x and y axes, the values are relative to the *centers* of the bubbles.)

[12] For this chart, the "Overall Freedom Ranking" from the Mercatus report was used.

[13] August 14, 2009, Gallup Poll: "Political Ideology: 'Conservative' Label Prevails in the South" http://www.gallup.com/poll/122333/Political-Ideology-Conservative-Label-Prevails-South.aspx

[14] For each state, the Gallup poll measured the number of those who identified themselves as "conservative", "moderate" and "liberal". Gallup then calculated, for each state, the "Net Conservative" value, which is the "Total Conservative" percentage minus the "Total Liberal" percentage (which was a positive number in every state). For deriving the "Political Ideology" scale used in this report, the "Net Conservative" percentage is divided by the "Moderate" percentage for each state. The resulting ranking is quite similar to that produced by Gallup, but it provides a more reliable basis for making comparisons among the states.

What patterns can we discern from the Size-Ideology-Freedom chart above? First, relative to the freedom index, note that the smaller districts (i.e., the smaller bubbles) are generally higher on the chart than the largest ones. For example, compare New Hampshire and Illinois. This is the same general relationship as shown in all of the previous charts in this report. That notwithstanding, there are exceptions to this pattern (e.g., compare Texas and Arkansas).

Second, relative to the horizontal ideological scale, note the general tendency towards increased freedom as the states become more "conservative." That is, there are not *any* bubbles in the *lower* right-hand quadrant of the chart; instead, the bubbles tend to congregate near the top of the chart's right-side.

This analysis indicates that those states which are more "conservative" exhibit more freedom (relative to the libertarian concept) than those states that tend to be more "liberal". It is beyond the scope of this report to attempt to explain that relationship, but some commentary is warranted in order to provide a broader context to the central premise of this report.

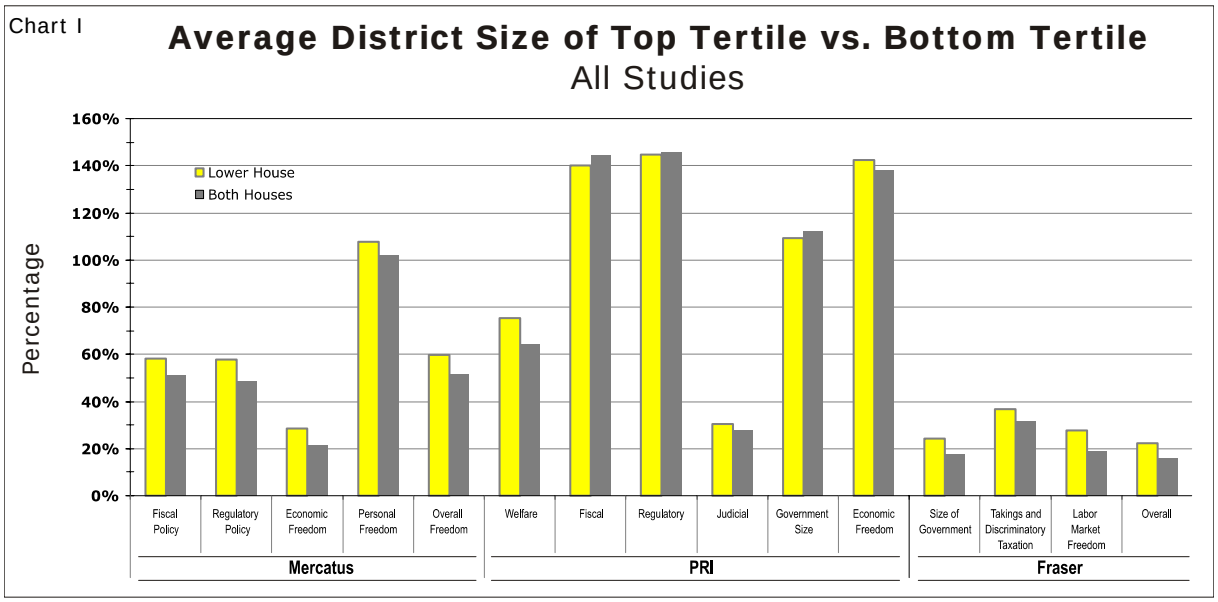
The inverse relationship – between "liberal" and freedom – may seem counterintuitive since liberal political ideology is generally associated with such freedoms as drug legalization and gambling (the legalization of which is usually opposed by conservatives). That notwithstanding, the results shown in the chart above can be attributed to the fact that, more often than not, the modern concept of *liberalism* (in the U.S.) embraces the notion that the government should, in a number of areas, intervene so as to constrain both personal and economic freedom (ostensibly in hopes of achieving some societal benefit). Consequently, those professing to have "liberal" political beliefs frequently support limiting the peoples' rights in areas ranging from personal freedom (e.g., gun ownership and school choice), to economic freedom (e.g., regulatory controls and increased taxation), as well as the suppression of free market forces (e.g., using the government's taxing authority to subsidize large insolvent corporations).

That having been said, the purpose of the Size-Ideology-Freedom analysis shown in Chart H is merely to illustrate that there could be several causal factors that explain the degree of freedom allowed by the various state governments. A more comprehensive multivariate analysis would not only confirm the hypothesis that the principal determining factor (of personal and economic freedom) is the population size of the states' legislative districts, but it would also help identify other causal factors. Relative to determining the impact of political ideology, such an analysis might also employ (if possible) measures that are more statistically reliable than that provided by a single opinion survey (as was used in the analysis above).

6. CONCLUSION

6.1. Summary of the Analyses

For each of the freedom indices evaluated in this report, Chart I (below) illustrates the percentage by which the average district population size of the low-freedom group of states is larger than that of the high-freedom group.



If there were no relationship between the states' *district population sizes* and their freedom indices, then we would expect this analysis to produce fairly random results among the three groups (i.e., low freedom, medium, and high freedom). Instead, *for all 15 freedom indices*, the average district size of the low-freedom group of states is significantly larger than that of the high-freedom group. In all but six instances they were *at least* 50% larger. The most striking disparities are those in which the low-freedom districts are over twice as large as the high-freedom ones (such as the Mercatus "Personal Freedom" ranking as well as four of PRI's indices). Moreover, in a majority of instances, the average district size of the *middle group* lies between the two extremes. Clearly this is *not* a random relationship.

This analysis establishes that there is a significant correlative relationship between smaller district sizes and increased freedom.

Thirty-Thousand.org further contends that this is a *causal relationship*; that is, as the legislative districts become larger, the government becomes increasingly oligarchic and more statist. The apparent reason for this causal relationship — between district size and freedom — is likely to be that the larger the district, the more expensive the political campaign that must be waged to win an election. Such campaigns depend largely upon funding from various special interest

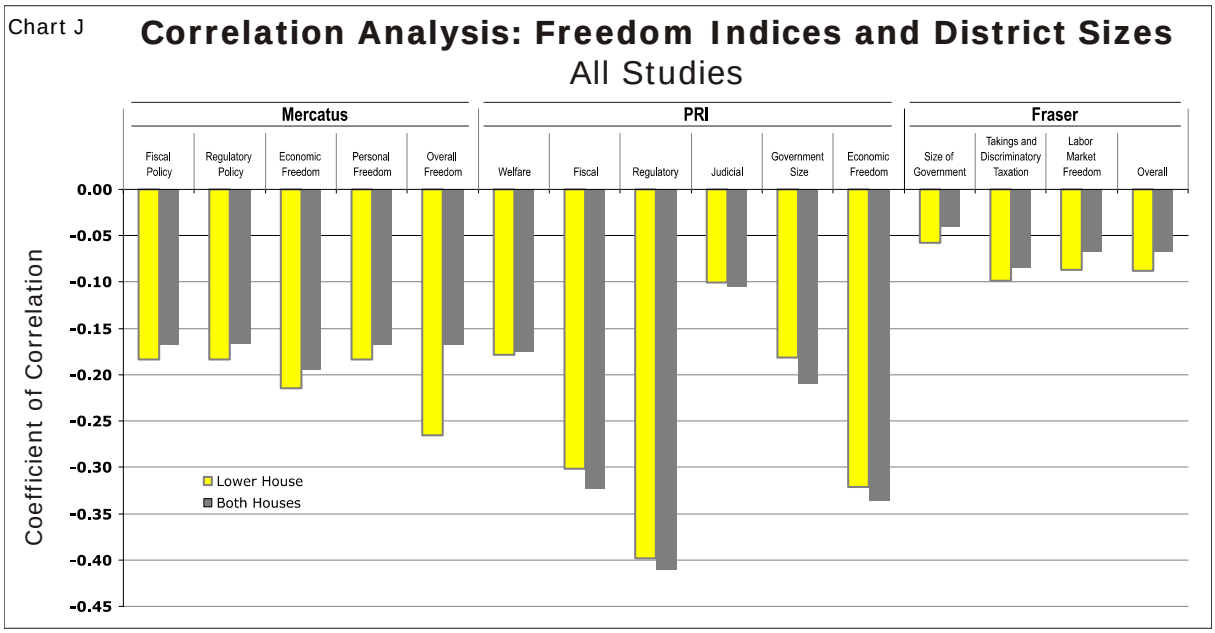
groups. Amassing the funds necessary to mount such a campaign is well out of the reach of all but a few citizens; in contrast, a majority of citizens could afford to campaign in a small electoral district.

Moreover, the cost of a political campaign is even more prohibitive when a candidate is attempting to unseat an *incumbent* representative (due to the incumbent's numerous advantages relative to the election process). Because larger districts virtually assure incumbents of reelection,[15] incumbents shift their loyalties (over time) from their citizen constituents to their financial benefactors. In other words, in larger electoral districts, incumbents gradually become less accountable and less responsive to the citizenry.

6.2. Correlation Analysis

It is also possible to calculate the *coefficient of correlation* between the states' district sizes and their freedom scores. As shown in Chart J (below), *in every case there was a negative correlation*. This supports the hypothesis that relative freedom tends to *decrease* as district population size *increases*.

Chart J



Note that for four *of the indices* there is a negative correlation of at least -.25 which is significant for these type of data. Those four instances are:

- Mercatus: Overall Freedom – Lower House: -26.6
- PRI: Fiscal – Lower House: -30.1; Upper: -32.3
- PRI: Regulatory – Lower House: -39.8; Upper: -41.1

[15] For example, see "Constituency Size and Incumbent Safety: A Reexamination", Edward L. Lascher, Political Research Quarterly, Vol. 58, No. 2. (Jun., 2005), pp. 269-278.;

- PRI: Economic Freedom – Lower House: -32.1; Upper: -33.7

Probably due to the various other factors identified in Section 5 of this report, these correlations are not as striking as the ratio analyses. It would be beneficial to repeat this analysis with a freedom index that is narrowly focused on those factors that are largely controllable by the state legislatures as such an analysis is likely to provide more conclusive results.