CER Scores as a Measure of State Policy Change:
A Methodological Appendix

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Abstract

This paper is a supplement to the published article. It lays out in greater detail the justification for using our version of the measure of state charter school laws developed by the Center for Education Reform and how we constructed this measure. It is only meant to supplement the published article, not replace it.

Although developed by the Center for Education Reform, an advocacy organization, to rate the progress of state governments towards creating strong charter schooling systems, the 10-item CER scale has seen use in academic research (e.g., Kirst 2006; Stoddard and Corcoran 2007). Some of this has been as a base-line against which alternative measures of various state law characteristics regarding charter schooling and school choice have been evaluated, usually with the original CER measure found wanting (e.g., Scott and Barber 2002). Witte et al. (2003) argue for their alternative measure because the CER index is mixing measures of a state law's flexibility and accountability. Wong and Shen (2006) argue for their new measure because the aggregate CER scale misses crucial within-state variation, that some indicators in the scale are essentially measuring the same thing, while some measure may change in one direction when others change in the opposite direction over time. Essentially they would wash another out, suggesting a lack of change when significant change along multiple dimensions is in fact taking place. Thus researchers using CER scores instead of either of these alternative measures must do two things - address the concerns of these two teams of researchers, and justify the need to use CER at all. This methodological appendix explains our choice to use the original CER measure in our published paper (Holyoke et al. 2009) by addressing these two issues and expanding the published information regarding how our reduced CER index of state policy change was developed.

Using the Aggregate CER Index

If Witte et al. and Wong and Shen have developed alternative measures of state charter school policy, why should we use the original CER scale? We have two answers to this question. First, both Witte et al. and Wong and Shen provide data regarding the status of each

state's law in only a single year, 2004 and 2005 respectively, because measuring change in state laws over time are not their research questions. Ours is and requires explicit measures that are comparable from year to year over as large a time frame as possible. The obvious objection is – would it not be in the best interests of the research to use one of these two coding strategies to develop these indices over multiple years? Considering the great time and expense required to use one of these strategies, we argue that it would only be necessary if these research teams had clearly proven that their indices were superior to the original CER.

We are not convinced, however, that they have done so, and this leads to our second reason for using the original CER scores. To create measures of both theoretical dimensions, Witte et al. developed a new set of measures by identifying and coding 17 variables capturing characteristics of state laws and condensed them into five measures, four of which were highly related forms of flexibility and only one of accountability. To demonstrate the measure's validity they regressed this new measure on the aggregate CER measure for a bi-variate correlation of $r = 0.82$ $(p < 0.01)$. In other words, their new measure is very similar to the original CER index. It is not entirely clear why a new measure so similar to one already existing is needed. If the aggregate CER measure is combining dimensions that are theoretically distinct from, and at odds with, each other, then it calls into question the validity of the overall CER measure, but apparently this may not be the case.

Similarly, Wong and Shen developed a new index and then compared its utility as a measure of state policy to the original, aggregate CER index. Neither are explained well by the independent variables employed, although they actually do a better job explaining the CER measure than the alternative indices (see their Tables 5 and 7), the size of school populations resulting in a higher (though hardly impressive) coefficient of determination, $R^2 = 0.22$ in their

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Table 5. Taken together, rather than improve on the performance of the CER index, these two research reports suggest that it is no more or less valid than any of the alternative measures, even taking into consideration the problems that both these sets of researchers identify (correctly in our opinion) with the Center's index.

Flexibility, Accountability, and Within State Variation

Although the composite score has been used to good effect in charter school research (e.g., Kirst 2006; Stoddard and Corcoran 2007), the arguments of Witte et al. and Wong and Shen regarding the limitations of the aggregate CER measure must be considered. If we are to use CER scores, we must correct the problems they identify. Witte et al. argue that there are two conceptual ideas the Center for Education Reform is really attempting to measure, but these differences are lost when they combine their ten separate, fairly specific, scales to create a single, aggregate index. Specifically, they argue that some individual CER scores are capturing state law "flexibility" while others are measuring "accountability." The first refers to the degree to which states exempt their charter schools from state and local laws to provide them with greater freedom to recruit students from target populations, implement original new curricula, and operate in accordance with a variety of tailored business models. The idea here is that this flexibility allows charter schools to target many different student populations with different needs by freeing them to organize their operations in whatever way best allows them to meet the demands of their potential student populations. The other concept regards the level of reporting requirements imposed on schools by various public entities in return for public funding and the right to be exempt form other state and local laws. This is done so that their use of public money and operations are subject to public scrutiny, as is their performance in terms of actual student

learning outcomes. As Witte et al. argue, not only are these two conceptual dimensions distinctly separate and mutually exclusive, they also tend to vary inversely to each other so that a composite measure like CER is unlikely to accurately reflect both. Indeed, they argue convincingly that it does a much better job capturing flexibility than accountability.

Wong and Shen identify a stickier problem with the CER scores. Correctly acknowledging the well established concern that different political institutions may interpret the same law differently, either accidentally or deliberately, especially when one is creating policy and another is implementing it (Meier 1993; Nie 2008), they argue that treating changes in the aggregate CER measure as definitive signs of policy change is problematic. Amending the enacting statute may create change in one direction on one measure while a change in implementing regulation may create change in a different direction of another measure. The two might then wash each other out when aggregated, thus masking important, if contradictory, changes in each state at specific points in time. The very act of aggregating these scores to examine variation between states, as well as variation over time, will thus cause researchers to miss that very within-state variation. Their argument hits home when taking even quick glances at dis-aggregated CER scores which shows this to frequently be the case with observations of a single state.

Although neither research report notes it, these problems are most likely linked. If the aggregate CER measure is indeed made up of ten measures capturing different conceptual policy dimensions, as Witte et al. argue, then it should come as no surprise that one measure, say flexibility, changes in one direction while another, perhaps accountability, changes in a different direction, all of which is masked by aggregation, as Wong and Shen argue. This does not mean that the CER scores are "bad" or "wrong" measures, simply that the idea of aggregating the ten

measures into a single index needs to be handled carefully. The theoretical and empirical tasks for researchers are to decide which of the 10 CER sub-scales to use with these criticisms in mind. How, un-surprisingly, depends on the research question being asked.

Minimizing State Standard Deviations to Measure Policy Change

Although the criticisms of the aggregate CER score made by Witte et al. and Wong and Shen are linked, we can address them individually because Witte et al.'s are conceptual while Wong and Shen's are empirical. Our task is to develop a valid and reliable measure of state policy change using some subset of the 10 CER sub-measures. We proceed in the following stages. First, before any empirical work is done, we need a theoretical definition of the policy dimension we are trying to capture that can be used to guide our research; for this we rely on Witte et al. for guidance. Second, we need to identify those sub-measures developed by CER that, based on the descriptions the advocacy organization provides, appear to best conform to our theoretical definition. Third, we need to find a means of selecting measures that empirically minimizes the within-state variation problem identified by Wong and Shen. Fourth, we need to combine our measures into a single, aggregate measure that conforms to both our theoretical definition as well as the empirical bar we will have set. Finally, we need, to the greatest extent possible, confirmation of the validity and reliability of the new, or really reduced, CER measure.

Theoretical Definition

This must be determined by the research question at hand, and our question is how state policy changes over time. But, as Witte et al. and Wong and Shen might argue, such a concept is a little too vague. We therefore provide the following refinement: we are searching for change in

the level of flexibility state law provides charter schools. We therefore define "flexibility" to mean exemption from state and local laws and regulations, as well as other factors restricting the freedom of charter schools to target student populations, develop innovative curricula, and control their own internal operations, including the hiring and firing of employees. It does *not* include the ease of the chartering process itself in terms of how many different charter authorities there are or appeals processes. Although the Center for Education Reform considers this to be important and includes in their aggregate state scores, we do not believe that it clearly fits either with notions of flexibility or accountability and so choose not to include it. A state may make it "easy" to open a school, and yet still strictly regulate its structure and operation, indeed a "cookie-cutter" approach may make opening new schools especially easy.

We realize that this definition is not as narrow as the one used by Witte et al., but our goals are not the same. Theirs is to specify as narrowly and specifically as possible, largely from an empirical stand point, different types of policy flexibility; ours is to create a single measure of policy flexibility. Our measure, hopefully, reflects to some degree the understanding of policy advocates, such as the Center for Education Reform, who are choosing whether to push for policy change or hold the status quo. It is also partially for this reason that we are content to stay with the CER scores rather than create an alternative measure.

CER Sub-Dimensions Capturing Policy "Flexibility"

In Table 1 we lay out the ten sub-dimensions of state charter laws developed by the Center for Education Reform along with their description as to what aspect of state law each dimension is supposed to capture. We also provide a reference number for each sub-dimension which we will make use of later, and also a short explanation as to why, or why not, we believe

that this sub-dimension definition fits with our theoretical definition of policy flexibility. For more information on how CER measures each dimension, see http://www.edreform.org/_upload/charter_school_laws.pdf. In the table we explain why we think a particular dimension fits with our theoretical definition of policy flexibility. Again, the general idea is that the more flexible is a state's policy, the more lawmakers are interested in permitting charter schools to manage themselves, create varied curricula, target student populations of their own devising, and not spend time and effort documenting their resources or how they spend public monies.

---- Insert Table 1 about here ----

As we argue in the table, six of these measures fit our conceptual definition. They are not, however, the exact sub-measures we use to create our final index, but they do serve as a base line. Several empirical concerns pushed us to make a couple of modifications laid out below, so this serves as merely an important starting point.

Minimizing Within-State Variation

Not only must we find measures that capture state policy flexibility conceptually, the empirical test of these measures is to see whether they capture real policy change by reflecting shifts of the policy in one direction or another consistently, thus addressing Wong and Shen's concern with the aggregate CER measure. We suspect that we are not likely to end up with measures that move in the same direction over time for every state, complete consistency, for no coding scheme is likely to be so precise, including the one used by the Center for Education Reform. Indeed, if they did it would suggest that all of the measures are merely capturing the

same underlying measure so that only a single measure is actually necessary. We simply need to find the combination of sub-dimensions that minimize this problem.

We argue that the best approach to take on this is to use the CER scores in 1998 and in 2006, the same two book-end years used in our published paper, and examine the change in different combinations of the 10 sub-dimensions for each state from one year to the other. Our focus is on state standard deviations in that if we look at changes in all ten measures so that if one measure changes in a positive direction and another in a negative direction from 1998 to 2006, then this will produce a larger standard deviation for that state than if both measures changed in the same direction.

An example should make this clearer. Suppose that six CER sub-dimensions measuring aspects of a state's charter law changed positively as follows from 1998 to 2006: +1, +0.5, +1.5, +0.5, +0.5, +1; also suppose that the other four changed in a negative direction: -1.5, -0.5, -0.5, -2. The standard deviation of these changes is 1.14 and reflects the fact that there is internal inconsistency in the directions of the measures of policy change, just as Wong and Shen argue we should expect. If the four negative measures were all positive, say +1.5, +0.5, +0.5, +2, then the standard deviation shrinks to 0.55. If we only used the six measures identified in the previous section, those whose positive change contributes to a less regulated state policy, we end up with a standard deviation of 0.41. If consistency in change is reflected by lower state standard deviations, then the first six measures better capture our concept in an empirical sense than using all ten.

To actually do this for the states we start with the within-state standard deviations for change using all 10 CER sub-dimensions from 1998 to 2006 as a base-line, and then see what combination of sub-sets of these sub-dimensions best minimizes the state standard deviations.

Thus for every state we find whether a state's score changed from 1998 to 2006 on each of the 10 CER sub-dimensions and how great that change was, giving us ten indicators of change for each of the 38 states in the data set (Iowa and Maryland did not have charter school laws in 1998). Taken together these 10 change scores yield a standard deviation for each state. The average standard deviation of all 38 states, our base-line being 0.86. We then use two indicators of change as we re-calculate these standard deviations using different combinations of these 10 sub-dimensions. The first indicator is the average of the standard deviations, looking for combinations that produce an average less than 0.86. The second indicator is a count of the number of states where a sub-set combination produces a lower state standard deviation than it has when all ten measures are used. We rank our ten best combinations with these two indicators in Table 2, presenting our selected one at the bottom.

---- Insert Table 2 about here ----

We found twenty-two combinations that yielded smaller average standard deviations. Unsurprisingly, every combination produced a few states with smaller standard deviations than the baseline, although which states they were changed considerably from one combination to the next. As Table 2 shows, the combination we chose is one of two with the smallest average standard deviation, although it did not produce the very highest number of states with smaller standard deviations (it is the fourth best in this case). Partly because the difference between 21 and 23 was not, we believe, all that great, and because we feel that minimizing the average standard deviation is the better indicator. We also felt that the two combinations producing 22 states with smaller deviations were not nearly as consistent with our theoretical definition of policy flexibility.

---- Insert Table 3 about here ----

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To improve our sense as to whether our six selected measures are capturing aspects of the same underlying dimension, we ran pair-wise correlations of the measures for 1998 and 2006 together to see how well they correlate each year. As Table 3 reveals, all of the measures correlate with each other, some at very high levels, and only one in 1998 not statistically significant at $p < 0.05$. By contrast, the "sub-scales" developed by Witte et al. correlate with each other no higher than 0.29, which they interpret as a sign of measure independence, but which we take with our much higher correlations as evidence of *de*pendence and a partial justification for combining them into a single measure. It is worth pointing out that the strength of most of these correlations grows from 1998 to 2006, indicating that these sub-dimensions are becoming *more* related to each other over time. We also assess the similarity of these sub-dimensions with a factor analysis for 1998 and 2006. As the eigenvalues displayed in Figure 4 reveal, the sub-dimensions load on the first factor only and it accounts for virtually all of the co-variation in the sub-measures. For 1998 the dimension constructed through factor analysis correlates with our six combined measures at $r = 0.96$ and $r = 0.94$ for 2006. Finally, we assess the relationship between our combination of sub-measures and the original aggregate CER score by regressing the former on the latter for both years. In the first year our new measure explains 93% of the variance, and for 2006 the result is $R^2 = 0.92$.

---- Insert Table 4 about here ----

Thinking back to the arguments we make in the published paper regarding some states changing their policies over time while others "lock-in" policies that remain relatively unchanged, we can now plot policy change over time using our new reduced CER measure. In Figure 1 we see 8 states did make changes in their policies, by and large making them more restrictive on charter schools (smaller scores) and, as a consequence, becoming more similar

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with each other. Figure 2 shows that this was not the case for all of the states, that 26 essentially kept their policies more or less on an even-keel from 1998 to 2006. Whether this is due to resistance to policy change by politicians and interest groups in each state is, of course, the subject of the published paper.

---- Insert Figures 1 and 2 about here ----

External Validity and Reliability

The other major issue surrounding the use of CER scores has been concern about the objectivity of the coding because the Center for Education Reform is an advocacy organization. Quite apart from the long history of using advocacy organization scores in academia, such as AFL-CIO's COPE and Americans for Democratic Action scores to measure legislator ideology in Congress, we justify using these scores for three reasons. First, nothing in their coding scheme (see Table 1) appears to suggest a dramatic bias. The coders, most of whom are academics with doctoral degrees, may also be partisans, but it is by no means clear that this has influenced their coding. On the face of it, the methodology they employ is frequently used in academia, a group of experts individually coding the same documents to develop a composite measure that reduces potential individual error and bias. Thus the coding method appears sound.

Second, if all five coders deliberately coded the legislation to advance CER's goals, what direction would this bias take? Artificially high scores would imply considerable success in the organization's lobbying efforts. While on the one hand this might be considered a good thing, interest group scholars have often noted that groups do best in terms of recruitment and fundraising when things are *not* going well (e.g., Hansen 1985). The environmental lobby was reputedly never stronger than in the 1980s when President Reagan appointed James Watt as

Secretary of the Interior and took aim at the Clean Air Act and other environmental laws (Imig 1998). Similarly, conservative activist organizations became powerful in the 1990s out of their mutual dislike or, and indeed fear of, the Clinton Administration (Guth et al. 2002). On the other hand, biasing the scores downward has its own risks. Too poor of a performance makes an organization appear weak and this is also known to deter contributors and supporters (Wilson 1973; Gray and Lowery 1997). Thus there is at least no clear reason to believe that these five individuals intentionally biased the CER scores.

Third, and perhaps most importantly, the findings by Witte et al. suggest that the CER index correlates highly with their reliable and valid measure, in turn suggesting that it too is valid and reliable. We are not saying that we can use CER scores because everybody else does; rather we remind readers that Witte et al. found that their more sophisticated measure had a bi-variate correlation with the CER scores of 0.82, which is quite high and suggests that there is considerable similarity between the two. Wong and Shen compare the CER score to their own measures by regressing a set of independent variables on both which revealed that the performances of the independent variables are largely the same (Table 5 in their paper). Again this suggests that the CER scores are similar to the sophisticated, valid, and reliable measures developed by these scholars. Thus, while we cannot claim with certainty that CER scores are valid beyond face validity, we are at least given no reason for doubting that they are valid and reliable.

Table 1
CER Sub-Dimensions and Our Choices

Number	CER Sub-Dimension Name	CER Description of Sub-Dimension	Our Justification for Inclusion
1	Number of Schools	States that permit an unlimited or substantial number of autonomous charter schools encourage more state activity than states that limit the number of autonomous schools.	Not included. This is about numbers only, no operational flexibility.
2	Multiple Chartering Authorities / Binding Appeals Process	States that permit a number of entities in addition to or instead of local school boards to authorize charter schools, or that provide applicants with a binding appeals process, encourage more activity	Included. More choices make it more likely potential charters can gravitate towards permissive regulators.
3	Variety of Applicants	States that permit a variety of individuals and groups both inside and outside the existing public school system to start charter schools encourage more activity than states that limit eligible applicants to public schools or public school personnel.	Not included. This makes it easier for more people to open schools, but says nothing about regulatory flexibility in operation and reporting requirements.
4	New Starts	States that permit new schools to start up encourage more activity than those that permit only public school conversions.	Not included. Again, this only deals with numbers, not flexibility.
5	Schools May Start Without Third Party Consent	States that permit charter schools to form without needing consent from competing districts or the general public encourage more activity than those that do not.	Not included. Making it easier to create a school says nothing about operational flexibility.
6	Automatic Waiver from Laws and Regulations	States that provide automatic blanket waivers from most or all state and district education laws, regulations, and policies encourage more activity than states that provide no waivers or require charter schools to negotiate waivers on an issue-by-issue basis.	Included. This is the very heart of the notion of flexibility.
7	Legal / Operational Autonomy	States that allow charter schools to be independent legal entities that can own property, sue and be sued, incur debt, control budget and personnel, and contract for services, encourage more activity than states in which charter schools remain under district jurisdiction. In addition, legal autonomy refers to the ability of charter schools to control their own enrollment numbers.	Included. Ability to manage their property and their budgets is a major factor in the concept of flexibility. The alternative is having these set for them by regulators.
8	Guaranteed Full Funding	States where 100 percent of per-pupil funding automatically follows students enrolled in charter schools encourage more activity than states where the amount is automatically lower or negotiated with the district.	Included. This gives schools greater autonomy from public oversight and greater budget control.
9	Fiscal Autonomy	States that give charter schools full control over their own budgets, without the district holding the funds, encourage more activity than states that do not.	Included. Same as the above measure.
10	Exemption from Collective Bargaining Agreements / District Work Rules	States that give charter schools complete control over personnel decisions encourage more activity than states where charter school teachers must remain subject to the terms of district collective bargaining agreements or work rules.	Included. Personnel planning is important for designing varied curricula and not needing to submit themselves to public requirements.

Table 2
Ten Best Combinations of CER Sub-Measures by Minimizing Within-State Variation

Reference Numbers of Measures Used	Average of All 38 State Standard Deviations	Number of States with Decreasing Standard Deviations from Base Model
All ten measures used (base line measure)	0.86	0
1, 2, 3, 5, 6, 7, 8, 9	0.82	18
2, 3, 5, 6, 7, 8, 9	0.82	20
1, 2, 3, 4, 5, 6, 7, 8, 9	0.80	18
2, 8, 9, 10	0.80	19
2, 6, 7, 9	0.80	22
2, 6, 7, 8, 9	0.80	23
2, 3, 4, 5, 6, 7, 8, 9	0.79	20
1, 2, 4, 5, 6, 7, 8, 9	0.77	18
2, 6, 7, 8, 9, 4, 5	0.77	22
2, 6, 7, 8, 9, 5	*0.77*	*21*

Table 3
Pair-Wise Correlations of Selected CER Measures in 1998 and 2006

1998	Multiple Chartering Authorities	No Third Party Consent Needed	Automatic Waiver from State and District Laws	Legal and Operational Autonomy	Guaranteed Per-Pupil Funding
Multiple Charter Authorities	1.00				
No Third Party Consent Needed	0.55***	1.00			
Automatic Waiver from State and District Laws	0.47***	0.30	1.00		
Legal and Operational Autonomy	0.75***	0.54***	0.59***	1.00	
Guaranteed Per-Pupil Funding	0.52***	0.50***	0.45**	0.52***	1.00
Fiscal Autonomy	0.70***	0.44**	0.55***	0.77***	0.77***
2006					
Multiple Charter Authorities	1.00				
No Third Party Consent Needed	0.56***	1.00			
Automatic Waiver from State and District Laws	0.44**	0.39*	1.00		
Legal and Operational Autonomy	0.74***	0.67***	0.67***	1.00	
Guaranteed Per-Pupil Funding	0.51***	0.45***	0.42**	0.60***	1.00
Fiscal Autonomy	0.73***	0.58***	0.60***	0.83***	0.71***

*p < 0.05
**p < 0.01
***p < 0.005

Table 4
Factor Analysis of Selected CER Sub-Dimensions

Factor	Eigenvalue	Difference	Proportion
1998			
Factor One	3.49	3.22	0.95
Factor Two	0.27	0.08	0.07
Factor Three	0.19	0.19	0.05
Factor Four	−0.01	0.09	0.00
Factor Five	−0.09	0.09	−0.02
Factor Six	−0.18	–	−0.05
2006			
Factor One	3.65	3.51	1.00
Factor Two	0.13	0.02	0.04
Factor Three	0.12	0.14	0.03
Factor Four	−0.02	0.10	−0.01
Factor Five	−0.12	0.01	−0.03
Factor Six	−0.13	–	−0.04

Table 5
Summary of All CER Sub-Dimension Combination and State Standard Deviation Reductions

Sub-Dimension Combination	Total of State Standard Deviations	Average of State Standard Deviations	Number of States with Reduced Standard Deviations from All 10 Measures
1, 2, 3, 4, 5, 6, 7, 8, 9, 10 (baseline)	32.49	0.86	–
2, 4, 6, 7, 8, 9, 10	32.48	0.85	13
2, 5, 6, 7, 8, 9, 10	33.13	0.87	11
2, 6, 7, 8, 9, 10	32.49	0.86	11
6, 7, 8, 9, 10	35.45	0.93	12
7, 8, 9, 10	34.64	0.91	15
8, 9, 10	32.11	0.85	
9, 10	30.62	0.81	
2, 6, 8, 9, 10	31.91	0.84	18
2, 6, 9, 10	32.39	0.85	18
2, 6, 10	31.60	0.83	
2, 7, 8, 9, 10	32.70	0.86	14
2, 8, 9, 10	30.44	0.80	19
2, 9, 10	29.39	0.77	
2, 6, 7, 8, 10	33.68	0.89	12
2, 6, 7, 10	34.11	0.90	17
2, 6, 7	29.02	0.76	
2, 6, 7, 9, 10	34.21	0.90	14
2, 6, 7, 9	30.25	0.80	22
2, 3, 4, 5, 6, 7, 8, 9, 10	32.66	0.86	10
1, 2, 4, 5, 6, 7, 8, 9, 10	31.88	0.84	7
1, 2, 3, 5, 6, 7, 8, 9, 10	33.56	0.88	7
1, 2, 3, 4, 6, 7, 8, 9, 10	33.04	0.87	11
2, 3, 4, 6, 7, 8, 9, 10	32.06	0.84	12
2, 3, 5, 6, 7, 8, 9, 10	33.82	0.89	11
2, 3, 4, 6, 7, 8, 9, 10	33.14	0.87	12
1, 2, 5, 6, 7, 8, 9, 10	32.99	0.87	9
1, 2, 4, 6, 7, 8, 9, 10	32.41	0.85	12
1, 2, 3, 6, 7, 8, 9, 10	34.29	0.90	13
1, 2, 6, 7, 8, 9, 10	33.71	0.89	10
2, 3, 6, 7, 8, 9, 10	34.50	0.91	11
2, 6, 7, 8, 9	30.36	0.80	23
1, 2, 3, 4, 5, 6, 7, 8, 9	30.23	0.80	18
2, 3, 4, 5, 6, 7, 8, 9	30.16	0.79	20
1, 2, 4, 5, 6, 7, 8, 9	29.31	0.77	18
1, 2, 3, 5, 6, 7, 8, 9	31.33	0.82	18
1, 2, 3, 4, 6, 7, 8, 9	30.66	0.81	16
2, 4, 5, 6, 7, 8, 9	29.14	0.77	22
2, 3, 5, 6, 7, 8, 9	31.34	0.82	20
2, 5, 6, 7, 8, 9	29.16	0.77	21

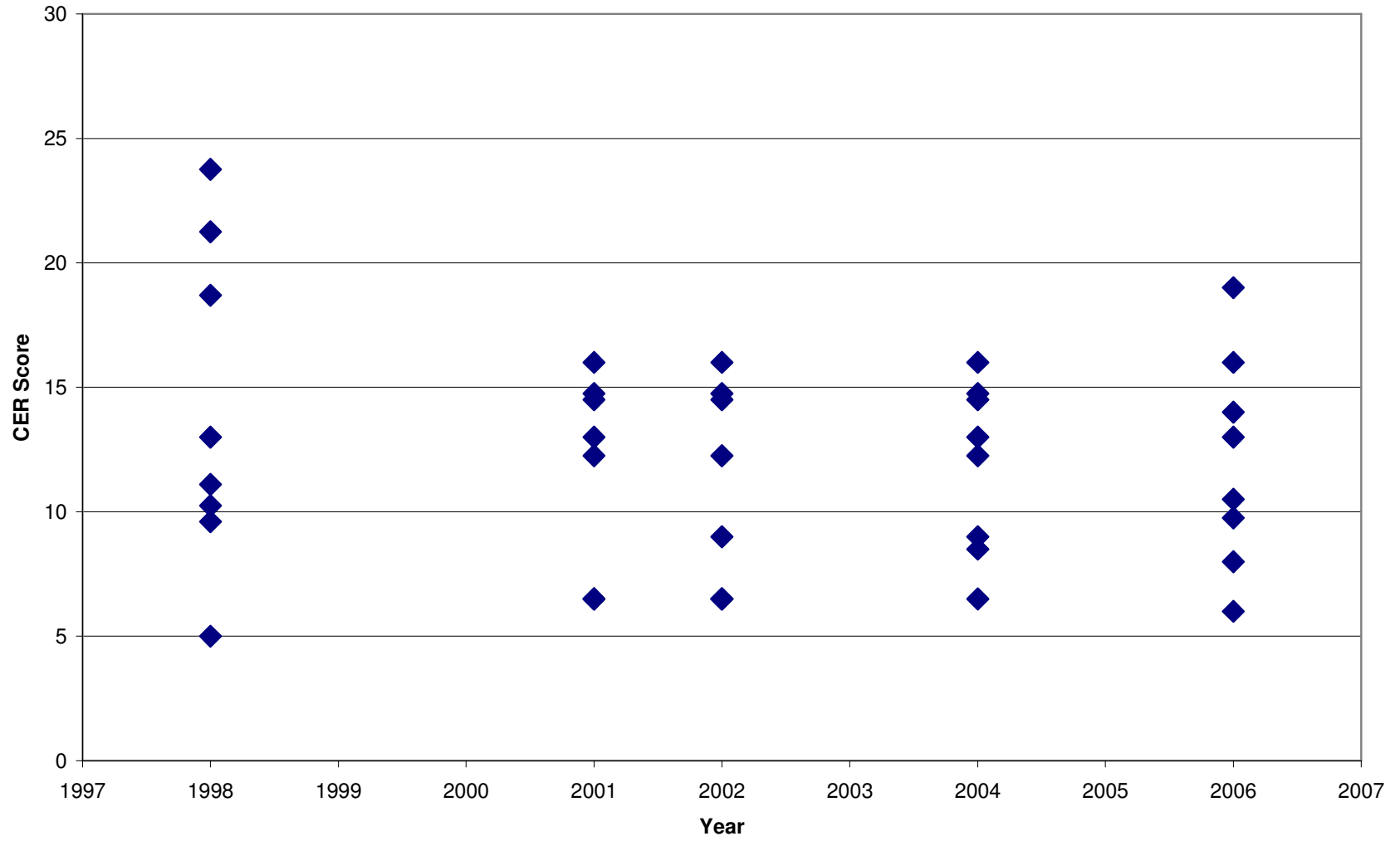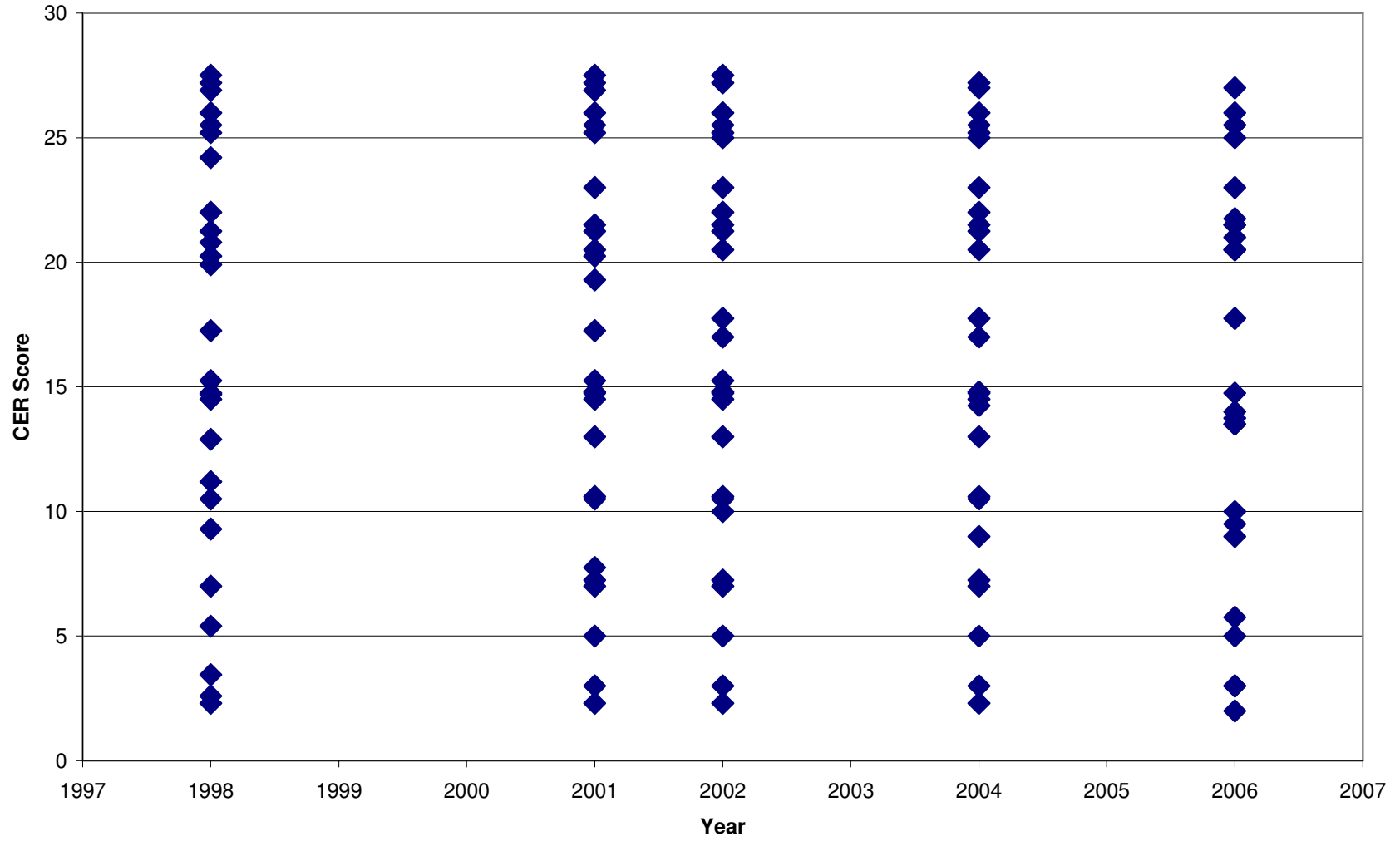**Figure 1: States with Changing Charter School Laws**

Figure 2: States With Unchanging Charter Laws

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