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# Government Financial Disclosures: The Timeliness of State Comprehensive Annual Financial Reports

Dylan McLeod Bartlett

*University of New Hampshire, Durham, dmi93@wildcats.unh.edu*

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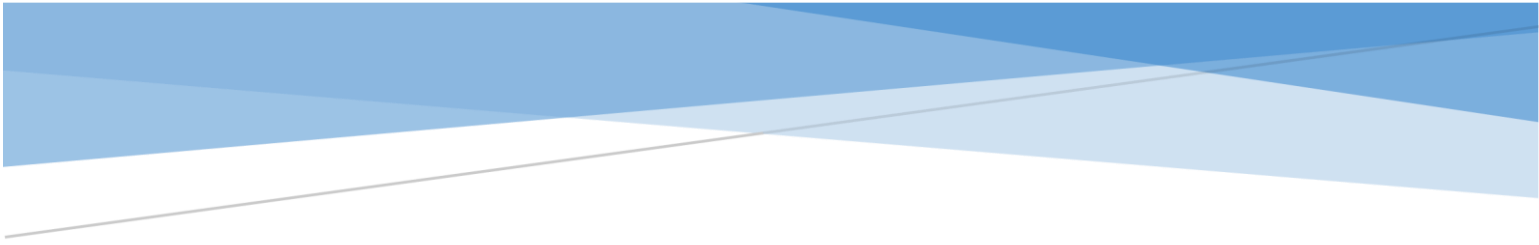
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GOVERNMENT  
FINANCIAL  
DISCLOSURES: THE  
TIMELINESS OF STATE  
COMPREHESIVE ANNUAL  
FINANCIAL REPORTS

Dylan Bartlett

Faculty Advisor: Catherine Plante

Honors Thesis: Spring 2016

# TABLE OF CONTENTS

<b>INTRODUCTION.....</b>	<b>2</b>
WHAT IS A COMPREHENSIVE ANNUAL FINANCIAL REPORT (CAFR)? .....	2
WHO ARE THE PRIMARY USERS OF A CAFR? .....	3
WHY IS TIMELINESS AN IMPORTANT CHARACTERISTIC OF FINANCIAL REPORTING? .....	4
<b>PREVIOUS STUDIES AND PUBLICATIONS.....</b>	<b>5</b>
<b>DATA AND METHODS.....</b>	<b>8</b>
DATA COLLECTION.....	8
ANALYSIS OF COMPLETION DATA FOR THE 50 STATES.....	8
<i>Table 1: Days to Complete CAFR (2005 – 2014)</i> .....	9
<i>Table 2: Yearly CAFR Completion Data (2005 – 2014)</i> .....	11
<i>Chart 1: Standard Deviation (2005 -2014)</i> .....	12
<i>Chart 2: Average Days to Complete (2005 – 2014)</i> .....	12
<i>Figure 1: Number of Times State CAFR Published in Later than 6 Months</i> .....	12
DESCRIPTION OF VARIABLES.....	13
<i>Table 3: Description of Variables</i> .....	13
DESCRIPTION OF MODELS .....	14
<i>Table 4: Model Description</i> .....	14
STATISTICAL METHODOLOGY .....	15
<b>RESULTS.....</b>	<b>16</b>
TABLE 5: SUMMARY RESULTS OF SIGNIFICANT INDEPENDENT VARIABLES .....	17
TABLE 6: SUMMARY RESULTS OF INSIGNIFICANT INDEPENDENT VARIABLES .....	18
TABLE 7: OVERALL SUMMARY RESULTS.....	19
<b>DISCUSSION OF RESULTS.....</b>	<b>19</b>
<b>CONCLUSION .....</b>	<b>24</b>
<b>APPENDIX.....</b>	<b>25</b>
TABLE 8: STATE STATUTES.....	25
MODEL 1: REGRESSION RESULTS.....	28
MODEL 2: REGRESSION RESULTS.....	29
MODEL 3: REGRESSION RESULTS.....	30
MODEL 4: REGRESSION RESULTS.....	31
MODEL 5: REGRESSION RESULTS.....	32
<b>WORKS CITED .....</b>	<b>33</b>

## **Introduction**

### *What is a Comprehensive Annual Financial Report (CAFR)?*

State Governments are required by GASB to release a Comprehensive Annual Financial Report, or a CAFR, each year. A CAFR can be broken down into three sections: the introductory section, the financial section, and the statistical section.

The introductory section includes the letter of transmittal, the prior year's certificate of achievement for excellence in financial reporting (if one was earned by the state), a list of the principal officers of the government, and an organizational chart of the government (Miller 12). The transmittal letter is the key component of this section, it includes the date the report is made available to the public as well as general information about the state (14). This information can vary from state to state because this section is not heavily regulated.

The financial section presents the government's financial statements and schedules, note disclosures and narrative. This section includes the independent auditor's report, the management discussion and analysis, the basic financial statements, required supplementary information, and combining and individual fund presentations and supplementary info (17). The basic financial statements are government wide, its component units, and its funds. This is the most important part of the report as it presents all of the state's financial information, as well as the independent auditor's report.

The statistical section provides additional historical perspective, context, and detail of the last ten years for the purpose of understanding and assessing a government's economic condition (61). This section includes financial trends, revenue capacity, debt capacity, demographics and economics information, and operating information (62). This section can be extremely useful in studying how the state has fared over the last ten years in the categories presented.

### Who are the Primary Users of a CAFR?

According to GASB statement No. 1, there are three groups believed to be primary users of a CAFR: the citizenry, legislative and oversight bodies, and investors and creditors. The statement further asserts that the four primary uses of a government financial statement are: to compare actual financial results with the legally adopted budget; to assess the financial condition of the government as well as the results of operations; to assist in determining compliance with finance-related laws, rules, and regulations; and to assist in evaluating efficiency and effectiveness of the government (GASB 11). Essentially the primary users of the CAFR use it to hold the government financially accountable.

The citizenry has a right to know how their government operates in a financial sense. The citizenry can use a CAFR to see how their government is spending tax money, how their government is performing financially, and how effective and efficient their government is. The citizenry is then able to hold their government accountable and know what their government is doing.

The legislative and oversight bodies use the CAFR in order to ensure the government's spending is in line with the budget and that the government obeys the appropriate laws and regulations. As elected representatives of the citizenry, it is in this group's best interest to ensure that the government is acting for the good of those who elected them.

The investors and creditors are interested in a government's CAFR so that they can ensure the government is in compliance with debt covenants, and also to determine the credit rating of the state. The CAFR is an important resource so that these users can determine each state's rate of borrowing.

### Why is Timeliness an Important Characteristic of Financial Reporting?

Timeliness is an important characteristic of financial reporting. According to paragraph 66 of GASB Concept Statement no. 1:

If financial reports are to be useful, they must be issued soon enough after the reported events to affect decisions. Timeliness alone does not make information useful, but the passage of time usually diminishes the usefulness that the information otherwise would have had. In some instances, timeliness may be so essential that it may require sacrificing a certain amount of precision or detail. Sometimes a timely estimate is more useful than precise information that takes a long time to produce (GASB 20).

Despite this there is no set deadline for government entities, in fact GASB has no actual authority to set a deadline. However, the Government Finance Officers Association has established the Certificate of Achievement for Excellence in Financial Reporting Program in order to encourage state and local governments to produce more transparent and timely CAFRs. The GFOA says about the program, “The goal of the program is not to assess the financial health of participating governments, but rather to ensure that users of their financial statements have the information they need to do so themselves” (GFOA). There is however no penalty for not participating in the program, or real benefit other than receiving a certificate that can be shown to users of the CAFR. The real benefit is that a participating government that earns a certificate is able to show its users that its report has earned an award for quality of reporting, lending to the report’s dependability.

Conversely, the SEC requires a publicly traded company to release its Form 10-K 90 days after its fiscal year-end for non-accelerated filers (less than \$75MM), 75 days after its fiscal

year-end for accelerated filers ( $\$75\text{MM} \leq \$700\text{MM}$ ), and 60 days after its fiscal year-end for large accelerated filers ( $\$700\text{MM}$  or more) (SEC). The fastest release of a CAFR from 2005 – 2014 was by Michigan at 82 days, and other than Michigan finishing in 90 days or less in 3 other years and in 92 days in 2008, the next fastest time is New York with 110 days. To give perspective, the average for all the states hovered around 200 days, almost 7 months, from 2005 – 2014.

### **Previous Studies and Publications**

The following research provides insight on the timeliness of governmental reporting. These studies look into what affects the timeliness of reporting as well as how the timeliness of reporting affects the usefulness of these reports to users.

Dwyer and Wilson performed research with the purpose of testing what factors affect the timeliness of reporting by municipalities. It was found that cities with strong financial viability that also participate in the Certificate of Conformance Program report faster than cities with weaker financial viability who do not participate in the certificate program. Dwyer and Wilson do not find this surprising since, “the program establishes reporting deadlines” (52). The study also indicates that “some technical factors such as who is responsible for preparation of the financial report (auditor vs. city) and the type of auditor (independent auditing firm vs. governmental) are associated with the timeliness of financial reporting” (53). This likely means that managerial competency is an important determinant of how timely reports are prepared. Lastly this research finds that timeliness of reporting is improved by regulation, meaning that policy makers should provide these accounting regulations to ensure timeliness.

GASB’s study, “The Timeliness of Financial Reporting by State and Local Governments Compared with the Needs of Users” published in March 2011, focused on how long

governments take to release their financial reports as well as how the usefulness of these reports are affected by the passage of time to users of these statements. The types of governments looked at included the 50 states, 100 largest counties and localities, and 50 largest independent school districts and special districts. Largest local and county governments and independent school districts issued financial reports approximately 6 months after fiscal year-end. State governments averaged close to 7 months. Special districts average about 4 months (Mead 2). Overall, the average government is much slower to release its financial statement than is a publicly traded company.

To determine how the usefulness of governmental financial reports was affected by the passage of time, GASB sent out surveys via email to three groups determined to be users of these statements. These groups are the National Federation of Municipal Analysts (NFMA), the Governmental Research Association (GRA), and the National Association of Legislative Fiscal Officers (NALFO). These three groups represent the three primary users outlined in GASB's Concept Statement No. 1: the NFMA represents investors and creditors, the GRA represents the citizenry, and the NALFO represents legislative and oversight bodies. The respondents answered the question, "How useful is or would information be if published [Time Frame] after the end of the fiscal year?". This question was answered using a Likert Scale (1 for "not useful at all"; 5 for "very useful"), for five different time frames: 45 days, 3 months, 6 months, 12 months, and later than 12 months (6). The results of this question were valuable to GASB so that they could determine what the users of government financial statements expected in terms of timeliness.

The results of the survey showed that 89% of respondents rated information received in 45 days as "very useful," while only 44% of respondents rated information received in 3 months as "very useful," and less than 9% of respondents rated information received in 6 months as



“very useful” (2). Only a total of 3% of respondents rated information received in 12 months and in later than 12 months as “very useful” (17). This is significant considering that state governments take an average of close to 7 months after fiscal year-end to release their financial reports. In order for governmental financial statements to be more useful to users, the government must improve upon the timeliness of these reports. It is then important to determine what affects the timeliness of these reports so that governments can use this information to improve the timeliness of these financial reports.

In a report released by NASACT, the AGA, and Grant Thornton LLP. called, “Charting a Course Through Stormy Seas: State Financial Executives in 2012,” state financial executives and managers are surveyed about different functions of their state financial systems, including a section about the timeliness of financial reporting. When asked, “How timely should a CAFR be issued to be useful for decision-makers?” 5% of executives answered with 2 months, 22% answered with 3 months, 16% answered with 4 months, 43% answered with 6 months, and 14% answered with other. Other online respondents answered the same question with 11% for 2 months, 34% for 3 months, 11% for 4 months, 5% for 5 months, 25% for 6 months and 14% for other (NASACT 9). Considering the average amount of days for a state to release a state has hovered around 200 days, it is not surprising that 43% of executives say that a CAFR is still useful to decision-makers after 6 months.

Another survey in this report asked the question, “What are the impediments to timelier issuance of a CAFR? (Please select no more than three).” 72% of state executives answered with “component units cannot provide audited financial statements timely”, 44% answered with “cannot get financial audit completed within the shorter timeframe”, and 44% answered with “shortages due to budget cuts do not provide adequate staffing” (11). Essentially, executives

either need financial information faster or they need a larger budget to hire more people to work on the CAFR to be able to issue a CAFR in a timely manner. Another interesting point is that 31% of executives say that “there is little real pressure from any group to produce it more timely” (11). This lends to the idea that states may increase the timeliness of reporting if they are held accountable, if they are given deadlines, and if given feedback by users. The lack of timeliness of reporting by states and by their component units could realistically be fixed by more stringent regulation of when these documents need to be completed.

### **Data and Methods**

#### **Data Collection:**

This research examines the release dates of each of the 50 states CAFR from the years 2005 – 2014. After studying the number of days it took for each state to complete their annual CAFR in the years 2005 – 2014, information about each state was collected from sources including the CAFR of each state, the U.S Census Bureau, the statutes of each state pertaining to the state government’s preparation of its CAFR, and from websites containing information on election data. Data was collected from these sources to determine the characteristics of each state and its government.

#### **Analysis of Completion Data for the 50 States:**

Table 1 shows how many days it took for each state to complete and publish its CAFR after its fiscal year-end, as well as each state’s fiscal year-end. Numbers highlighted in green indicate that the state completed its annual CAFR in 6 months or less, yellow indicates the state finished in 6 – 8 months, light red indicates the state finished in 8 – 10 months, and the darker red indicates that the state finished any time after 10 months.

**Table 1:**

Days to Complete CAFR											
State	Fiscal Year End	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Alabama	9/30	182	182	183	182	182	182	182	180	182	182
Alaska	6/30	168	168	168	168	168	168	168	167	166	168
Arizona	6/30	274	329	352	330	311	247	225	198	183	252
Arkansas	6/30	175	175	174	176	176	175	175	173	176	184
California	6/30	295	271	272	267	253	261	267	269	295	269
Colorado	6/30	182	161	174	172	171	170	169	167	166	165
Connecticut	6/30	454	299	243	243	243	212	243	243	243	243
Delaware	6/30	188	227	174	233	183	182	221	202	221	172
Florida	6/30	223	215	240	241	240	243	209	221	236	242
Georgia	6/30	176	196	215	200	184	191	183	181	184	184
Hawaii	6/30	214	258	312	326	477	469	231	207	211	184
Idaho	6/30	182	161	160	176	169	156	176	173	176	176
Illinois	6/30	351	237	361	375	365	365	337	335	243	255
Indiana	6/30	181	181	184	183	183	240	182	174	183	183
Iowa	6/30	172	173	167	163	171	168	168	167	166	165
Kansas	6/30	183	183	184	184	184	184	168	254	173	168
Kentucky	6/30	175	172	171	172	174	170	169	167	166	168
Louisiana	6/30	272	184	187	184	184	183	181	180	173	172
Maine	6/30	184	250	172	234	176	174	182	174	176	184
Maryland	6/30	158	153	163	165	164	163	168	165	166	170
Massachusetts	6/30	175	175	177	176	176	202	187	172	173	176
Michigan	9/30	89	181	89	92	150	141	161	151	82	90
Minnesota	6/30	141	167	160	162	164	173	173	263	171	165
Mississippi	6/30	173	203	244	172	171	209	172	173	172	227
Missouri	6/30	204	215	243	193	184	209	209	208	194	196
Montana	6/30	169	174	181	165	175	190	273	223	213	336
Nebraska	6/30	175	175	181	177	182	182	182	200	184	170
Nevada	6/30	169	168	167	168	211	173	215	170	170	173
New Hampshire	6/30	264	266	167	172	206	182	244	184	176	184
New Jersey	6/30	183	210	244	304	248	154	189	193	255	276
New Mexico	6/30	731	731	398	215	262	258	356	426	364	360
New York	3/31	110	112	114	116	115	114	116	114	116	115
North Carolina	6/30	161	164	160	161	161	161	161	156	148	155
North Dakota	6/30	210	165	165	171	170	168	173	167	170	170
Ohio	6/30	316	266	303	462	304	205	204	264	173	175

Oklahoma	6/30	242	181	213	183	184	183	183	214	184	184
Oregon	6/30	184	182	174	207	183	175	202	172	212	183
Pennsylvania	6/30	176	175	173	182	206	175	165	172	166	172
Rhode Island	6/30	232	182	283	283	280	183	175	173	172	171
South Carolina	6/30	153	144	138	135	157	170	161	342	229	175
South Dakota	6/30	232	297	369	347	274	324	356	271	257	240
Tennessee	6/30	173	174	160	165	405	272	182	174	166	172
Texas	8/31	181	181	182	180	179	181	176	175	174	180
Utah	6/30	137	136	143	157	146	141	120	111	115	127
Vermont	6/30	182	184	215	176	170	173	176	180	171	171
Virginia	6/30	167	167	167	165	167	167	168	167	166	168
Washington	6/30	174	171	167	170	176	153	145	138	131	123
West Virginia	6/30	235	248	275	273	241	243	228	215	228	274
Wisconsin	6/30	167	168	167	164	164	163	174	166	164	165
Wyoming	6/30	168	175	215	184	210	183	180	174	173	172

Table 2 shows descriptive statistics for all 50 states combined from 2005 – 2014. This table shows that the yearly average for a state to complete its CAFR after its fiscal year-end has actually decreased over the last 10 years by 18 days. This shows that the states have improved in the timeliness of publishing financial reports during this time. This could be because of improved technology in accounting, more regulation, or more efficient accounting practices.

A CAFR has never been released in less than 89 days (just under 3 months), and has been released as late as 731 days (almost 2 years) from 2005 – 2014. Michigan and New York account for 9 out of 10 of the fastest release times for a CAFR, while New Mexico by itself accounts for over 7 out of 10 of the slowest release times for a CAFR. Michigan has released their CAFR in 3 months or less, 5 out of ten times from 2005 - 2014, which is as fast as a publicly traded company designated as a non-accelerated filer by the SEC. On the other side of the spectrum is the state of New Mexico, who has been abysmal in releasing its CAFR in a timely manner taking over a year to issue a CAFR 5 different times, and over 2 years is issue a CAFR twice from 2005 - 2014.

The median shows that about half the states finished in the encouraged 6-month time frame in the time from 2005 to 2014, while the other half did not. The decrease in the median also indicates that at least the faster half of the states are faster issuing a CAFR in 2014 than in 2005.

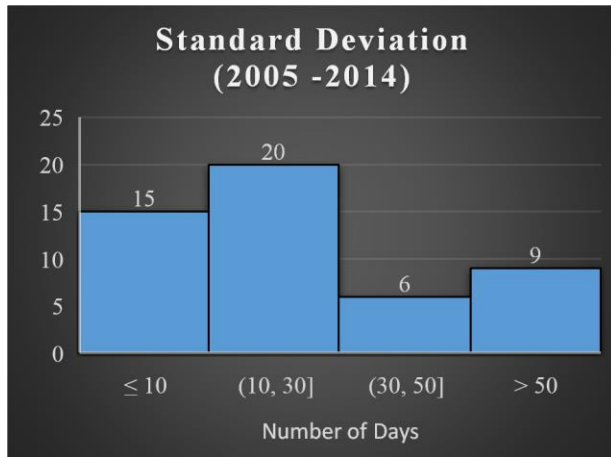
**Table 2:**

Yearly CAFR Completion Data (2005-2014)										
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Yearly Average (Days)	209	206	206	205	208	198	196	198	187	191
Least Time (Days)	89	112	89	92	115	114	116	111	82	90
Most Time (Days)	731	731	398	462	477	469	356	426	364	360
Median (Days)	181.5	181	179	178.5	182.5	182	181.5	174.5	173.5	175

Chart 1 is a histogram showing the number of states that had similar standard deviations from 2005 – 2014. This chart is helpful in determining how many states consistently finish their CAFR around the same time every year, and how many are not so consistent.

Chart 2 is another histogram showing the number of states that took a similar amount of time to complete their CAFR. This chart displays the average completion time of the 50 states from 2005 – 2014, broken down into four categories. Like the median in Table 2, Chart 2 shows that half the states finish in 6 months or less, but goes further to breakdown how many states on average finish in 6 – 8 months, in 8 – 10 months, and in 10 months or more.

**Chart 1:**



**Chart 2:**

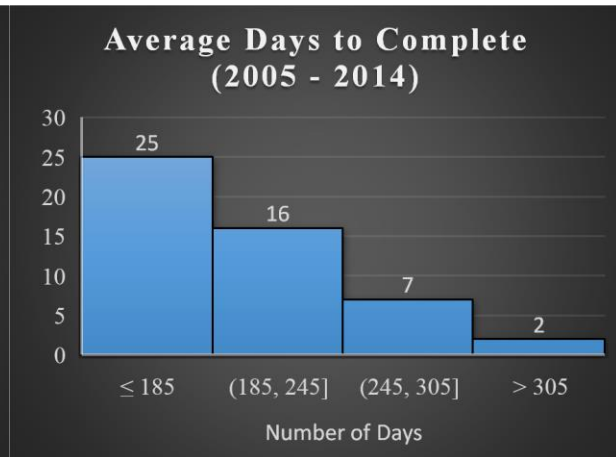
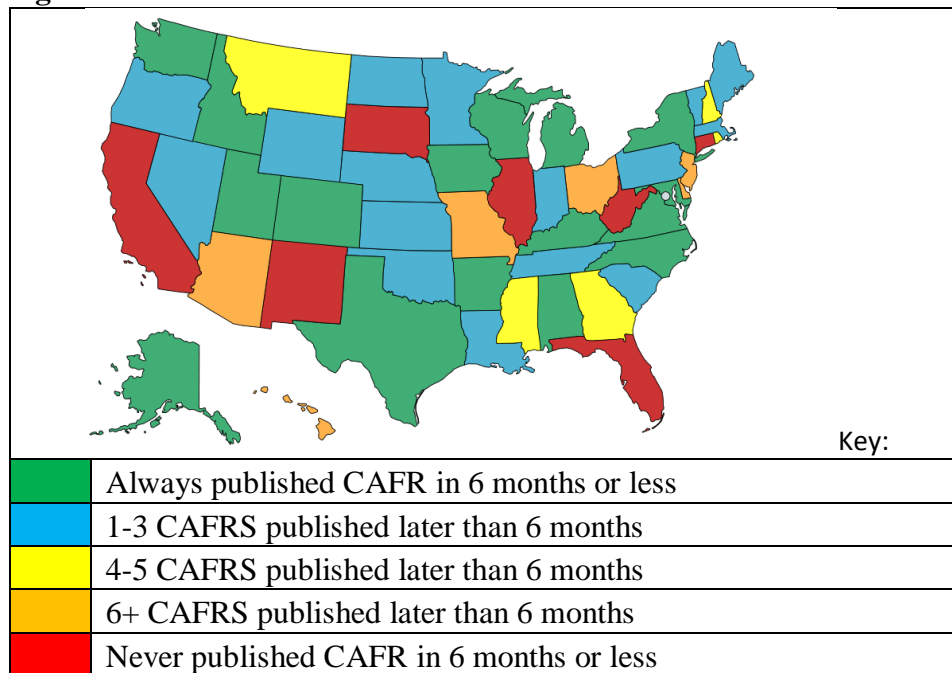


Figure 1 below shows a map of the 50 states, color coded by number of times a state took more than 6 months to release its CAFR. The key takeaway from this figure is that there are really no geographical groupings to be seen on which states consistently finished in 6 months or less, and which states did not. This indicates that the geographical region a state is located in does not impact how timely a state is in releasing its CAFR.

**Figure 1:** Number of Times State CAFR Published in Later than 6 Months



Description of Variables:

The following variables were collected in order to see which ones correlated with more or less time to complete the CAFR of a state government:

**Table 3:**

Description of Variables	
	Definitions:
<b>Dependent Variable:</b>	
Time (Days)	Number of Days after a state's fiscal-year end that it takes for the state to make its CAFR available to the public.
<b>Independent Variables:</b>	
Total Revenues	Can be found in the statistical section of each state's CAFR under financial trends, changes in net position. This number is equal to <b>(Total Primary Government Program Revenues + Total Primary Government General Revenues)</b>
% Business Revenues	Can be found in the statistical section of each state's CAFR under financial trends, changes in net position. This number is equal to <b>(Total Business Program Revenues + Total Business General Revenues and Other Changes in Net Position)/ Total Revenues</b>
Debt Capacity	Can be found in the statistical section of each state's CAFR under Debt Capacity, Ten - Year Schedule of Per Capita General Long - Term Bonded Debt and Capital Leases. <b>(Total Primary Government)</b>
Debt Ratio	Can be found in the Government-Wide Financial Statements, The Statement of Net Position. Calculated as <b>(Total Liabilities/Total Assets)</b>
Population	The total number of people who live in a state. Found by the U.S. Census Bureau.
Total Employees (State)	Total number of people employed by the entire state government. Found by the U.S. Census Bureau.
Total Employees (Financial)	Total number of people employed by the financial administration of the state government. Found by the U.S. Census Bureau.
Adopted Principles	The total number of GASB Pronouncement implemented during each fiscal year. Found in the notes of a state's CAFR.
Discretely Presented Component Units	The total number of major and non-major discretely presented component units of each state. Found in the notes of a state's CAFR
Statute	Dummy, coded 1 if state has a statute specifying when CAFR should be prepared by, coded 0 if no such statute exists.

Is State Auditor Elected?	Dummy, coded 1 if state elects its state auditor, coded 0 if the state auditor is appointed by the legislature or the governor, or if the state is audited by an independent auditing firm.
Is Auditor CPA?	Dummy, coded 1 if auditor of the state's CAFR is a CPA or if the state is audited by an auditing firm, coded 0 if the auditor is not a CPA.
Credit Rating (S&P)	The credit rating earned by each state for each year 2005 – 2014. Ratings go from lowest to highest: A-, A, A+, AA-, AA, AA+, AAA. To run the regression, the rankings were replaced with the numbers 1 – 7; 1 being the lowest and 7 being the highest.

Description of Models:

Table 4 below breaks down the composition of all the models. A green cell marked with a X indicates that an independent variable is included in the model the X is listed under. The table also gives the time period the model covers, as well as the sample size of the model.

**Table 4:**

Independent Variables:	Model Description				
	Model 1	Model 2	Model 3	Model 4	Model 5
Time Period	2005 - 2014	2010 - 2014	2005 - 2014	2005 - 2014	2005 - 2014
Sample Size	500	250	500	500	500
Total Revenues	X	X	X	X	
% Business Revenues	X	X			
Debt Capacity	X	X	X	X	
Debt Ratio		X			
Population	X	X	X	X	
Total Employees (State)	X	X			
Total Employees (Financial)	X	X			
Adopted Principles		X			
Discretely Presented Component Units		X			
Statute	X	X	X		X
Is State Auditor Elected?	X	X			
Is Auditor CPA?	X	X			
Credit Rating (S&P)	X	X	X	X	



Model 1 was designed to test for all the variables that could be obtained for the entire period from 2005 – 2014. Due to limitations in the availability of state CAFRs from the years 2005 – 2009, the data on three independent variables could not be reliably found and therefore these variables could not be included in model 1. These variables are debt ratio, adopted principles, and discretely presented component units.

Model 2 was designed to test for all of the variables, but only for the years 2010 – 2014. This was because the data for the three variables that could not be included in model 1 was reliably found in every state's CAFR for the years 2010 – 2014. Since there was no missing data all the data could be used, but because the years 2005 – 2009 could not be included the number of observations dropped from 500 to 250.

Model 3 was designed to test for all of the five independent variables that were deemed to have a significant p-value,  $<.05$  in both models 1 and 2, in order to potentially get better regression results.

Models 4 and 5 were designed to break up model 3 to analyze the variables based on type of independent variable. Model 4 includes debt capacity, total revenues, population, and credit rating to determine what effect the measures of financial health and state size have on when a state CAFR is released. Model 5 is a single regression for the statute variable to determine what effect this variable has by itself on when a state CAFR is released.

#### Statistical Methodology:

The relationships between the chosen independent variables and the dependent variable were tested by running multiple linear regressions for models 1 – 4. A single linear regression was run for model 5. All regressions were run using excel, and are included in the appendix.

## Results

Table 5 below summarizes the results of the independent variables from the 5 models. Table 6 summarizes the results of the insignificant independent variables from models 1 and 2. The variables listed are the ones that were determined to be significant in each model. Regardless of which model was run, the same variables came back as significant in every one.

A variable was determined to be significant if the P-Value  $< 0.05$ . Interestingly, all the variables (except for population in model 3) came back with a P-Value  $< 0.01$ , which is a good sign that these variables are actually statistically significant in these models. The strongest variables seemed to be statute and debt capacity, because the regressions consistently calculated them to have a P-Value  $< 0.0001$ .

The coefficient shows the effect each variable had on the number of days it took for a state to release its CAFR. A negative coefficient indicates that a higher value of the variable decreased the amount of time it took for a state to release its CAFR, while a positive coefficient indicates that a higher value of the variable increased the amount of time it took for a state to release its CAFR. Interestingly in every model the statute, total revenues, and credit rating (S&P) variables consistently decreased how long a government took to release its CAFR, while the debt capacity and population variables consistently increased how long a government took to release its CAFR. The statute variable also consistently had the greatest effect, decreasing the release time of a CAFR by over a month in each model.

The standard error of each variable indicates that the variability of each variable is relatively small, with the biggest being from the statute variable. This is not surprising that the statute variable was run through the models using a dummy variable, 1 for yes there is a statute specifying a deadline, 0 for no there is no such statute. Also the fact that different states require

different deadlines contributes to the higher standard error. All other variables' standard errors are relatively small indicating low variability in these variables.

**Table 5:**

<b>Summary Results of Significant Independent Variables</b>			
<b>Model 1</b>			
Variables that Came Back Significant:	P-Value	Coefficient	Standard Error
Debt Capacity (Billions)	0.0000	1.9672	0.3617
Total Revenues (Billions)	0.0000	-1.6590	0.3654
Population (Millions)	0.0091	6.1721	2.3553
Statute	0.0000	-41.2566	5.9349
Credit Rating (S&P)	0.0033	-7.8072	2.6399
<b>Model 2</b>			
Variables that Came Back Significant:	P-Value	Coefficient	Standard Error
Debt Capacity (Billions)	0.0000	2.4768	0.5740
Total Revenues (Billions)	0.0040	-1.6610	0.5721
Population (Millions)	0.0052	7.8221	2.7709
Statute	0.0000	-33.8839	6.6375
Credit Rating (S&P)	0.0062	-8.4154	3.0458
<b>Model 3</b>			
Variables that Came Back Significant:	P-Value	Coefficient	Standard Error
Statute	0.0000	-43.9313	5.6025
Debt Capacity (Billions)	0.0000	1.9800	0.3362
Total Revenues (Billions)	0.0000	-1.5653	0.3178
Population (Millions)	0.0227	3.4869	1.5257
Credit Rating (S&P)	0.0044	-7.2321	2.5275
<b>Model 4</b>			
Variables that Came Back Significant:	P-Value	Coefficient	Standard Error
Debt Capacity (Billions)	0.0000	1.5821	0.3520
Total Revenues (Billions)	0.0000	-1.7820	0.3354
Population (Millions)	0.0006	5.5304	1.5925
Credit Rating (S&P)	0.0003	-9.5981	2.6583
<b>Model 5</b>			
Variables that Came Back Significant:	P-Value	Coefficient	Standard Error
Statute	0.0000	-42.4358	5.7386

**Table 6:**

<b>Summary Results of Insignificant Independent Variables</b>			
<b>Model 1</b>			
<b>Variables that Came back Significant:</b>	<b>P-Value</b>	<b>Coefficient</b>	<b>Standard Error</b>
% Business Revenues	0.6672	-15.4018	35.8004
Total Employees: State (Thousands)	0.1338	-0.2292	0.1527
Total Employees: Financial (Thousands)	0.5029	1.5841	2.3627
Is State Auditor Elected?	0.2841	6.5511	6.1095
Is independent auditor cpa?	0.1823	8.5229	6.3809
<b>Model 2</b>			
<b>Variables that Came back Significant:</b>	<b>P-Value</b>	<b>Coefficient</b>	<b>Standard Error</b>
Debt Ratio	0.3203	9.9439	9.9842
% Business Revenues	0.7915	-10.1331	38.2887
Total Employees: State (Thousands)	0.0698	-0.3634	0.1995
Total Employees: Financial (Thousands)	0.7877	-0.9548	3.5409
Adopted Principles	0.9796	-0.0496	1.9394
Discretely Presented Comp. Units	0.4323	0.1691	0.2150
Is State Auditor Elected?	0.0419	13.7467	6.7190
Is independent auditor cpa?	0.1561	10.4820	7.3678

Table 7 below summarizes the overall results of the 5 models. It is notable that the R-Square value of each model is fairly low, not exceeding 0.3035. It is likely that the only reason the R-Square values are as high as they are in models 1 and 2 is because of the increased number of variables included in those models. Model 3, which includes all five of the variables found to be significant, has an R-Square value of 0.1951, meaning the model captures almost 20% of the variation in the data. Model 4, comprised of the significant variables related to financial viability and state size, had an R-Value of .0950, meaning the model captures almost 10% of the variation in the data. It is notable that model 5, which is a single regression for the statute variable, the R-Value is .0989, meaning that the statute variable by itself accounts for almost 10% of the variation in the data.

The standard error of each model is fairly high, indicating that the accuracy of each model as a whole is not very high. Basically, these models would not be useful if used to predict

how long it will take a state to release its CAFR. These models are more useful in determining which variables are significant, and how significant these variables are.

**Table 7:**

<b>Overall Summary Results</b>				
<b>Models:</b>	<b>R-Square</b>	<b>Adjusted R-Square</b>	<b>Standard Error</b>	<b>Observations</b>
Model 1	0.2068	0.1906	59.9652	500
Model 2	0.3035	0.2651	44.8966	250
Model 3	0.1951	0.1870	60.0984	500
Model 4	0.0950	0.0877	63.6644	500
Model 5	0.0989	0.0971	63.3328	500

### **Discussion of Results**

Of all the variables tested it was found that debt capacity, total revenues, population, credit rating (S&P), and having a statutory deadline for a state CAFR all have a significant effect on when a state CAFR is issued.

The variables related to financial viability seem to indicate that states that are better off financially tend to issue a CAFR faster than less financially viable states. The results indicate that states with more general long-term bonded debt and capital leases tend to take a longer amount of time to issue a CAFR, while states with more earned in total revenues tend to take a shorter amount of time to issue a CAFR. This could be because states have more resources available to put towards timely and efficient reporting, or that states will report faster if they have good news to report to users. The results also show that a state with a better credit rating will issue its CAFR significantly earlier than other states. This results make sense because receiving better credit ratings can decrease borrowing rates for a state, which can act a big motivator for completing a timely report. Conversely, for the same reason it would make sense

for states who issue timely CAFRs to have better credit ratings. Overall, it appears as though a state that is better run financially also issues its CAFR in a timelier manner.

The results for the population variable are indicate that a greater population leads to less timely reporting. This could mean that bigger states take longer because there is more to report on than in smaller states. There are however some outliers that stand out that refute this claim including New York, Michigan, and North Carolina being among the 5 fastest states to issue a CAFR on average from 2005 – 2014, while all being among the 10 most populated states over that same time. At the same time there are states that back this claim including, Florida, Ohio, California, and Illinois are among the 10 slowest states to issue a CAFR on average from 2005 – 2014, and are also among the 7 most populated states over that same time. If this is taken into account alongside the results of the statute variable, it is interesting to note that New York, Michigan, and North Carolina all have a statute specifying some sort of deadline for the CAFR, while Ohio, California, and Illinois do not. Florida actually does have a deadline, but it is on February 28, which the state actually does adhere to every year from 2005 -2014. This could mean that larger states that are not regulated by some sort of statutory deadline are more prone to release a CAFR later due to lack of a deadline and because there is more to report on. The results for the population variable by itself does not explain the timeliness of a state CAFR, but does seem more relevant if taken into account with other variables.

The most significant finding is that states with a statutory deadline for when to complete its CAFR will do so significantly faster than a state without one. This is not surprising considering the preparer of the CAFR is required by law to submit a CAFR in a certain amount of time. Table 8, included in the appendix, indicates whether a state has a statutory deadline, when that deadline is, the state's average completion time and date from 2005 – 2014, and how

many times a state published their CAFR later than the established deadline. It is interesting to note that states with these established deadlines rarely if ever missed the deadline, and if they did it was not by much. This finding supports Dwyer and Wilson's finding that timeliness of reporting can be improved by regulation from the appropriate authorities.

It is rather surprising that size of government is not considered significant, but this is likely because not everyone works on preparing the CAFR. Unfortunately, the exact number of people who helped to prepare a CAFR could not be found reliably for every state. It is also surprising that the number of component units does not show any significance in when a CAFR is issued. This could again relate to managerial competency, meaning that states with better organization and communication strategies report faster regardless of size or complexity.

Debt ratio coming back as statistically insignificant could be because only debt related to bonds matters. Also percentage of total revenues that are business revenues coming back insignificant signifies that it does not matter where the revenues come from, only the amount earned by the state.

The variables concerning whether a state auditor is elected and whether the independent auditor is a CPA coming back insignificant could signal that who the auditor is and how they get their job does not bear weight on the timeliness of a CAFR. The other variables seem to suggest the problems with timeliness come before the audit as it is. However, it would be interesting to look more in depth into the characteristics of the preparer of the CAFR and the auditors, especially since a lot of the variables seem to indicate that a government is well run.

Other reasons related to some states releasing a CAFR later than other states include, faulty/outdated accounting systems, difficulty implementing some accounting pronouncements, and late submissions of financial statements by component units. These variables could not be

measured in a way that would work in a regression, because these reasons are instead explanations given by different states for the lack of timeliness in reporting.

Illinois is an example of a state with an inadequate financial reporting process that prevents the state from completing its CAFR in a timely manner. In Illinois's statewide financial statement audit for the year ended June 30, 2014, the auditor general of Illinois writes:

Accurate and timely financial reporting problems continue to exist even though the auditors have: 1) continuously reported numerous findings on the internal controls (material weaknesses and significant deficiencies), 2) commented on the inadequacy of the financial reporting process of the State, and 3) regularly proposed adjustments to financial statements year after year. These findings have been directed primarily towards major State agencies under the organizational structure of the Office of the Governor and towards the Office of the State Comptroller (Illinois 5).

The above quotation from Illinois's annual report on the statewide financial statement audit indicates a lack of managerial competency in the Illinois government. However, Illinois has taken a couple of steps to address the timeliness of their reports by issuing two public acts: public act 97 – 408 and public act 97 – 1055. Public act 97 – 408, establishes a deadline for state agencies and component units to submit their financial statements to the state comptroller, while public act 97 – 1055 establishes a financial reporting standards board to help improve upon the state's overall quality of reporting (5). Since these two acts have become effective the time to issue a CAFR has decreased significantly, but still not to average levels. This point can also be used to illustrate the use of statutes to improve the timeliness of state financial reporting.



Alaska's governor came out and said that the Alaska CAFR is going to be published late due to difficulties implementing a new accounting standard. Alaska's administration commissioner Sheldon Fischer wrote a letter to legislative leaders saying that the state was having issues implementing the new rule requiring the disclosure of state and local government entities pension obligations (Herz). This illustrates that it is not the amount of new accounting pronouncements implemented that affect the timing of a CAFR, but a state's ability to implement a standard. This likely reflects a state's managerial competency and the efficiency and effectiveness of the accounting systems as well as the accounting protocols of a state.

Late submissions of financial statements by component units of states is an important reason why a state may release its CAFR later than other states. It would be interesting to study the dates that component units and state agencies submitted their financial statements to the state versus when a CAFR was published, but unfortunately this data could not be easily found. It is however interesting to note that Michigan, one of the fastest states to issue a CAFR from 2005 – 2014, has a fiscal year-end for component units on June 30, while the state's fiscal year end is on September 30, this gives the component units an ample amount of time to complete their financial statements and has allowed Michigan to be able to release a CAFR in 3 months or less 5 out of 10 times over the last 10 years (Barrett and Greene). This also relates to the survey by NASACT, AGA, and Grant Thornton LLP, in which 72% of state executives said that component units were not timely in submitting financial statements. This indicates that if states were to give their component units more time to prepare financial statements, the state as a whole could be better able to release its CAFR in a timelier fashion.

Support from the top is also another important factor in how long it takes a state government to produce its CAFR. The acting state auditor of Hawaii, Jan Yamane, said that,

“Basically, the governor said it was very important that financial reporting become more timely because it was affecting bond ratings.” Hawaii then went from having one of the slowest issuance times, 469 days in 2010, to having a time that is better than average, 184 days in 2014 (Barrett and Greene). This supports the point that better management practices can have a positive effect on the amount of time it takes for a state government to issue a CAFR. It also points out that bond ratings are a motivator to produce a CAFR in a timelier manner.

An example of a state with good management practices is Utah, one of the fastest states to issue its CAFR from 2005 – 2014.

Utah developed a spreadsheet to identify the places in the process where the state had trouble gathering information for financial reports. Reformers worked on identifying the major tasks, when they could be done and how fast they could be done. Success depended on coordinating schedules, communicating with other agencies about the importance of timeliness and doing lots of training (Barrett and Greene).

This quotation is further evidence showing that effective organization and communication are among the most important things for a state to be good at in order to achieve timely reporting.

### **Conclusion**

The results and the evidence from other sources as a whole seem to point towards the fact that a state that is held accountable by upper management, by statutory requirements, and that is financially sound tends to release its CAFR sooner than states without such characteristics. It can be concluded that states that are better managed issue timelier reports. Also public policy makers should also consider implementing deadlines for submission of financial reports for the state and component units to improve the timeliness of reporting.

## Appendix

**Table 8: State Statutes**

State	Statute that Pertains to State CAFR	Does the Statute Specify Deadline for CAFR?	Dead line	Average Days to Complete CAFR	Average Date of Completion	Number of Late Publications (2005 -2014)
Alabama	Alabama Code - Section 41-4-3 (5)	No		181.9		
Alaska	Alaska Code - Section 37-05-210	Yes	16-Dec	167.7	14-Dec	0
Arizona	Arizona Revised Statutes- Section 35-131	No		270.1		
Arkansas	Arkansas Code- 19-4-517 (2012)	No		175.9		
California	California Government Code: Section 12460	No		271.9		
Colorado <sup>a</sup>	Colorado Revised Statutes: Section 24-30-204 (2013)	Yes	20-Sep	169.7	16-Dec	
Connecticut	Connecticut General Statutes: Section 3-115 (2012)	No		266.6		
Delaware	Delaware Code: Section 8313	No		200.3		
Florida	Florida Statutes: Section 216-102 (3) (2015)	Yes	28-Feb	231	16-Feb	0
Georgia	Official Code of Georgia Annotated, Section 50-5B-3 (a)(7)	No		189.4		
Hawaii		No		288.9		
Idaho	Idaho Code Section 67-1001	Yes	1-Jan	170.5	17-Dec	0
Illinois	15 Illinois Compiled Statutes- 405/19.5	No		322.4		
Indiana	Indiana Code: Section 4-10-13-2 (2)(b)	Yes	31-Dec	187.4	3-Jan	1
Iowa	Iowa Code: 8A.502 (8)	No		168		
Kansas	Kansas Statutes: 75-3735	Yes	31-Dec	186.5	2-Jan	1
Kentucky <sup>a</sup>	Kentucky Revised Statutes: 48.800 (2013)	No	28-Sep	170.4	17-Dec	

Louisiana	Louisiana Revised Statutes: 39.80 (2014)	Yes	31-Dec	190	6-Jan	2
Maine <sup>a</sup>	Maine Revised Statutes: 5-4-143-1547 (1)	Yes	1-Nov	190.6	6-Jan	
Maryland	Maryland State Finance and Procurement Code 2-102 (2013)	Yes	The 10th day after the 2nd Wednesday in January	163.5	10-Dec	0
Massachusetts	Massachusetts General Laws: Part 1, Title 2, Chapter 7A, Section 12 (c)	Yes	The 2nd Wednesday in January	178.9	25-Dec	0
Michigan	Section 494, Public Act 431 of 1984	Yes	29-Mar	122.6	30-Jan	0
Minnesota	Minnesota Statutes: 16A.50 (2015)	Yes	31-Dec	173.9	20-Dec	1
Mississippi	Section 27-104-4, Mississippi Code Annotated (1972)	Yes	31-Dec	191.6	7-Jan	4
Missouri		No		205.5		
Montana	Title 17, Chapter 2, Part 110, Montana Code Annotated	No		209.9		
Nebraska	None Found	No		180.8		
Nevada	Nevada Revised Statutes 227.110	No		178.4		
New Hampshire	New Hampshire Revised Statutes Annotated 21-I:8 II (a)	Yes	31-Dec	204.5	20-Jan	4
New Jersey	New Jersey Statutes: 52:27B-46	Yes	1-Mar	225.6	10-Feb	4
New Mexico	New Mexico Statute: 6-5-4.1 (2013)	No		410.1		
New York	Chapter 405, Laws of 1981	Yes	28-Jul	114.2	23-Jul	0

North Carolina <sup>a</sup>	General Statutes: 143B-426.39	Yes	31-Oct	158.8	5-Dec	
North Dakota	North Dakota Century Code: Section 54-44-04 (14)	No		172.9		
Ohio	Ohio Revised Code: Section 126.21	No		267.2		
Oklahoma	Oklahoma Statutes: 62-34.10	No		195.1		
Oregon	Oregon Revised Statutes: 291.040	Yes	27-Dec	187.4	3-Jan	7
Pennsylvania	Executive Order No. 1984-3, dated October 11, 1984	No		176.2		
Rhode Island	Section 35-6-1 of the General Laws	No		213.4		
South Carolina		No		180.4		
South Dakota	South Dakota Codified Law 4-4-6	No		296.7		
Tennessee	Tennessee Code Annotated 4-3-1007	No		204.3		
Texas	Texas Government Code: Title 10, Subtitle C, Chapter 2101, Subchapter A, Section 2101.011	No		178.9		
Utah	South Dakota Codified Law 4-4-6	No		133.3		
Vermont	Vermont Statutes Annotated, Section 182(a)(8)	Yes	31-Dec	179.8	26-Dec	1
Virginia	Section 2.2-813 of the Code of Virginia	Yes	15-Dec	166.9	13-Dec	0
Washington	Revised Code of Washington 43.88.027	Yes	31-Dec	154.8	1-Dec	0
West Virginia	West Virginia Code 5A-2-33 (8)	No		246		
Wisconsin		No		166.2		
Wyoming	Wyoming Statutes: 9-1-4023(a)(v)	Yes	31-Dec	183.4	30-Dec	2

<sup>a</sup>: The deadline for the state requires the CAFR to be submitted to the legislature or governor by that date, not issued to the public.

**Model 1**

<i>Regression Statistics</i>	
Multiple R	0.4548
R Square	0.2068
Adjusted R Square	0.1906
Standard Error	59.9652
Observations	500

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	10	458477.952	45847.795	12.750	0.0000
Residual	489	1758356.815	3595.821		
Total	499	2216834.767	68		

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	263.3993	17.2342	15.2835	0.0000	229.5371	297.2615	229.5371	297.2615
<b>Debt Capacity (Billions)</b>	<b><u>1.9672</u></b>	0.3617	5.4389	0.0000	1.2565	2.6779	1.2565	2.6779
<b>Total Revenues (Billions)</b>	<b><u>-1.6590</u></b>	0.3654	-4.5401	0.0000	-2.3770	-0.9410	-2.3770	-0.9410
% Business Revenues	-15.4018	35.8004	-0.4302	0.6672	-85.7434	54.9397	-85.7434	54.9397
<b>Population (Millions)</b>	<b><u>6.1721</u></b>	2.3553	2.6205	0.0091	1.5443	10.7999	1.5443	10.7999
Total Employees: State (Thousands)	-0.2292	0.1527	-1.5016	0.1338	-0.5292	0.0707	-0.5292	0.0707
Total Employees: Financial (Thousands)	1.5841	2.3627	0.6704	0.5029	-3.0583	6.2264	-3.0583	6.2264
<b>Statute</b>	<b><u>-41.2566</u></b>	5.9349	-6.9515	0.0000	-52.9177	-29.5955	-52.9177	-29.5955
Is State Auditor Elected?	6.5511	6.1095	1.0723	0.2841	-5.4531	18.5553	-5.4531	18.5553
Is independent auditor cpa?	8.5229	6.3809	1.3357	0.1823	-4.0145	21.0604	-4.0145	21.0604
<b>Bond Rating (S&amp;P)</b>	<b><u>-7.8072</u></b>	2.6399	-2.9574	0.0033	-12.9943	-2.6202	-12.9943	-2.6202

**Model 2**

<i>Regression Statistics</i>	
Multiple R	0.5509
R Square	0.3035
Adjusted R Square	0.2651
Standard Error	44.8966
Observations	250

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	13	207272.019	15944.001	7.9099	0.0000
Residual	236	475705.581	2015.701		
Total	249	682977.600			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	250.2200	23.2721	10.7519	0.0000	204.3725	296.0676	204.3725	296.0676
Debt Ratio	9.9439	9.9842	0.9960	0.3203	-9.7256	29.6134	-9.7256	29.6134
<b>Debt Capacity (Billions)</b>	<b><u>2.4768</u></b>	0.5740	4.3147	<b>0.0000</b>	1.3459	3.6077	1.3459	3.6077
<b>Total Revenues (Billions)</b>	<b><u>-1.6610</u></b>	0.5721	-2.9035	<b>0.0040</b>	-2.7880	-0.5340	-2.7880	-0.5340
% Business Revenues	-10.1331	38.2887	-0.2647	0.7915	-85.5643	65.2981	-85.5643	65.2981
<b>Population (Millions)</b>	<b><u>7.8221</u></b>	2.7709	2.8229	<b>0.0052</b>	2.3632	13.2810	2.3632	13.2810
Total Employees: State (Thousands)	-0.3634	0.1995	-1.8216	0.0698	-0.7564	0.0296	-0.7564	0.0296
Total Employees: Financial (Thousands)	-0.9548	3.5409	-0.2696	0.7877	-7.9306	6.0210	-7.9306	6.0210
Adopted Principles Discretely Presented Comp. Units	-0.0496	1.9394	-0.0256	0.9796	-3.8703	3.7712	-3.8703	3.7712
<b>Statute</b>	<b><u>-33.8839</u></b>	6.6375	-5.1049	<b>0.0000</b>	-46.9601	-20.8076	-46.9601	-20.8076
Is State Auditor Elected?	13.7467	6.7190	2.0459	0.0419	0.5098	26.9835	0.5098	26.9835
Is independent auditor CPA?	10.4820	7.3678	1.4227	0.1561	-4.0330	24.9971	-4.0330	24.9971
<b>Bond Rating (S&amp;P)</b>	<b><u>-8.4154</u></b>	3.0458	-2.7629	<b>0.0062</b>	-14.4158	-2.4149	-14.4158	-2.4149

**Model 3**

<i>Regression Statistics</i>	
Multiple R	0.4417
R Square	0.1951
Adjusted R Square	0.1870
Standard Error	60.0984
Observations	500

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	5	432598.805	86519.761	23.954	0.0000
Residual	494	1784235.962	3611.813		
Total	499	2216834.768			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	263.1524	14.7020	17.8991	0.0000	234.2663	292.0385	234.2663	292.0385
<b>Statute</b>	<b><u>-43.9313</u></b>	5.6025	-7.8413	0.0000	-54.9391	-32.9236	-54.9391	-32.9236
<b>Debt Capacity (Billions)</b>	<b><u>1.9800</u></b>	0.3362	5.8898	0.0000	1.3195	2.6404	1.3195	2.6404
<b>Total Revenues (Billions)</b>	<b><u>-1.5653</u></b>	0.3178	-4.9249	0.0000	-2.1898	-0.9408	-2.1898	-0.9408
<b>Population (Millions)</b>	<b><u>3.4869</u></b>	1.5257	2.2854	0.0227	0.4892	6.4846	0.4892	6.4846
<b>Bond Rating (S&amp;P)</b>	<b><u>-7.2321</u></b>	2.5275	-2.8614	0.0044	-12.1981	-2.2661	-12.1981	-2.2661



**Model 4**

<i>Regression Statistics</i>	
Multiple R	0.3082
R Square	0.0950
Adjusted R Square	0.0877
Standard Error	63.6644
Observations	500

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	4	210520.849	52630.212	12.985	0.0000
Residual	495	2006313.918	4053.159		
Total	499	2216834.768			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	256.6189	15.5493	16.5036	0.0000	226.0681	287.1697	226.0681	287.1697
<b>Debt Capacity (Billions)</b>	<b><u>1.5821</u></b>	0.3520	4.4941	0.0000	0.8904	2.2737	0.8904	2.2737
<b>Total Revenues (Billions)</b>	<b><u>-1.7820</u></b>	0.3354	-5.3127	0.0000	-2.4410	-1.1230	-2.4410	-1.1230
<b>Population (Millions)</b>	<b><u>5.5304</u></b>	1.5925	3.4727	0.0006	2.4014	8.6593	2.4014	8.6593
<b>Bond Rating (S&amp;P)</b>	<b><u>-9.5981</u></b>	2.6583	-3.6106	0.0003	-14.8212	-4.3751	-14.8212	-4.3751

**Model 5**

<i>Regression Statistics</i>	
Multiple R	0.3145
R Square	0.0989
Adjusted R Square	0.0971
Standard Error	63.3328
Observations	500

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	219337.052	219337.052	54.683	0.0000
Residual	498	1997497.715	4011.039		
Total	499	2216834.768			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	218.2310	3.7190	58.6796	0.0000	210.9241	225.5380	210.9241	225.5380
<b>Statute</b>	<b>-42.4358</b>	5.7386	-7.3948	0.0000	-53.7106	-31.1610	-53.7106	-31.1610

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