Analysis of Similarly-Situated County Clerks of Court for the Florida Clerks of Court Operations Corporation 2016

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Economists INCORPORATED

Executive Summary

The CCOC contracted Economists Incorporated to "undertake research to identify which of the 67 counties are similarly-situated for use during the State's 2017/2018 Fiscal Years budget cycles." Our recommendations for adjusting the existing peer groups for consideration and use by the Florida Legislature during the 2017/2018 budget cycle are set forth below.

This year for the first time, we began by soliciting comments from county clerks' offices across Florida to determine which factors they considered most important when being placed with similarly-situated peers. With this information, we used a statistical model to analyze expenditures as a function of 1) new and continuing cases for the 10 case divisions (Circuit Criminal, County Criminal, Juvenile Delinquency, etc.), 2) county population, 3) Florida Price Index, and 4) Geographic population density. Although the statistical modeling process was similar to the 2012 and 2014 peer group reports, the inclusion of the Florida Price Index and the geographical population density was in direct response to the comments we received.

Along with the statistical model changes, we decided that new guidelines, or "rules" should be added to the peer group process. A frequent comment was that the past studies had too many counties in some of the peer groups for all the counties to be similarly-situated. As a result, we added a population rule to the statistical analysis so that counties in the same group can't be larger than the two times the smallest county in that group. We also added a z-score rule so that the each county's expenditure amount would be no more than 2.0 standard deviations in absolute value compared to their peer group average. The addition of these rules ensured a higher level of similarity among counties within the same peer group than there was in the 2012 and 2014 reports.

We recommend that the number of peer groups increase from 6 in 2012 or 7 in 2015 to 12 similarly-situated peer groups this year. Although this is a large change compared to the previous recommendations, we think it is necessary to provide commonality between counties in the same peer group in budgets, caseloads, and populations. The recommended peer groups average 5.6 counties per group, and no group has fewer than 3 or more than 7 counties.

Finally, we recommend that Dade county stay in a peer group 12 with two other counties, based on this year's statistical model and the rules-based approach.

I. Objective

The Florida Clerks of Court Operations Corporation (CCOC) was legislatively established in 2003 under Section 28.35 of the Florida Statutes. The mission of the CCOC is to evaluate the budgetary needs of the Clerks of Court in the 67 counties within the State of Florida and to recommend to the Florida Legislature the allocation of funding for each Clerk's court-related functions and operations. Per section 28.35(2)(f)2 of Florida Statutes, the corporation shall "prepare a cost comparison of similarly-situated clerks of the court, based on county population and numbers of filings, using the standard list of court-related functions...".[1]

The CCOC contracted with Economists Incorporated to "undertake research to identify which of the 67 counties are similarly-situated for use during the State's 2017/2018 Fiscal Years budget cycles." This report summarizes our analysis of the 67 County Clerks budgets and provides recommendations for adjusting the existing peer group divisions for consideration and use by the Florida Legislature during the 2017/2018 budget cycle.

II. Qualifications of Economists Incorporated

Economists Incorporated (EI) is a national leader in economic consulting. The firm is headquartered in Washington D.C., with additional offices in Tallahassee, Florida and San Francisco, California. EI's consulting practices include data analyses for litigation, regulatory compliance and risk assessment within various areas, including antitrust, government consulting, labor and employment, and intellectual property.

Dr. Benjamin S. Shippen is the author of this report and was a lead author of the peer group reports submitted to the CCOC in 2012 and 2014.[2] He is based in the Tallahassee office.

III. Review of the Recommendations of the 2012 and 2014 Peer Group reports

The 2012 and 2014 peer group reports analyzed the population statistics, caseload, and expenditure data for each county with a linear regression model to estimate their predicted costs. Peer groups were identified based on similar predicted costs among the different case types and total population. The peer groups recommended in 2012 based on the 2011/2012 fiscal year data are shown in Table 1.

[1] See http://www.leg.state.fl.us/Statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=0000-0099/0028/Sections/0028.35.html (accessed on March 05, 2017).
[2] Other authors in 2012 and 2014 were Charles Mullin, Nels Pearsall, and Julie Frizell.

Table 1 Recommended Peer Groups in 2012 and 2014 Reports					
Group 1	**Group 2**	**Group 3**	**Group 4**	**Group 5**	**Group 6**
Liberty	Taylor	Monroe	Alachua	Pasco	Pinellas
Lafayette	Washington	Putnam	Osceola	Volusia	Orange
Franklin	Baker	Highlands	Leon	Brevard	Hillsborough
Glades	Hardee	Indian River	St. Lucie	Polk	Palm Beach
Jefferson	Bradford	Citrus	Lake	Lee	Broward
Calhoun	Wakulla	Martin	Escambia	Duval	Dade*
Hamilton	Desoto	Santa Rosa	Collier		
Union	Hendry	Charlotte	Manatee		
Gulf	Okeechobee	Bay	Marion		
Dixie	Levy	Hernando	Sarasota		
Gilchrist	Suwannee	Okaloosa	Seminole		
Madison	Gadsden	Clay			
Holmes	Jackson	St. Johns			
	Walton				
	Columbia				
	Nassau				
	Flagler				
	Sumter				

*Dade was recommended to be in a peer group 7 by itself in the 2014 report

There were six recommended peer groups in 2012, ranging in size from 6 to 18 counties in each peer group. The recommendation in 2012 had increased the number of proposed groups from five evenly sized groups in the previous study. It also recommended moving some counties between peer groups based on their predicted costs.

The 2014 report used a similar approach to analyze the cost of the county clerks with 2013/2014 fiscal year data. That analysis recommended keeping the same proposed groups of counties as 2012 with one exception: that Dade county be moved to a group of its own (Group 7). The reason for this proposed change was the fact that the Dade county population is more than 45% greater than the population of Broward, the next largest county in Florida. As a result, Dade has substantially more cases and a larger budget than any other county that could be considered a comparator.

In preparation for both 2012 and 2014 reports, discussions were held with the CCOC and members of the Clerk's Finance and Budget Committee to review the modeling process. During the 2014 meetings

there was consensus among the CCOC staff and committee members that prison populations should also be considered in the model as well as a measure of the cost-of-living differences between different counties. As a result of these meetings, the 2014 model included the number of inmates in each county, and the average per-capita income for each county as a measure of the cost-of-living.

IV. Changes to the 2016 Peer Group report

At the conclusion of the 2014 peer group report, some of the clerks suggested that other factors could have been considered in the analysis. As a result, we sought input from clerks regarding factors they thought should be included in the analysis before the 2016 peer group modeling process.

We reviewed comments from clerks across Florida and some common themes were evident. For example, many clerks recommended a better measure of the cost of living differences between the counties. We had included a measure of income in the 2014 report, but we considered how we could more accurately address this point. Another frequent recommendation was to consider the geographical size of counties so that differences in the distances traveled for business could be included. Several clerks recommended that we specifically control for differences in caseload and the different composition of the caseload between clerk offices. Other comments also highlighted a concern by some clerks that counties had been recommended for peer groups in the past that were generally too different from their county's basic characteristics, such as overall population or the total number of cases.

Based on these suggestions, for this report we have added new factors to the regression model to estimate similarly-situated peer groups. To better control for cost-of-living differences we added the Florida Price Index by county from the Bureau of Economic and Business Research (BEBR) at the University of Florida.[3] This variable has the potential to better control for cost-of-living differences than the average income per-capita because it is a direct measure of the cost of hiring comparable personnel. A measure of population density per mile (also from the BEBR) has also been added to the model to better control for geographic differences between counties and the potential difficulty servicing remote areas in large rural counties.

Another issue raised following the 2014 report was the lack of similarity between many counties in the same peer group. More specifically, some of the clerk committees and the CCOC have cited the differences between counties within the same 2014 peer group. With some of the peer groups

[3] More information about the Florida price index can be found at https://floridapolytechnic.org/wp-content/uploads/2015fpli.pdf (accessed on March 05, 2017).

numbering as many as 18 counties, there is often large variation between the total number of cases and the populations of the smallest and largest counties.

After reviewing the clerk comments and speaking with members of the CCOC staff, we have come to the conclusion that new guidelines, or "rules" should be added to the process in conjunction with the regression analysis to ensure that there is a higher level of similarity among counties within the same peer group.

V. Review of the 2014 - 2016 Data using 2014 Peer Groups

Table 2 below summarizes the average population and the average number of cases for selected case types for each of the 2014 peer groups using the 2014 - 2016 data. Chart 1 shows the average number of Circuit Criminal and Circuit Civil cases for 2014-2016 by peer group. Chart 2 graphs the percent distribution of case type on average from 2014-2016 by peer group.

Table 2: Average Population and Average Number of New Cases Filed from 2014-2016; by Case Type and 2014 Peer Group

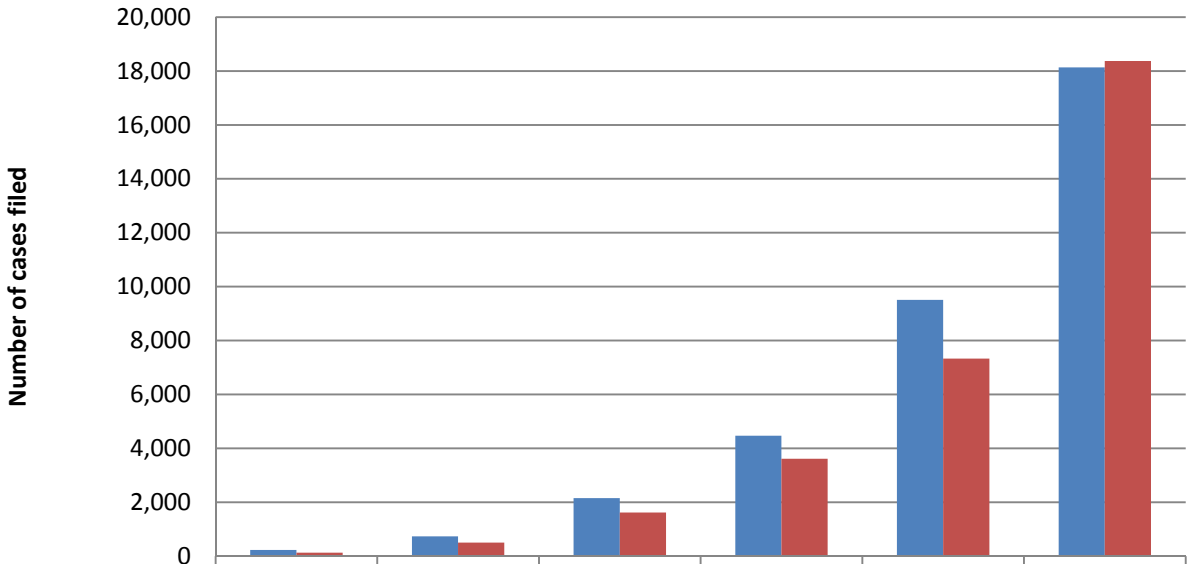
Peer Group	Average Population	Circuit Criminal	Circuit Civil	County Criminal	County Civil	Civil Traffic	Other
Group 1	14,726	231	129	307	132	2,901	594
Group 2	49,449	732	500	973	535	6,872	2,044
Group 3	154,028	2,156	1,617	3,472	2,039	19,793	6,500
Group 4	336,054	4,469	3,612	5,979	5,513	49,518	13,875
Group 5	638,896	9,506	7,328	16,334	11,309	76,466	29,549
Group 6	1,366,801	18,132	18,373	27,395	38,258	237,632	62,479

As can be seen in Table 2, the average county population in each group often doubles or triples when comparing adjacent groups. This pattern continues to hold true when comparing the average number of cases by type. Similarly, the average new caseload by county dramatically increases across groups for all types of cases.

The group differences shown in Table 1 are depicted graphically in Chart 1 below. This chart shows the average number of cases in 2014 -2016 by peer group for Circuit Criminal and Circuit Civil, which are two of the most costly to process relative to the other case types, making them particularly important to the

analysis. The rate of increase from peer group to peer group is striking. Group 2 has about three times as many of these cases as group 1; group 3 has again about three times as many cases on average as group 2. The rate of increase "slows" to a doubling in groups 4, 5, and 6. With the average number of cases more than doubling from one peer group to the next and the large number of counties in each peer group, it is possible that there is a wide range in the number of cases between the smallest and largest counties in a group. This amount of potential dispersion between the caseloads of different counties in the same peer group may lead to peer groups where the costs are not similar.

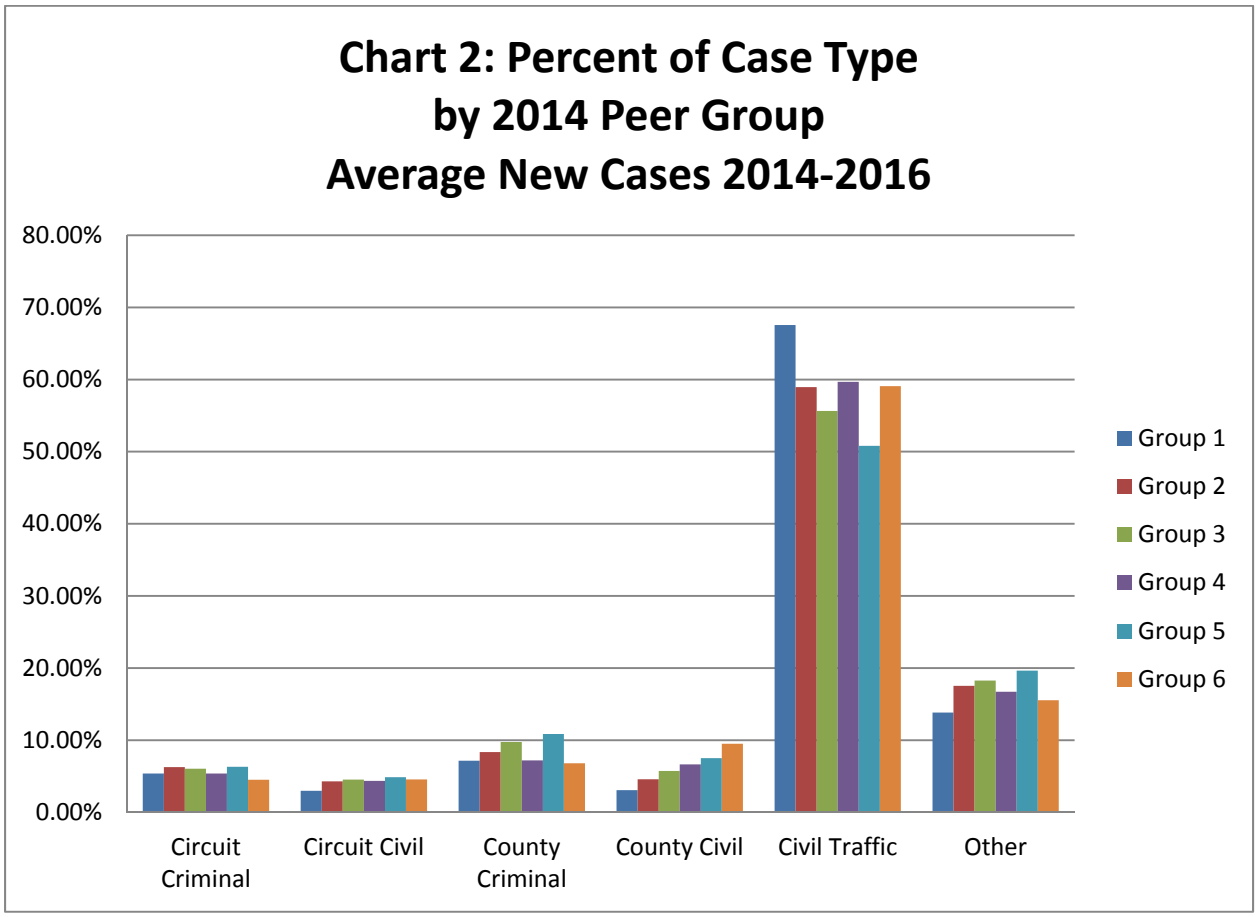
Chart 1: Circuit Criminal and Civil Cases by 2014 Peer Group Average New Cases 2014-2016



	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
Circuit Criminal	231	732	2,156	4,469	9,506	18,132
Circuit Civil	129	500	1,617	3,612	7,328	18,373

While the total number of cases increases quickly from group to group, the case type *distribution* from group to group appears remarkably similar in Chart 2. Peer group 1, which consists of the counties with the smallest populations has a caseload that is about the same, proportionally, to the caseload for peer group 6 which has the counties with the largest populations. This pattern is confirmed across the middle peer groups too. The percent of circuit criminal cases, for example, is just below 5% for all of the groups. By the same token, if we look at civil traffic the average percent of cases is over 50% for each of the groups. The proportion of these cases is slightly more for the smaller peer groups than the larger ones, but the trend is the same.

If the cost of processing a case is the roughly the same by type across counties, then the model will accurately predict the cost of processing the different mix of caseload by county. Chart 2 indicates that based on this logic the regression analysis will precisely estimate the budget for each county.



Model for 2016 Peer Groups

We re-estimated final model from the 2014 report using 2016 data to evaluate the previous groupings and test alternative classifications. Data provided the CCOC, as well as county-specific information from the Bureau of Economic and Business Research (BEBR) at the University of Florida was tested to determine if we could make improvements to the model.

Section 28.35 of the Florida Statutes mandates that the comparison of similarly situated counties be made using county population and the number of filings.[4] The regression analysis, therefore, models

[4] See http://www.leg.state.fl.us/Statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=0000-0099/0028/Sections/0028.35.html (accessed on March 05, 2017).

each county's actual expenditures[5] in 2016 as a function of 1) new and continuing cases in 2016 for the 10 case divisions; 2) 2016 county populations; 3) geographic population density by county; and 4) the 2015 Florida Price Index (the most recent available at the time of this report).[6] The specific independent variables and regression results are listed in Appendix A at the end of the report.

With the results of the regression model, we sorted the counties by population, actual expenditures, and predicted expenditures to determine which counties were the most similar based on a statistical framework. In addition to the regression model, however, we included rules to ensure that clerks' offices within the same peer group would be more similar when compared to the population and average expenditure of their peer group.

The first rule restricts the peer groups to counties that are less than twice the size of the smallest county in the peer group. This rule prevents small population counties from being included with larger population counties where the cost may be systematically different. As was previously shown in Table 2, the average population between groups was at least twice the size of the next smallest group, and for some comparisons more than three time the size of the next smallest group. This suggests potentially large variations in population and caseloads within these large peer groups that could lead to somewhat dissimilar counties within these factors being included in the same peer group. This rule is designed to alleviate this possible problem.

The second rule limits the difference between each county's average expenditure and the peer group's average expenditures to less than two standard deviations in absolute value (this is also known as the Z-score). In statistics, a two standard deviation difference or larger (in absolute value) is usually considered to be statistically significantly different than the average value. The purpose of this rule is to ensure that the expenditures between counties within the same peer group are not significantly different than the average of the group.

It is possible to reduce the level of dispersion even further than two standard deviations to 1.5 standard deviations or even to one standard deviation, but there may be good reasons to allow for variability up to the two standard deviation level. There are many reasons why the reported county expenditure may not accurately reflect the actual total cost of running the clerk's office. For example, if some of the clerks

[5] Requested gross budget and requested net budget were also analyzed as dependent variables. The predicted county results with these variables when evaluated with the actual expenditures and county populations did not change the 2016 proposed peer groups.

[6] The ten divisions are Circuit Criminal, County Criminal, Probate, Family, Juvenile Dependency, Juvenile Delinquency, Criminal Traffic, Civil Traffic, Circuit Civil, and County Civil.

are able to finance some of their activities from fees while other clerks are not then the reported expenditures may be different. Furthermore, if a portion of the clerks have shifted some of their costs to county tax dollars then their reported expenditures will be less than comparable clerks who are unable to do so. Most clerks have reported that they are closely tied to their county's health programs which are likely to vary from county to county affecting their employment cost relative to their peers. Any differences in the cost of operating the clerks' offices will add to the variation in the expenditures reported by the clerks. A two standard deviation boundary recognizes that there will be expenditure differences between otherwise similarly-situated counties that the model cannot fully control.

VI. 2016 Recommended Peer Groups

The results of the model with the implementation of these rules are shown in Table 3 below. The impact of the new model and rules is to increase the number of recommended peer groups from 6 peer groups in 2012 and 2014, to 12 peer groups in 2016. These peer groups average 5.6 counties per group, but no group has fewer than 3 or more than 7 counties.

The effects of the rules discussed above can be seen in the last two columns of Table 3. The column "Population Ratio to Smallest County in Peer Group" shows how much larger each county is relative to the smallest county in the peer group. This ratio is less than 100% for all of the proposed peer groups. The z-score (number of standard deviations) of the average expenditure of each county to the mean of the peer group is displayed in the last column of Table 3. Most counties are within 1.5 standard deviations of the mean for their peer group, and all 67 counties have a z-score of less than 2 in absolute value. Statistical significance is usually measured around 2 standard deviations from the mean.

The advantage of increasing the number of peer groups is that the counties within each peer group are objectively more homogeneous by population and caseload than they have been in the past. In 2012 and 2014 with only 6 peer groups, the largest group contained 18 counties and only two groups had less than 10 counties. The proposed approach of increasing the number of peer groups allows for comparisons that are far more similar between the largest and smallest counties in each peer group. This also addresses a common concern from clerks regarding the need to be in peer groups where they are more similar with their peers in terms of annual expenditures. Table 3 shows that many of the new peer groups have population differences of less than 50% between the largest and smallest county in the group. The z-score of expenditures is often less than 1.5 in absolute value across all of the counties within a peer group. No peer group violates either the population or the two standard deviation rule.

Lastly based on the model and the rules in this analysis, we recommend that Dade county be part of peer group 12 with Palm Beach and Broward counties. Dade county remains the largest county in Florida in both population and caseload, but with the new approach of adding rules to the peer group recommendation process Dade county has good comparators.

Table 3: Proposed 2016 Peer Groups; by County

County	Proposed 2016 Peer Group	2012 and 2014 Peer Group	2016 Population	Population Ratio to Smallest County in Peer Group	Z-score of the Average Expenditure to Peer Group
Lafayette	1	1	8,621	0.00%	1.26
Liberty	1	1	8,736	1.33%	0.93
Franklin	1	1	11,916	38.22%	-1.85
Glades	1	1	13,047	51.34%	-0.18
Jefferson	1	1	14,498	68.17%	0.14
Calhoun	1	1	14,580	69.12%	-0.30
Hamilton	2	1	14,665	0.00%	0.84
Union	2	1	15,887	8.33%	0.15
Gulf	2	1	16,628	13.39%	0.02
Dixie	2	1	16,773	14.37%	-1.60
Gilchrist	2	1	16,848	14.89%	-1.32
Madison	2	1	19,238	31.18%	0.67
Holmes	2	1	20,003	36.40%	1.23
Taylor	3	2	22,478	0.00%	1.07
Washington	3	2	24,888	10.72%	0.91
Baker	3	2	26,965	19.96%	0.84
Bradford	3	2	27,440	22.07%	0.37
Hardee	3	2	27,637	22.95%	-1.79
Wakulla	3	2	31,599	40.58%	-0.63
Desoto	3	2	35,141	56.34%	-0.76
Hendry	4	2	38,370	0.00%	-0.17
Levy	4	2	40,553	5.69%	0.39
Okeechobee	4	2	40,806	6.35%	0.07
Suwannee	4	2	44,349	15.58%	-0.71
Gadsden	4	2	48,486	26.36%	-1.40
Jackson	4	2	50,345	31.21%	1.83
Walton	5	2	62,943	0.00%	0.29
Columbia	5	2	68,566	8.93%	1.30
Putnam	5	3	72,972	15.93%	-1.61
Nassau	5	2	77,841	23.67%	0.58
Highlands	5	3	101,531	61.31%	-0.56

Table 3: Proposed 2016 Peer Groups; by County					
County	Proposed 2016 Peer Group	2012 and 2014 Peer Group	2016 Population	Population Ratio to Smallest County in Peer Group	Z-score of the Average Expenditure to Peer Group
Monroe	6	3	76,047	0.00%	-0.83
Flagler	6	2	103,095	35.57%	1.29
Sumter	6	2	118,577	55.93%	1.29
Citrus	6	3	143,054	88.11%	0.20
Indian River	6	3	146,410	92.53%	-0.84
Martin	6	3	150,870	98.39%	-1.12
Santa Rosa	7	3	167,009	0.00%	1.36
Charlotte	7	3	170,450	2.06%	-0.88
Bay	7	3	176,016	5.39%	-0.52
Hernando	7	3	179,503	7.48%	1.23
Okaloosa	7	3	192,925	15.52%	-1.33
Clay	7	3	205,321	22.94%	0.71
St. Johns	7	3	220,257	31.88%	-0.56
Alachua	8	4	257,062	0.00%	1.33
Leon	8	4	287,671	11.91%	-0.03
Lake	8	4	323,985	26.03%	0.18
Marion	8	4	345,749	34.50%	-1.48
St. Lucie	9	4	292,826	0.00%	-0.35
Escambia	9	4	309,986	5.86%	0.69
Osceola	9	4	322,862	10.26%	-0.36
Collier	9	4	350,202	19.59%	1.12
Manatee	9	4	357,591	22.12%	1.39
Sarasota	9	4	399,538	36.44%	-1.34
Seminole	9	4	449,124	53.38%	-1.14
Pasco	10	5	495,868	0.00%	-0.13
Volusia	10	5	517,411	4.34%	1.29
Brevard	10	5	568,919	14.73%	-1.57
Polk	10	5	646,989	30.48%	-0.42
Lee	10	5	680,539	37.24%	0.82
Duval	11	5	923,647	0.00%	1.59
Pinellas	11	6	954,569	3.35%	0.10
Orange	11	6	1,280,387	38.62%	-1.01
Hillsborough	11	6	1,352,797	46.46%	-0.67
Palm Beach	12	6	1,391,741	0.00%	0.96
Broward	12	6	1,854,513	33.25%	0.42
Dade	12	6	2,700,794	94.06%	-1.38

Appendix A:

Table 1A displays the linear regression results below. The F-Value (a measure of joint significance of variables in the model) is statistically significant and large indicating that the variables in the model together explain differences in expenditures. The R-Square (a measure of the amount of variance controlled for by the model) is approaching 100% which indicates that very little of the variance between the expenditures by county is left unexplained. Several of these variables are likely to overlap in variance (for example, the number of cases with the population of a county), but this multicollinearity does not affect the fit of the model or the predicted values of the clerk expenditures.

Table 1A: Linear Regression of Expenditures by County Clerks, Fiscal Year 2016

The REG Procedure
Model: MODEL1
Dependent Variable: Actual Expenditures

Number of Observations Read	67
Number of Observations Used	67

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	12	6.889781E15	5.741484E14	2116.81	<.0001
Error	54	1.464661E13	2.712334E11		
Corrected Total	66	6.904427E15			

Root MSE	520801	R-Square	0.9979
Dependent Mean	5865498	Adj R-Sq	0.9974
Coeff Var	8.87905		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	484400	2280339	0.21	0.8326
CircuitCriminal	1	29.40359	16.94816	1.73	0.0885
CircuitCivil	1	220.69976	31.75946	6.95	<.0001
Family	1	-99.48521	19.64878	-5.06	<.0001
Probate	1	-101.46661	36.70413	-2.76	0.0078
CountyCriminal	1	125.26886	17.15977	7.30	<.0001
CountyCivil	1	-12.43189	13.92868	-0.89	0.3761
CriminalTraffic	1	-121.28656	17.17294	-7.06	<.0001
CivilTraffic	1	11.27100	1.36225	8.27	<.0001
JuvenileDependency	1	376.11731	138.21991	2.72	0.0087
Pop2016	1	11.26995	1.89824	5.94	<.0001
Density	1	64.03295	220.73571	0.29	0.7729
FPI	1	-5505.30778	24336	-0.23	0.8219

Notes: The case categories reflect the new cases filed and the continuing cases for 2016. Juvenile delinquency is the omitted category. Actual2016 is the actual reported expenditure by county. Pop2016 is the 2016 county population estimate. Density is the population density by non-zero mile by county. FPI is the 2015 Florida price index (the most recent year available).