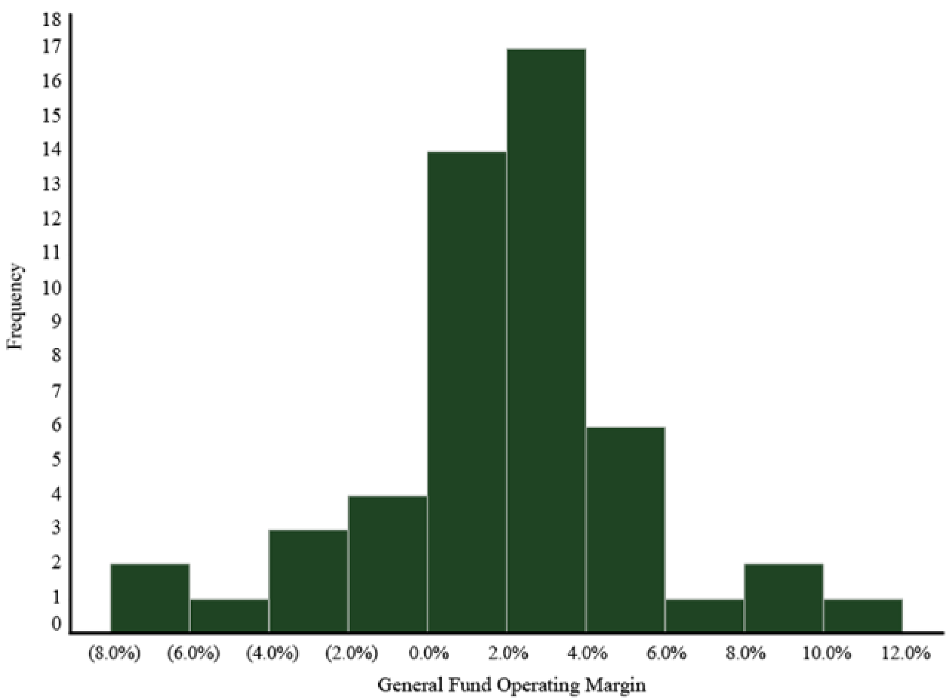
Appendix J: Operating Margin

One method of determining the efficiency and effectiveness of an ESC is to examine operating margins. Effectiveness can be partially attributed to an ESC's ability to maximize revenues while efficiency can be attributed to the ability to control expenses. Operating margins provide a possible gauge on these two areas because they are determined by taking an ESC's results of operations relative to revenues. ESCs that can effectively generate a higher level of revenues and/or successfully control expenses will generally have higher operating margins while those that do not will have lower.

An analysis of general fund operating margins was completing using data from FY 2018. The general fund is used because these are discretionary resources, for which, ESCs have the most control over spending as these funds are available for any purpose. Using a histogram for analysis enables an examination of the shape and spread of data using bars to show the frequency of data points within each interval.

General Fund Operating Margin

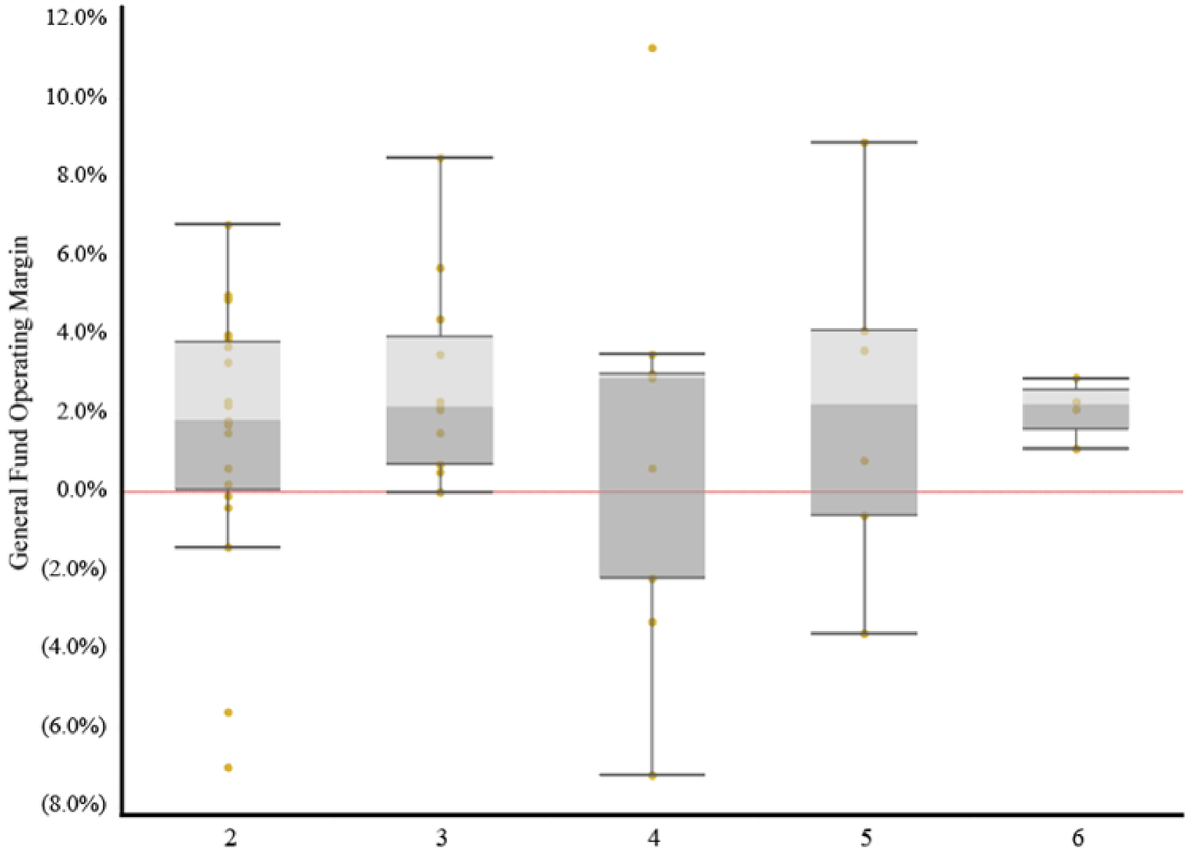


Source: ESCs
Note: Lawrence County ESC has been excluded.

17 ESCs had operating margins that were between 2.0 percent and 4.0 percent as witnessed by the peak value bars in this range. Overall, the average ESC had an average operating margin of 1.9 percent.

General fund operating margins were also analyzed by group in order to identify any outstanding ESC group(s) and to identify outliers in relation to their groups. Below is a boxplot of this analysis. Boxplots are a common explanatory data analysis technique that shows shape, central values, and variability of group data sets.

General Fund Operating Margin by Group



Source: ESCs

Group 4 had the highest median operating margin (2.9 percent) signifying that the typical ESC in this group had the highest return relative to revenues. Also, Group 4 had the largest range of operating margins, extending from negative 7.2 percent to 11.3 percent.

Outliers are statistically identified values determined from the quartiles of the data set. The interquartile range (IQR) represents the middle 50 percent of the data points (equal to the data set between the 75^{th} and 25^{th} percentiles). Outliers are any value that falls outside of 1.5 times the IQR. In examining the revenue generation ratio, outliers were identified in both the network wide analysis as well as the group analysis. We examined the outliers in more in-depth to determine if ESCs with these resulting values differ methodologically.

A separate statistical analysis identified three outliers when examining the general fund operating margins of all 52 ESCs and six outliers when examining the general fund operating margins by group. It is important to identify both types of outliers, even those that lag the median, for further individual analysis. While analyzing those that exceed the median could provide feedback on practices or operating or structural changes that could be adopted by other ESCs to increase margins, it is equally important to analyze those that are outliers below the median to determine operational areas or traits that may contribute to significantly lower margins. We first attempted to evaluate the financial data of each respective outlier in detail to see if we could identify potential areas or specific practices in place that may be contributing to the results.

We were unable to examine the operating revenue relative to specific service offerings due to the lack of detail in the way general fund revenue and expenditures are recorded (see **Section 1**). Therefore, we scheduled follow up interviews with ESCs identified as outliers to discuss and gather information in regard to the results of this analysis. While these conversations yielded information identifying potential practices that may be contributing to operating margins, there were multiple mentions of reporting discrepancies and one time operational practices that may have resulted in skewing the analysis. The outcomes of these follow up meetings identified the following potential causes:

- One outlier identified that they are experiencing growth, and may end a fiscal year with a higher balance in the general fund, just to reinvest that money in new programs the following year.
- One outlier identified that their one-time cost of moving to a new facility, which resulted in a $2.5 million capital outlay expense, inflated expenditures in the year of this analysis.
- One outlier identified that they had recently hired a new staff position, as well as that member districts owed them money that wasn't paid until the following fiscal year, deflating the revenue in the year of this analysis.

In conclusion, lack of detailed financial data to identify revenue and expenditures by service offered and the reporting discrepancies explained above resulted in the inability to identify specific opportunities for ESCs to maximize revenue and/or control expenses. In addition, examining operating margins over multiple years, rather than a snap shot in time, would provide a more accurate picture of efficiently and effectiveness.