A Budgeting Guide for Local Government, 3rd edition

Excel Exercise #3
Chapter 9, The budget cycle: Executive implementation

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Background
Once the operating budget is approved, the focus then shifts to implementing the budget. One of the most important tasks in this third phase of the budget cycle is monitoring actual revenues and expenditures with the purpose of anticipating unfavorable trends. For this exercise, we return to the line-item budget for a city's Development Department. The goal in this exercise is to project year-end expenditures for (1) each line item, (2) the department's total expenditures, (3) each revenue source, and (4) to then compare trends in actual expenditures and revenues with the totals in the adopted budget. Using these projections, not only can comparisons be made to the adopted and revised budgets, but projected revenues can be compared to projected expenditures to evaluate the potential impact to the fund balance.

The first two columns in the accompanying Excel spreadsheet provide the month to date (MTD) and year to date (YTD) amount of expenditures for the current fiscal year, FY2013-14. The data are for the seventh month of the fiscal year. The next two columns provide the year to date expenditures and the total expenditures for the previous fiscal year (FY2012-13). The last column provides the adopted budget for each line item for the current fiscal year (FY2013-14).

The assignment is to develop year-end estimates of expenditures and revenues for FY2013-14 using three different trend analyses. The first formula assumes that spending (or revenue generation) is approximately the same from month to month. Such an assumption is common for departments/agencies that have routine functions, like accounting, and for line items that have similarly recurring expenditures like base salaries. This is the *Average Spending Formula*. Although the word "spending" is in the title, the formula is equally appropriate for estimating year-end revenues.

The second formula assumes spending follows a seasonal pattern – that is, that spending is higher at certain times of the year than others. But it also assumes that the timing of the seasonality is approximately the same each year. Such an assumption is appropriate for programs or line items like aquatics and youth programs in the summer or overtime in a fire department during tornado season. This is the *Seasonal Spending Formula*.

The third formula assumes that, whatever may have occurred up to that point in the year, the

remaining months of the year will be much like the month that just ended. This assumption is often helpful when a new program is implemented part-way into the year or when funding is authorized for a new line-item, but only for part of the year. This is the *Current Month Formula*.

Selecting the formula that best fits the pattern for a line item requires good judgment. No selection criteria exist. It is up to the budget analyst working in the organization to select the most appropriate formula based on their knowledge of the department/agency, the manager in that department, and any other outside factors that may influence spending for that item. The best process of projecting expenditures (and revenues) is for the analyst and the department manager to work together to arrive at their best estimate. However, the analyst must – as always – be cautious of attempts to dodge accountability like "We know what we're spending in that account" or "I'm sure we will end up spending every dime of the money in that account." The goal is to generate the most accurate projections possible for senior management and for the elected body. Such a process, like the budget process, is often contentious.

Tasks

Task #1: To project year-end spending using the *Average Spending Formula*, use this formula for column H:

$$= \left(\frac{YTD}{\substack{\text{\# of months} \\ \text{so far this yr}}} \quad * \quad \substack{\text{number of months} \\ \text{remaining in the yr}} \right) \quad + \quad YTD$$

The equation in (H5) should look like: =(D5/7*5)+D5, then copy the equation down the column.

Label the column "Formula #1 AVERAGE".

SAVE the worksheet.

If you know how to apply this formula using an Excel spreadsheet, proceed to the dataset by opening Excel Exercise #3 (http://bookstore.icma.org/FreeDocs/43470/Excel_Exercise_3_BudgetMonitoring.xls) and compute a column with projected year-end expenditures using the average rate of spending for the first seven months of the fiscal year. Repeat these steps for the revenue folder and prepare a final budget worksheet. Then answer the discussion questions at the end of this exercise.

Task #2: To apply the *Seasonal Spending Formula*, create a column showing the seasonally adjusted trend in line-item expenditures. For this task, use the following Excel conditional statements:

=IF(OR(LAST TOTAL=0,LASTYTD=0),0,YTD/(LASTYTD/LAST TOTAL))

The equation in (I5) should look like: =IF(OR(F5=0,E5=0),0,D5/(E5/F5)), then copy the equation down the column

Label the column "Formula #2 SEASONAL"

SAVE the worksheet.

The complex "IF" statement is necessary because <u>if</u> last year's total <u>or</u> last year's year-to-date spending is 0, then the result is undefined since division by 0 is undefined. The IF statement says that if either of these conditions is true, make the projection 0; if they are not true, apply the *Seasonal Spending Formula*. Thus, this formula is rarely appropriate when either condition is true. This may occur, for example, when a new account is added to a program or department, or when accounts are renumbered.

Task #3: To create the *Current Month Formula*, use the following:

$$= \ (MTD \ * \ \ remaining \ \# \ of \ months) + YTD$$

The equation in (J5) should look like: = (C5*5)+D5, then copy the equation down the column.

Label the column "Formula #3 MONTHLY TO DATE".

Task 4: Create a blank column with the label *Manual Adjustment* in column K. Often the estimates provided by the standard formulas require fine tuning by the analyst. This column provides that opportunity. Values in the *Manual Adjustment* column are added to the *End of Year Estimate*, column M.

Task 5. You have now created three different estimates for year-end expenditures for the line-items in the Development Department's budget. In practice, the budget analyst evaluates each estimate and selects the option that best reflects the underlying factors that shape trends in that line item. For purposes of this exercise, assume that the first formula is the best estimate for the first line-item, the second for the second line-item, and the third for third line-item, repeating the pattern (1, 2, 3) for all of the line items. Use column L to type in the repeating pattern of 1, 2, 3.

Task 6: Label column M the *End of Year Estimate*. The formula for this column will "look" in column L to see which formula you want to select for that line item, and then "grabs" that formula from the appropriate column and inserts it in column M. Again an "IF" statement is used:

The equation in (M5) should look like: =(IF(L5=1,H5,IF(L5=2,I5,J5))) + K5, then copy the equation down the column.

Notice the last statement (+K5) of the formula. This adds the manual adjustment specified in column K, adjusting the selected formula by the amount in column K. You may wish to type in different numbers into column K to see that the amount in column M adjusts accordingly.

Task #7: Create a column showing the variance between the adopted budget (Column G) and the best estimate for year-end expenditures (Task 6). Change the negative values to brackets, which is the conventional way of showing deficit accounts.

Task #8: Repeat the forgoing tasks for the Revenue worksheet.

Task #9: Compare estimated total revenues with estimated total expenditures. Based on your best estimate, will the department end the year with a budget surplus or deficit?