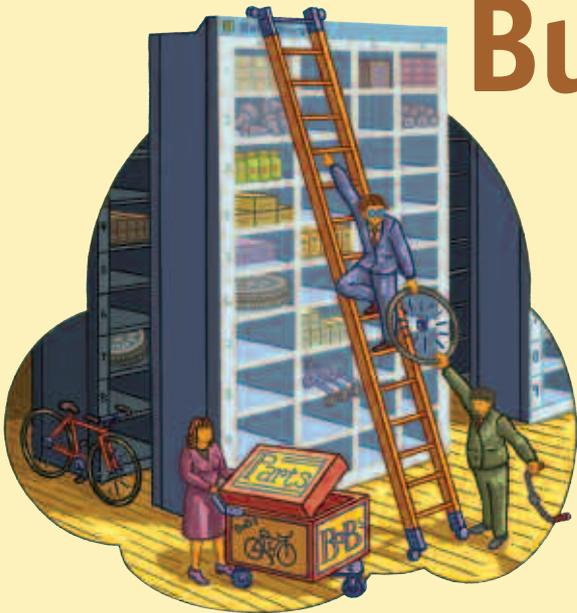


# Using Your Excel-Based Budget to Create Pro Forma Financial Statements



By Jason Porter and Teresa Stephenson, CMA

**Budgeting.** It can be a powerful tool for running and controlling your business, or it can be a complete waste of time. No matter how thoughtfully you estimate the inputs, how thoroughly you check and format the budget, or how carefully you link the cells in Excel, your budget will just end up collecting dust if your managers don't use it! We're now in the fifth in a series of six articles describing how you can create a detailed, Excel-based Master Budget that you and your managers will really use.

In the previous four articles, we created the background budgets and supporting schedules that make up the Master Budget. We change gears in this article. Instead of talking about how to make basic budgets, we now turn our attention to how you can use them to create a set of Pro Forma Financial Statements. A well-designed set of Pro Forma Financial Statements summarizes the information throughout your budget for

managers, bankers, directors, and others making financial decisions regarding your business. Because everyone in the business world understands and uses financial statements in their decision making, Pro Forma Financial Statements are the best method you can use to clearly and succinctly summarize and communicate the information contained in your Master Budget.

Of course, Pro Forma Financial Statements also provide other important benefits. Along with the Cash Budget, this Excel-based Pro Forma Income Statement summarizes the results of all the information needed to interpret variance and cost-volume-profit (CVP) analyses, and the Pro Forma Balance Sheet provides the numbers that you'll use as the starting point for next year's budget. Together, the Pro Forma Income Statement, Balance Sheet, and Statement of Cash Flows provide key figures for profitability analysis, forecasting, and basic ratio analysis.

Like the background budgets, the Pro Forma Financial Statements can be updated quickly and easily from year to year and from situation to situation if you use an Excel-based budget. A few quick adjustments to the Data Input Sheet will push new assumptions through to the subsidiary budgets and onto these Statements. Perhaps this is the most important benefit of all. When managers and supervisors can see the effect of their decisions and estimates on earnings per share (EPS) and cash flows from operations, they become more careful in their decision making. Of course, in talking to members of the Institute of Management Accountants (IMA®) about the importance of financial statements, we realize we're "preaching to the choir." All of us know just how important the financial statements are to the success of a business. Our hope is that by creating this Excel-based budget, including the Pro Forma Financial Statements, you can bring the unbelievers into the fold as well.

Describing the creation of Pro Forma Financial Statements to this audience is a daunting task. We know that most of you have spent many long hours, often multiple times a year, creating formal financial statements based on Generally Accepted Accounting Principles (GAAP) for your companies. Because of this, we won't spend a lot of time on the format of the financial statements or reviewing GAAP. Instead, we'll show you how the information flows from the background budgets onto the Pro Forma Financial Statements for our sample company, Bob's Bicycles.

With that introduction and disclaimer, get your Excel file open, and let's walk through the creation of these powerful tools.

## Creating a Pro Forma Income Statement

The first Pro Forma Financial Statement is the Income Statement, shown in Figure 1. It starts with total sales revenue for the year, which you already calculated in the Sales Budget (Figure 4, February 2010). Next, you have to calculate cost of goods sold (COGS). This takes a little more work than sales revenue. We recommend doing the calculations as a footnote, but they could just as easily be included as

part of the Statement. The basic formula is beginning finished goods inventory, plus production costs, less ending finished goods inventory. Beginning finished goods inventory is available in last year's Balance Sheet, which appears on the Data Input Sheet (Figure 1, February 2010). The direct labor costs and total manufacturing overhead, two of the three production costs, appear on the Direct Labor and Overhead budgets, respectively (Figure 9, March 2010, and Figure 3, May 2010).

Calculating direct materials isn't quite so straightforward. The first impulse for many of us is to use total purchases from the Direct Materials Budget (Figure 7, March 2010). But on closer examination it becomes apparent that some of the materials used this year were purchased last year, and some of the materials purchased this year haven't been used yet—they're still in ending direct materials. To get direct materials used, start with the raw materials inventory on the beginning Balance Sheet located on the Data Input Sheet. Next, add the total purchases from the Direct Materials Budget. Finally, subtract the total value of the ending raw materials inventory. To get

**Figure 1: Pro Forma Income Statement**

	A	B	C	D	E
1		<b>Bob's Bicycles</b>			
2		<b>Pro Forma Income Statement</b>			
3		<b>For Year ended December 31, 2010</b>			
4					
5	Sales		\$5,490,052		
6	Cost of Goods Sold		(\$3,884,140)		
7	Gross Profit				\$1,605,912
8					
9	Less Selling and Administrative		(\$654,001)		
10	Bad Debt Expense		(\$38,430)		
11	Income before Interest and Taxes				\$913,480
12					
13	Interest Expense		(\$49,880)		
14	Income before Taxes				\$863,600
15					
16	Income Taxes Expense		(\$259,080)		
17	Net Income				\$604,520
18					
19	EPS				\$6.05
20					

Figure 2: Income Statement Calculations

Bob's Bicycles - Master Budget 2010 - Microsoft Excel							
	I	J	K	L	M	N	O
1	Income Statement Calculations						
2	COGS						
3		Beginning FG inventory				\$116,060	
4		DM					
5			Beginning		\$51,413		
6			Plus: Purchased		\$2,492,737		
7			Less: Ending		(\$99,663)		
8			Total DM			\$2,444,487	
9		DL				\$1,068,337	
10		OH (Manufacturing)				\$383,542	
11			Total Cost of Goods Available for Sale			\$4,012,426	
12			Less: Ending Inventory			\$128,285	
13			COGS			\$3,884,140	
14							
15		Ending Inventory					
16							
17			Steel		2,584	\$15	\$38,754
18			Rubber Handles		1,304	\$2	\$2,608
19			Seat		652	\$4	\$2,608
20			Chain		1,018	\$6	\$6,106
21			Tires		2,035	\$10	\$20,352
22			Gear Shift		652	\$8	\$5,216
23			Brake Unit		1,018	\$6	\$6,106
24			Special Handles		731	\$5	\$3,656
25			Specialty Seat		366	\$14	\$5,118
26			Expanded Shift		366	\$25	\$9,139
27							\$99,663
28							
29	Interest Expense						
30			Line of Credit interest accrued		\$0		
31			Bond interest accrued		\$49,880		
32			<b>Total Interest Accrued</b>		<b>\$49,880</b>		
33							

raw materials ending inventory, you should make a small table similar to the one shown in Figure 2. This table should list each of the raw materials listed on the Direct Materials Budget, then the desired ending inventory values for the year (also found on the Direct Materials Budget). Next, the table should list the cost of each raw material, which you can find on the Direct Materials Budget or the Data Input Sheet. The final column should be the number of units in ending inventory times the cost per unit. The sum of this final column is ending raw materials inventory. Take a look at Figure 2 to see Bob's COGS calculations.

In our example, we've chosen to use a condensed Income Statement format (see Figure 1), so we show several subsidiary steps before net income. After calculating gross profit, you subtract total selling and administrative

expenses, which you find on the Selling and Administrative Budget (Figure 4, April 2010), to get net income before interest and taxes. Be careful when you pull numbers from the various budgets not to use cash payments instead of the accruals when creating your Income Statement.

The next step is to calculate total interest expense, also shown in Figure 2. Since Bob's Bicycles has only two loans, the calculation is simply the sum of the interest paid on Bob's bond and the total interest accrued on Bob's line of credit. Of course, companies with more extensive financing will need a more detailed calculation, but the basics are the same. To calculate income tax, multiply income before taxes by the income tax rate given on the Data Input Sheet. The final step in Bob's Pro Forma Income Statement is to divide net income by the total number of shares from the Data Input Sheet to calculate a budgeted EPS.

**Figure 3: Pro Forma Balance Sheet**

Bob's Bicycles - Master Budget 2010 - Microsoft Excel					
A	B	C	D	E	F
1	<b>Bob's Bicycles</b>				
2	<b>Pro Forma Balance Sheet</b>				
3	<b>As of December 31, 2010</b>				
4					
5	<b>Assets</b>				
6	<b>Current Assets</b>				
7	Cash		\$414,527		(a.)
8	Accounts Receivable, net		\$482,995		(b.)
9	Raw Materials Inventory		\$99,663		(c.)
10	Finished Good Inventory		\$128,285		(d.)
11	<b>Total Current Assets</b>			\$1,125,470	
12					
13	<b>Property, Plant, and Equipment</b>				
14	Building		\$1,500,000		(e.)
15	Equipment		\$1,687,000		(g.)
16	Accumulated Depr - Building and Equipment		(\$937,500)		(h.)
17	<b>Total PPE</b>			\$2,249,500	
18					
19	<b>Total Assets</b>			\$3,374,970	
20					
21					
22	<b>Liabilities and Stockholders' Equity</b>				
23	<b>Current Liabilities</b>				
24	Accounts Payable		\$161,400		(i.)
25	Interest Payable		\$0		(j.)
26	Income Tax Payable		\$145,155		(k.)
27	<b>Total Current Liabilities</b>			\$306,555	
28					
29	<b>Long-term Liabilities</b>				
30	Bonds Payables		\$997,600		(l.)
31	Loan Payable		\$0		(m.)
32	<b>Total Long-term Liabilities</b>			\$997,600	
33	<b>Total Liabilities</b>			\$1,304,155	
34					
35	<b>Stockholders' Equity</b>				
36	Common Stock (100,000 shares outstanding)		\$1,000,000		(n.)
37	Retained Earnings		\$1,070,815		(o.)
38	<b>Total Stockholders' Equity</b>			\$2,070,815	
39					
40	<b>Total Liabilities and Stockholders' Equity</b>			\$3,374,970	
41					

### Creating a Pro Forma Balance Sheet

The second Pro Forma Financial Statement is the Balance Sheet (Figure 3). We've kept the format of our example very basic so you can easily adapt it to the specific needs of your company. We'll start with the current assets and move down through the Balance Sheet. In creating the Balance Sheet for Bob's Bicycles, we wanted our work to be well documented. To accomplish this, we created a set of simplified notes that summarized all the equations we used to calculate the account balances. These notes not only make the calculations much easier to set up, but they

also provide an "audit trail" for those of you who'll have to update the budget in the future or who are using the Balance Sheet to make business decisions. These notes are shown in Figures 4 and 5.

In the current assets section, first list the ending cash balance for the year found in the Cash Budget (Figure 1, May 2010). Second, calculate ending accounts receivable by subtracting the total cash collections from the year's sales, as shown in the Schedule of Cash Collections (Figure 2, May 2010), from the total sales revenue in the Sales Budget. This is note "b" in Figure 4. In doing this, make

Figure 4: **Subsidiary Calculations for the Balance Sheet, Part 1**

Bob's Bicycles - Master Budget 2010 - Microsoft Excel									
	H	I	J	K	L	M	N	O	
1	<b>Notes to the Balance Sheet</b>								
2									
3	(a.)	from the Cash Budget, ending balance							
4									
5	(b.)	from the Sales Budget, the amounts from Q3 and Q4 that have not yet been collected:							
6		Quarter	Sold	Collected	Remaining				
7		Q3	\$1,395,990	\$1,298,271	\$97,719				
8		Q4	\$1,447,052	\$1,041,885	\$405,177				
9					\$502,897				
10				Less: Bad Debt	\$19,901				
11				A/R, net	\$482,995				
12									
13	(c.)	from Income Statement calculations							
14									
15	(d.)	from the Ending Inventory Budget							
16									
17	(e.)	from prior year, no change							
18									
19	(g.)	total from prior year, plus the current investment (shown in the Cash Budget )							
20		2009	Q1	Q2	Q3	Q4	Total		
21		\$1,500,000	\$50,000	\$75,000	\$40,000	\$22,000	\$1,687,000		
22									
23	(h.)	total from prior year, plus the current year's depreciation (shown in the OH budget)							
24		2009	Q1	Q2	Q3	Q4	Total		
25		(\$875,000)	(\$15,625)	(\$15,625)	(\$15,625)	(\$15,625)	(\$937,500)		
26									
27	(i.)	from the Raw Materials Budget, the amount from Q4 that has not yet been paid:							
28		Quarter	Purchased	Paid	Remaining				
29		Q4	\$645,601	\$484,201	\$161,400				
30									
31	(j.)	Interest accrued (from the Income Statement), less interest paid							
32		interest accrued	\$49,880						
33		interest paid	\$49,880						
34		interest payable	\$0						
35									
36	(k.)	the difference between income tax expense (Income Statement) and income tax paid (Cash Budget)							
37		income tax accrued	\$259,080						
38		income tax paid	(\$113,925)						
39		income tax payable	\$145,155						
40									
41	(l.)	from prior year, no change							

sure you don't include collections from last year's A/R. If appropriate, you'll also need to subtract any applicable bad debt expense or list it as an allowance for bad debt on the Balance Sheet. If you prefer, you can also use the traditional formula of beginning A/R, plus sales, minus cash collections and bad debt. Third, link ending raw materials inventory, which you calculated as part of COGS for the Pro Forma Income Statement. Finally, ending finished goods inventory is the final value of our Ending Finished Goods Inventory Budget (Figure 3, April 2010).

In the property, plant, and equipment section of the Balance Sheet, labeled as PPE in Bob's Balance Sheet, the amounts are the sum of the balances on the beginning

Balance Sheet and investments made during the period. Bob's listed the investments as outflows on the Cash Budget. This is note "g" in Figure 4. Calculate total accumulated depreciation the same way: Add the total depreciation and amortization shown on the Overhead Budget (and Selling and Administrative Budget, if appropriate) to the beginning balance from last year's Balance Sheet as shown in note "h" in Figure 4. Because this is a contra asset, you can either show it as a negative number and add it to PPE or as a positive number and subtract it from PPE when calculating net PPE.

Calculate the numbers in the current liabilities section of the Balance Sheet the same way you calculated the amounts in the current assets section. The accounts

**Figure 5: Subsidiary Calculations for the Balance Sheet, Part 2**

Bob's Bicycles - Master Budget 2010 - Microsoft Excel						
	H	I	J	K	L	M
43	(m.)	the difference between loans taken out and repayments				
44		loans	\$0			
45		repayments	\$0			
46		loan balance	\$0			
47						
48	(n.)	from prior year, no change				
49						
50	(o.)	Retained earnings equals beginning retained earnings plus net income less dividends				
51		retained earnings, beginning	\$506,295			
52		plus net income	\$604,520			
53		less dividends paid	(\$40,000)			
54		retained earnings, ending	\$1,070,815			
55						

payable balance will be the difference between this year's purchases, as shown on the Direct Materials Budget, and the cash paid for this year's purchases, as shown on the Schedules of Cash Payments (Figures 7 and 8, March 2010). Our calculation is shown in Figure 4, note "i." As with accounts receivable, make sure that the equation doesn't include the cash paid for purchases made in the prior year. You can also use the more traditional method of adding net purchases to beginning A/P and then subtracting total cash payments.

Calculate both interest and income tax payable as the difference between the amounts accrued, as shown on the Pro Forma Income Statement, and the amount paid, as shown on the Cash Budget. Our calculations are shown in Figure 4 as notes "j" and "k," respectively. We offer two warnings about these calculations. First, make sure to capture all of the different interest payments on the Cash Budget. For example, the interest on the line of credit is at the bottom of Bob's Cash Budget, not up with the other interest payments. Second, we estimated this year's income tax paid as 105% of last year's tax liability. If this year is projected to be worse than last year, the basic equation will result in a negative value for income tax payable (income tax accrued minus income tax paid) if the estimated tax payments aren't adjusted. When this happens, manually adjust the Balance Sheet to show a positive deferred tax asset instead of a negative income tax payable.

As with long-term assets, long-term liabilities and common stock will be the sum of the beginning balances shown on last year's Balance Sheet plus any additional financing received during the period, less any debt repayments or treasury stock purchases made during the year.

The final row in the Balance Sheet is retained earnings. This should be calculated as the original retained earnings balance from the beginning Balance Sheet, plus the pro forma net income, minus the dividends paid, as shown on the Cash Budget. Our calculations are shown in Figure 5, note "o."

As you set up your Balance Sheet, make sure you don't leave out items because of a current set of assumptions. You'll notice that Bob's reports no interest payable during this year. The formula takes interest payable from the beginning Balance Sheet, adds interest accrued during the year, and subtracts interest payments made. At first glance, it may make sense to delete that line item from the Balance Sheet because it shows a zero balance, but doing so could cause problems in future years when a loan straddles more than one budget year or even this year if the management team wants to test out some different assumptions.

## Creating a Pro Forma Statement of Cash Flows

The final Pro Forma Financial Statement that we need for Bob's Bicycles is the Statement of Cash Flows, shown in Figure 6. As in the Balance Sheet, we've created a set of supporting notes, which are shown in Figure 7. We chose to use the indirect method, but you could just as easily use the direct method. For the indirect method, begin with net income from the Pro Forma Income Statement, and then make the adjustments that convert net income into cash flows from operations. These adjustments are easy to automate with an Excel-based budget. First, take the current asset values from the beginning Balance Sheet minus the ending balance in the Pro Forma Balance Sheet as

shown in Figure 7, notes “a,” “b,” and “c.” Second, take the ending current liability balances minus the beginning balances as shown in notes “d,” “e,” and “f.” Finally, add the value of the depreciation shown on the Overhead Budget, and then sum all of those adjustments. When you subtract that sum from the net income, you have Total Cash Flow from Operating Activities, as shown in Figure 6.

Cash Flows from Investing Activities is simply the cash paid for investments, as shown in the Cash Budget. Cash Flows from Financing Activities is the sum of any cash received from issuing new debt or stock, including any short-term financing (in Bob’s case, the line of credit), less payments to retire debt, repurchase stock, or pay dividends. Again, you can find all of these figures in the Cash Budget. The final value of the sum of Cash Flows from Operations, Cash Flows from Investing Activities, Cash Flows from Financing Activities, and the beginning cash balance, as shown on the Data Input Sheet, should be

equal to the cash balance reported on the Pro Forma Balance Sheet and the ending balance reported in the Cash Budget. Because the Pro Forma Statement of Cash Flows and the Cash Budget are calculated differently, making sure the two have the same ending balance is a good way to check that your formulas and calculations used throughout this Excel-based Master Budget are correct.

## Preparing for the Next Year

Once you’ve completed the Pro Forma Financial Statements, you may want to create a copy of the file to serve as a basic template. When you’re ready to start the next year, make a copy of the template, enter the actual or projected beginning balances onto the beginning Balance Sheet on the Data Input Sheet from the year you’ve just completed, and then go through the rest of the Data Input Sheet and enter the assumptions for the new year. Next, take just a few minutes to make sure that your new

**Figure 6: Pro Forma Statement of Cash Flows**

Bob's Bicycles - Master Budget 2010 - Microsoft Excel								
A	B	C	D	E	F	G	H	I
1	<b>Bob's Bicycles</b>							
2	<b>Pro Forma Statement of Cash Flows</b>							
3	<b>For Year ended December 31, 2010</b>							
4								
5	<b>Cash Flow from Operating Activities</b>							
6	Net Income						\$604,520	
7	Adjustments:							
8	Change in Accounts Receivable					(\$187,799)		(a.)
9	Change in Raw Materials Inventory					(\$48,250)		(b.)
10	Change in Finished Good Inventory					(\$12,225)		(c.)
11	Change in Accounts Payable					\$47,450		(d.)
12	Change in Interest Payable					\$0		(e.)
13	Change in Income Tax Payable					\$145,155		(f.)
14	Depreciation					\$62,500	\$6,831	(g.)
15	Total Cash Flow from Operating Activities						\$611,351	
16								
17	<b>Cash Flow from Investing Activities</b>							
18	Cash Paid for Equipment					(\$187,000)		(g.)
19	Total Cash Flow from Investing Activities						(\$187,000)	
20								
21	<b>Cash Flow from Financing Activities</b>							
22	Cash Received from Loans					\$0		(g.)
23	Cash Paid on Loans					\$0		(g.)
24	Cash Paid as Dividends					(\$40,000)		(g.)
25	Total Cash Flow from Financing Activities						(\$40,000)	
26								
27	<b>Total Change in Cash</b>						\$384,351	
28	<b>Cash Balance, 1/1/10</b>						\$30,176	
29	<b>Cash Balance, 12/31/10</b>						\$414,527	
30								

**Figure 7: Subsidiary Calculations for the Statement of Cash Flows**

Bob's Bicycles - Master Budget 2010 - Microsoft Excel					
	K	L	M	N	O
1					
2			<b>Calculating the Adjustments from Current Assets</b>		
3	(a.)	beginning accounts receivable			\$295,196
4		ending accounts receivable			\$482,995
5		adjustment from accounts receivable			(\$187,799)
6					
7					
8	(b.)	beginning raw materials inventory			\$51,413
9		ending raw materials inventory			\$99,663
10		adjustment from raw materials inventory			(\$48,250)
11					
12					
13	(c.)	beginning finished goods inventory			\$116,060
14		ending finished goods inventory			\$128,285
15		adjustment from finished goods inventory			(\$12,225)
16					
17					
18					
19			<b>Calculating the Adjustments from Current Liabilities</b>		
20	(d.)	ending accounts payable			\$161,400
21		beginning accounts payable			\$113,950
22		adjustment from accounting payable			\$47,450
23					
24					
25	(e.)	ending interest payable			\$0
26		beginning interest payable			\$0
27		adjustment from interest payable			\$0
28					
29					
30	(f.)	ending income tax payable			\$145,155
31		beginning income tax payable			\$0
32		adjustment from income tax payable			\$145,155
33					
34	(g.)	from cash budget			

Pro Forma Balance Sheet and Statement of Cash Flows are referring to the correct cells in your new beginning Balance Sheet. For example, Bob's Bicycles had no income tax payable in Year 1, so we typed in a 0 for the beginning balance for the Year 2 Statement of Cash Flows. In Year 3, however, we'll need to update this equation to show that Bob's now has a beginning income tax payable balance. Because of the way we've set up our Excel-based Master Budget, you can have the next year's budget ready to go in just a few minutes, even if you have to update a few of your formulas.

## What's Next?

Part 1 of this series discussed the importance of budgets,

the usefulness of an Excel-based budget, and how to create the first of the groundwork budgets (the Sales Budget) and the all-important Data Input Sheet. Parts 2 and 3 showed how to create the rest of the groundwork budgets from the Production Budget to the Selling and Administrative Budget. Part 4 began summarizing these earlier budgets with the creation of the Cash Budget. This article (Part 5) continued summarizing and organizing the important information from earlier budgets by creating the Pro Forma Financial Statements. These Statements organize our earlier work for use by both internal and external decision makers, providing them with a common format that's easy to use and understand.

With the completion of the financial budgets, our Mas-

ter Budget is finished and ready to use! We've worked through our entire business step-by-step, summarizing, calculating, and estimating a series of essential numbers that are useful for making all sorts of internal and external decisions. Our Excel-based Master Budget contains the detail necessary for internal departments, such as purchasing and production, and provides the overviews necessary for the senior management team and the board of directors. We've also created forms that you can easily share with bankers, other creditors, equity holders, unions, and other external stakeholders without revealing enough internal information for a competitor to understand the details of your business.

Now that we've completed the entire Master Budget, we can turn our attention to how this budget can be controlled and used throughout your business. And that's the topic of our final segment. In the next article (Part 6), we'll discuss how to get managers involved in the budgeting process in a way that will save everyone time and get everyone more fully engaged in the process. It should also let them see the importance and power of budgeting! We'll also talk about how to lock the budget, how to use the budget, and some of the ethical issues that surround the budgeting process. Until then, happy budgeting! **SF**

*Jason Porter, Ph.D., is assistant professor of accounting at the University of Idaho and is a member of IMA's Washington Tri-Cities Chapter. You can reach him at (208) 885-7153 or [jporter@uidaho.edu](mailto:jporter@uidaho.edu).*

*Teresa Stephenson, CMA, Ph.D., is assistant professor of accounting at the University of Wyoming and is a member of IMA's Denver-Centennial Chapter. You can reach her at (307) 766-3836 or [teresas@uwyo.edu](mailto:teresas@uwyo.edu).*

**Note:** A copy of the example spreadsheet, including all the formulas, is available from either author.