WIP Your Company Into Shape

by Leslie Shiner

How often has this happened to you: After what looks like a really good month, you go out and buy an expensive piece of equipment, like a truck. Then the following month is a really bad one, and you wish you hadn't.

If this situation sounds familiar, it could be that what your financial statements are telling you isn't exactly true. This is a common occurrence for contractors who use the cash accounting method. Switching to accrual (see "Accrual vs. Cash Accounting: Why Bother?," *Business*, 10/04) will make your financial statement more accurate by forcing costs to show up on the books closer to when they are actually incurred. But there's still a chance the profit-and-loss (P&L) statement will be skewed, because of the way income is timed.

Timing of Costs vs. Income

With the accrual method, costs are entered on a regular basis. Bills from vendors come in daily and payroll checks go out weekly. So if you were to chart the cumulative costs on a job, they would increase steadily until the end of the project.

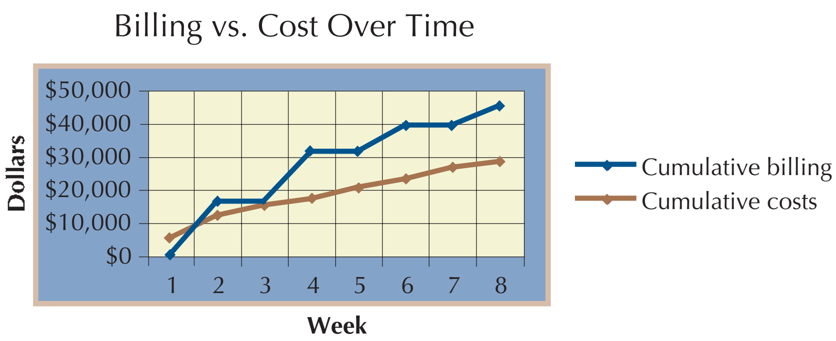
However, your client billings are probably not that consistent. Costs increase daily but the client is billed at set times — weekly, biweekly, or often only once a month. As a result, the profit on your income statement might look bad the day before you invoice the client, but good the day after you create the invoice.

The table "Costs and Income: Accrual vs. WIP Adjustment" (below) presents the costs and income from a theoretical construction job. The graph "Billing vs. Cost Over Time" (page 2) is based on the same job and illustrates the relationship between billing and the costs incurred. The red line represents cumulative costs, which go up steadily over time because the contractor is using the accrual method of accounting. The blue line represents cumulative billings; this line jumps up intermittently, whenever the contractor bills the client. If you invoice the client every other week, the

Cost and Income: Accrual vs. WIP Adjustment

		Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Total Job
Accrual										
Income	Receivable billing	$0	$16,000	$0	$15,000	$0	$8,000	$0	$5,800	$44,800
	Cumulative billing	$0	$16,000	$16,000	$31,000	$31,000	$39,000	$39,000	$44,800	
Expense	Payable costs	$5,040	$6,700	$3,100	$1,960	$3,400	$2,600	$3,360	$1,840	$28,000
	Cumulative costs	$5,040	$11,740	$14,840	$16,800	$20,200	$22,800	$26,160	$28,000	
Profit	Billing profit (strict accrual)	-$5,040	$4,260	$1,160	$14,200	$10,800	$16,200	$12,840	$16,800	
Work-In-Progress Adjustment										
	% complete	18%	42%	53%	60%	72%	81%	93%	100%	
	WIP earnings	$8,064	$18,784	$23,744	$26,880	$32,320	$36,480	$41,856	$44,800	
	Earnings profit (adjusted for WIP)	$3,024	$7,044	$8,904	$10,080	$12,120	$13,680	$15,696	$16,800	
	(Overbilling) or underbilling	$8,064	$2,784	$7,744	($4,120)	$1,320	($2,520)	$2,856	$0	

This data is from a theoretical construction job with a total contract cost of $44,800. Note, in Week 1, that based on the percent-complete calculation, the builder has grossed $8,064. Although "underbilled," meaning the builder doesn't have the money yet, the amount shows as a positive number in the WIP adjustment. The information in the top half of the chart comes straight out of the company's books, which are kept with the accrual method. The bottom section contains information calculated as part of the WIP adjustment.



The blue line represents cumulative billing and goes up only when an invoice is generated. The red line represents cumulative costs for the job, which go up steadily because the books are kept in accrual. The vertical distance between the lines represents the amount of profit (unadjusted) that exists at any point in time.

billing line changes every two weeks. The amount of gross profit can be calculated at any point in time, but it will not be accurate until the very end of the job. This is a problem, because if you want to manage your business for profitability, you need to be able to gauge how much profit you are really making at any point in time.

Work-in-Progress Adjustments

If you want your financial statement to accurately reflect the amount of profit that is being earned, you have to perform a "work in progress" (WIP) adjustment. This doesn't take long and should happen at the end of every month, when you do a P&L statement. The WIP adjustment increases the accuracy of the statement by adjusting income up or down based on whether you are ahead or behind with the billing.

Overbilling and underbilling. The WIP adjustment is similar to percentage-completion billing. It's based on the idea that if you've performed 50 percent of the work, then you've earned 50 percent of the income, even if you haven't billed the client for that exact portion of the job. You are *overbilled* if you have invoiced the client for more work than is actually complete and *underbilled* if you have invoiced for less.

The WIP adjustment is a way to calculate how much you have overbilled or underbilled on the job. Knowing this, you can accurately calculate the amount of gross profit or loss that exists at that point in time. There's no need to wait until the end of a project to find out how well or how poorly you did. Waiting might not be a problem if your jobs are only a few weeks long, but it's a different story if you have multiple projects that take months to complete and do not all end on the same date. You may already have a general sense of where you are with the billing, but the WIP adjustment is easy if you keep your books on accrual (see "WIP Adjustment Formula," below). So why not put an actual number to it?

WIP Adjustment Formula

The formula to make a WIP adjustment is as follows:

$$\% \text{ complete} = \frac{\text{costs incurred}}{\text{total expected costs}}$$

% complete x contract price = earnings

earnings – client billings = overbillings or underbillings

Calculating the Adjustment

Here's an example of how the calculation would be performed, based on the information in the "Cost and Income" chart on page 1. The job is four weeks old and you have spent $16,800 out of a total expected cost of $28,000. This means the job is 60 percent ($16,800 / $28,000) complete.

Your contract with the client is for $44,800, so you have earned $26,880 (.6 x $44,800).

Your cumulative billing for the job is $31,000, which means you are $4,120 ($26,880 – $31,000) overbilled. If you did a P&L statement for this job without making a WIP adjustment, it would overstate your earnings by $4,120.

Percentage completion. It's difficult to determine exactly what percent of the work is complete, but you will have to do it if you want to make a WIP adjustment.

The simplest way to determine percentage completion is to add up all the costs incurred for the job and divide them by the total current budget, including change orders. Admittedly, this is an arbitrary way to ascertain the percentage of work complete, but it's quick and it's the only method that can be done just by looking at the books. It is important to understand that this method works only if the estimate is accurate and the budget is up to date. If the estimate is seriously low, you could spend half of the budget and be nowhere near to halfway done.

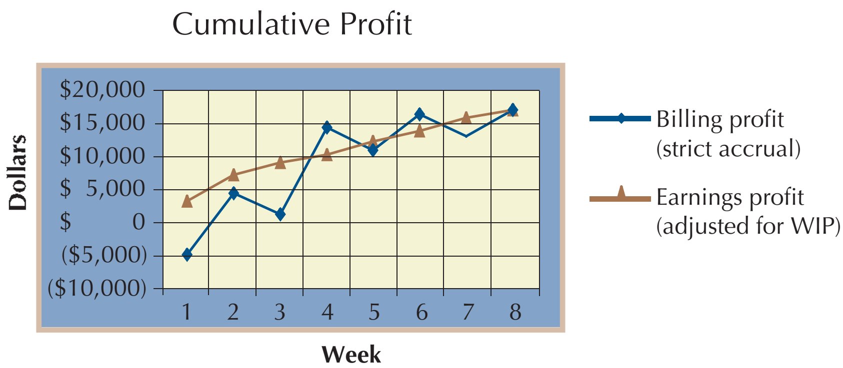
An alternative method is to look at what has been done on the job and make an educated guess. If you think you have finished 40 percent of the work, call the job 40 percent complete. To be on the safe side, you may want to guess low and call it 35 percent complete. You could guess for the entire job or break it down and estimate what portion of the foundation, frame, and other parts is complete. By prorating these numbers against the budget, you could get a single number for the entire job.

This is more time-consuming than calculating from the books, but may provide a better representation of the amount of work that is complete.

Earnings. At the end of the job, the amount you have billed the client will be the same as the amount you have earned. But while the job is under way, the amount that's been billed may bear little relationship to the amount you have actually earned.

Actual earnings are calculated by multiplying percentage completion by the total contract price (including change orders). The resulting number will represent the total amount of income you've earned on the job. For example, if you've incurred 40 percent of the total expected costs, then you can say you've earned 40 percent of the total contract. This may be somewhat arbitrary, but it's the best you can do without waiting till the job is done.

Adjustments for underbillings and overbillings. Billing the client is a way to generate cash flow and is unrelated to earnings. If you get ahead on the billing, you will have more of the client's cash than you have earned to date. If this happens, you will have a liability called "overbillings." In most states, it's legal to be ahead on customer payments. But if you were to walk off the job, you would owe the customer the amount that was overbilled. It can also go the other way: If you have underbilled the client, you have created an asset called "underbillings."



The blue line represents the amount of profit the P&L will show at any point in time based on the idea that the contractor has earned only what he has billed. The red line shows the amount of profit that has actually been earned based on percentage completion. When the blue line is above the red, the client has been overbilled.

If the client were to be overbilled by $5,000, you would adjust the income down by the same amount on your P&L statement. If the client was underbilled, you would adjust the income up.

Overbilling is of special concern because it can result in showing too much income. Unless you are aware that this is happening, you may be tempted to spend money you haven't actually earned. Or you might think you are doing great on the project and price the next job the same way.

Cumulative Profit

The difference between billings and earnings over time is illustrated by the chart "Cumulative Profit" (above). In the first week of our theoretical job, you've incurred costs of $5,040. If you haven't created an invoice, your income will be zero. Does that mean you're $5,040 in the hole? Not really, because if you do a WIP adjustment you will show $8,064 of income.

Here's how it would work. The costs to date are $5,040. If you divide that number by the expected total cost of the project (budgeted cost), you will get .18 ($5,040 / $28,000 = .18). This means you have completed 18 percent of the work and earned 18 percent of the contract. Since the contract price is $44,800, you can show income of $8,064 (.18 x $44,800). If you subtract the expenses, you will show a gross profit of $3,024 ($8,064 – $5,040).

Why Adjust the P&L?

You may be asking yourself why it's important to know any of this. Here's the reason: Your financial statement is a tool for managing your business. You wouldn't plumb a wall with an improperly calibrated level, so why would you assess your profitability with an unadjusted P&L statement?

If your company is really small, you might be able to keep track of this in your head. But if you have three or four large jobs going at the same time, you will not be able to determine the collective profitability of those jobs without performing a WIP adjustment. It would be different if all the jobs ended at the same time, but if every project is at a different stage, you will need to calculate how much you have overbilled or underbilled on each one and adjust the P&L statement accordingly.

There are many variables in construction, but the accuracy of your financial statements should not be in doubt. By doing regular WIP adjustments, you can be sure that if your profit varies, it's not just a timing mistake. This allows you to make decisions based on your accounting numbers, not just your gut feeling.

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