	Flexible-Budget Formula	Flexible Budgets for Various Levels of Sales/Production Activity		
Units		7,000	8,000	9,000
Sales	$ 31.00	$217,000	$248,000	$279,000
Variable costs				
Variable manufacturing costs	$ 21.00	$147,000	$168,000	$189,000
Shipping costs (selling)	.60	4,200	4,800	5,400
Administrative costs	.20	1,400	1,600	1,800
Total variable costs	$ 21.80	$152,600	$174,400	$196,200
Contribution margin	$ 9.20	$ 64,400	$ 73,600	$ 82,800
Fixed costs per month				
Fixed manufacturing costs	$37,000	$ 37,000	$ 37,000	$ 37,000
Fixed selling and administrative costs	33,000	33,000	33,000	33,000
Total fixed costs	$70,000	$ 70,000	$ 70,000	$ 70,000
Operating income (loss)		$ (5,600)	$ 3,600	$ 12,800

Exhibit 8-2
Dominion Company
Flexible Budgets

Exhibit 8-4 shows an activity-based flexible budget for the Dominion Company. There are four activities: processing, setup, marketing, and administration. For each activity, costs depend on a different cost driver. Compare the traditional flexible budget (Exhibit 8-2) and the activity-based flexible budget (Exhibit 8-4). Note that assumptions about fixed and variable costs differ in the two exhibits. For example, examine the $500 variable setup cost. The fixed manufacturing costs in Exhibit 8-2 ($37,000) include $12,000 of setup costs that are assumed to be fixed with respect to "units produced." In Exhibit 8-4 a more sophisticated assumption is introduced to recognize that these setup costs are variable with respect to the "number of setups." To see why setup costs might be expected to vary directly with the number of setups, consider the example of setup supplies, a cost that varies with respect to the number of setups but not with respect to the number of units. Each time employees set up a production run, they use a batch of setup supplies. However, once the run is set up, production of additional units uses no additional setup supplies. Thus, the cost of supplies varies directly with the number of setups but does not vary directly with the number of units produced. For these reasons, the calculated cost using a traditional single cost driver differs from the calculated cost using activity-based cost drivers.

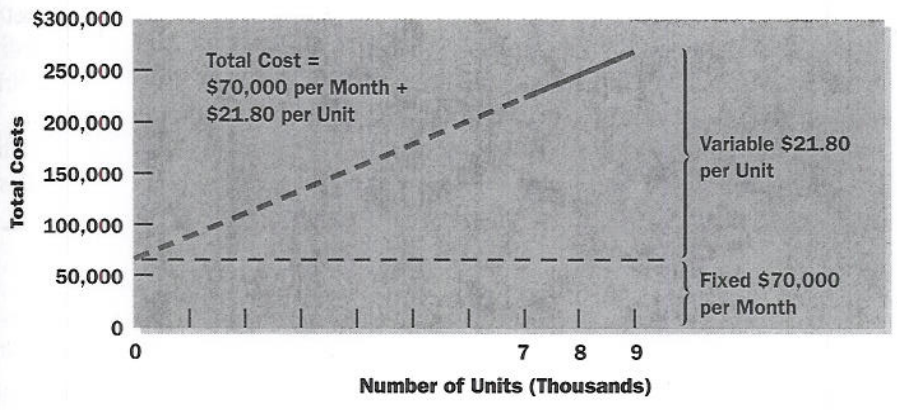

Exhibit 8-3
Dominion Company
Graph of Flexible Budget of Costs

originally forecasted, or (2) revenues or variable costs per unit of activity and fixed costs per period were not as expected. Although these reasons may not be completely independent (for example, higher unit sales prices may have caused lower unit sales levels), it is useful to separate these effects because different people may be responsible for each effect and because it may take different management actions to correct deficiencies in each. The flexible budget allows us to separate these two effects.

Accountants use variances to draw attention to unexpected effects on actual results that managers can correct (if the effects are detrimental) or enhance (if the effects are beneficial). Because the flexible budget adjusts both planned revenues and costs to reflect the actual level of activity (in our example, actual sales volume), only departures of actual costs or revenues from flexible-budget formula amounts cause any variances between the flexible budget and actual results. Recall that these variances between the flexible budget and actual results are *flexible-budget variances*.

In contrast, changes in activity levels, not cost control, cause any differences between the static budget and the flexible budget. We call these differences between the static budget amounts and the amounts in the flexible budget **activity-level variances**. In other words, the original difference between actual results and the static budget, which we could not fully explain earlier, actually has two components: the activity-level variance and the flexible-budget variance.

activity-level variances *The differences between the static budget amounts and the amounts in the flexible budget.*

Consider Exhibit 8-5. The flexible budget (column 3) for sales of 7,000 units taken from Exhibit 8-2 (and simplified) provides an explanatory bridge between the static budget (column 5) for sales of 9,000 units and the actual results (column 1). The bottom of Exhibit 8-5 summarizes the variances for operating income. Note that the sum of the activity-level variances (here **sales-activity variances** because sales is the only activity used as a cost driver) and the flexible-budget variances equals the total of the static-budget variances: $18,400 + $5,970 = $24,370.

sales-activity variances *The activity-level variances when sales is used as the cost driver.*

We next examine in more detail how managers can use variances to evaluate an operation's effectiveness and efficiency.

	Actual Results at Actual Activity Level* (1)	Flexible-Budget Variances† (2) = (1) – (3)	Flexible Budget For Actual Sales Activity‡ (3)	Sales-Activity Variances (4) = (3) – (5)	Static Budget (5)
Units	7,000	—	7,000	2,000 U	9,000
Sales	$217,000	—	$217,000	$62,000 U	$279,000
Variable costs	158,270	5,670 U	152,600	43,600 F	196,200
Contribution margin	$ 58,730	$5,670 U	$ 64,400	$18,400 U	$ 82,800
Fixed costs	70,300	300 U	70,000	—	70,000
Operating income	$ (11,570)	$5,970 U	$ (5,600)	$18,400 U	$ 12,800

Total flexible-budget variances $5,970 U

Total sales-activity variances $18,400 U

Total static budget variances, $24,370 U

U = Unfavorable. F = Favorable.
*Figures are from Exhibit 8-1.
†Figures are shown in more detail in Exhibit 8-6.
‡Figures are from the 7,000-unit column in Exhibit 8-2.

Exhibit 8-5
Dominion Company
Summary of Performance for the Month Ended June 30, 20X1