

# FLEXIBLE BUDGETS

## Key Topics to Know

- Difference between a flexible budget and a static budget
- Flexible budget “flexes” due to changes in activity.
- Prepare a flexible budget that includes revenue and both variable and fixed costs
- Comparing actual activity to a static/planning or flexible budget and why the flexible budget is better for comparison.
- Activity variances are the differences between the static/planning budget and the flexible budget and are caused by the difference between planned and actual activity levels.
- Revenue and spending variances (sometimes called flexible budget variances) are the differences between the flexible budget and the actual results and are caused by differences in the revenue per unit, cost per unit and/or the amount of cost incurred. Revenue and spending variances are calculated based on the actual activity level.
- Revenue and variable costs will be different in the static/planning budget and the flexible budget because both are affected in total by the level of activity.
- Fixed costs will be the same in the static/planning budget and the flexible budget because fixed costs are unaffected in total by changes in the activity level. Therefore activity variances for fixed costs are always zero.

## Problems

### **Problem #1**

Velma Inc. prepared the following budget for the year based on 1,000 units sold:

Sales	\$750,000
Variable costs	<u>450,000</u>
Contribution margin	300,000
Fixed costs	<u>200,000</u>
Operating income	100,000

Actual results for the year were:

Units sold	950
Sales	\$703,000
Variable costs	<u>432,250</u>
Contribution margin	270,750
Fixed costs	<u>185,000</u>
Operating income	85,750

- Required:
- a) Prepare a flexible budget for the year.
  - b) Calculate the activity and revenue and spending variances.
  - c) Prepare a budgeted income statement for next year with 1,100 units sold and a 10% increase in fixed costs.

### **Problem #2**

Bruess Clinic uses patient-visits as its measure of activity. During July, the clinic budgeted for 2,700 patient-visits, but its actual level of activity was 3,200 patient-visits. The clinic uses the following revenue and cost formulas in its budgeting, where  $q$  is the number of patient-visits:

Revenue	\$49.60q
Personnel expenses	\$31,200 + \$15.10q
Medical expenses	\$700 + \$9.60q
Occupancy expenses	\$10,000 + \$2.00q
Administrative expenses	\$7,000 + \$0.20q

The clinic reported the following actual results for July:

Revenue	\$165,680
Personnel expenses	76,190
Medical expenses	31,790
Occupancy expenses	15,960
Administrative expenses	7,600

Required: Prepare the clinic's flexible budget performance report for July. Label each variance as favorable (F) or unfavorable (U).

**Problem #3**

Cosme Tech is a for-profit vocational school. The school bases its budgets on two measures of activity (i.e., cost drivers), namely student and course. The school uses the following data in its budgeting:

	<u>Fixed cost per month</u>	<u>Variable cost per student</u>	<u>Variable cost per course</u>
Revenue	\$0	\$336	\$0
Faculty wages	0	0	2,000
Course supplies	0	52	30
Administrative expenses	47,700	13	29

In April, the school budgeted for 1,870 students and 174 courses. The school's income statement showing the actual results for the month appears below:

Income Statement

Actual students	1,670
Actual courses	172
Revenue	\$550,600
Faculty wages	350,110
Course supplies	93,040
Administrative expenses	<u>75,728</u>
Operating Income	\$31,722

Required: Prepare the clinic's flexible budget performance report for July. Label each variance as favorable (F) or unfavorable (U).

## Multiple Choice Questions

1. Papenfuss Family Inn is a bed and breakfast establishment in a converted 100-year-old mansion. The Inn's guests appreciate its gourmet breakfasts and individually decorated rooms. The Inn's overhead budget for the most recent month appears below:

Activity level	86 guests
Variable overhead costs:	
Supplies	\$86.00
Laundry	507.40
Fixed overhead costs:	
Utilities	340.00
Salaries and wages	4,790.00
Depreciation	<u>2,620.00</u>
Total overhead cost	<u>\$8,343.40</u>

The Inn's variable overhead costs are driven by the number of guests. What would be the total budgeted overhead cost for a month if the activity level is 76 guests?

- a) \$52,848.40  
 b) \$8,343.40  
 c) \$8,274.40  
 d) \$7,373.24
2. Pettry Snow Removal's cost formula for its vehicle operating cost is \$2,170 per month plus \$408 per snow-day. For the month of December, the company planned for activity of 16 snow-days, but the actual level of activity was 13 snow-days. The actual vehicle operating cost for the month was \$7,600. The vehicle operating cost in the planning budget for December would be:
- a) \$7,474  
 b) \$9,354  
 c) \$8,698  
 d) \$7,600

3. Nicolaysen Corporation manufactures and sells a single product. The company uses units as the measure of activity in its budgets and performance reports. During February, the company budgeted for 5,700 units, but its actual level of activity was 5,690 units. The company has provided the following data concerning the formulas used in its budgeting and its actual results for February:

<u>Budgeted data</u>	<u>Fixed element per month</u>	<u>Variable element per unit</u>
Revenue	-	\$36.80
Direct labor	\$0	\$3.70
Direct materials	0	17.80
Manufacturing overhead	30,500	1.20
Selling and administrative expenses	<u>26,800</u>	<u>0.30</u>
Total expenses	<u>\$57,300</u>	<u>\$23.00</u>

<u>Actual results</u>	
Revenue	\$207,302
Direct labor	\$21,093
Direct materials	\$104,952
Manufacturing overhead	\$37,888
Selling and administrative expenses	\$29,787

The selling and administrative expenses in the budget for February would be:

- a) \$29,787
  - b) \$28,507
  - c) \$29,839
  - d) \$28,510
4. Paradiso Medical Clinic measures its activity in terms of patient-visits. Last month, the budgeted level of activity was 1,060 patient-visits and the actual level of activity was 1,050 patient-visits. The cost formula for administrative expenses is \$3.00 per patient-visit plus \$17,000 per month. The actual administrative expense was \$19,300. In the clinic's performance report for last month, the spending variance for administrative expenses was:
- a) \$850 favorable
  - b) \$220 unfavorable
  - c) \$30 favorable
  - d) \$880 favorable

5. Zelenka Clinic uses client-visits as its measure of activity. During June, the clinic budgeted for 2,700 client-visits, but its actual level of activity was 2,710 client-visits. The clinic has provided the following data concerning the formulas to be used in its budgeting for June:

	<u>Fixed element</u> <u>per month</u>	<u>Variable element</u> <u>per client-visit</u>
Revenue		\$47.80
Personnel expenses	\$32,300	\$15.50
Medical supplies	1,700	6.20
Occupancy expenses	10,800	1.40
Administrative expenses	<u>5,400</u>	<u>0.10</u>
Total expenses	<u>\$50,200</u>	<u>\$23.20</u>

The net operating income in the planning budget for June would be:

- a) \$18,384  
 b) \$16,466  
 c) \$16,220  
 d) \$18,248
6. Dancause Corporation manufactures and sells a single product. The company uses units as the measure of activity in its budgets and performance reports. During October, the company budgeted for 5,100 units, but its actual level of activity was 5,090 units. The company has provided the following data concerning the formulas to be used in its budgeting:

	<u>Fixed element</u> <u>per month</u>	<u>Variable element</u> <u>per unit</u>
Revenue		\$39.20
Direct labor	\$0	\$5.40
Direct materials	0	13.20
Manufacturing overhead	45,800	1.70
Selling and administrative expenses	<u>22,800</u>	<u>0.50</u>
Total expenses	<u>\$68,600</u>	<u>\$20.80</u>

The direct materials in the flexible budget for October would be:

- a) \$67,320  
 b) \$64,905  
 c) \$64,651  
 d) \$67,188

# Solutions to Problems

## Problem #1

	<u>Actual</u>	<u>Revenue and Spending Variances</u>	<u>Flexible Budget</u>	<u>Activity Variances</u>	<u>Planning Budget</u>
	950	0	950	(50)	1,000
Sales	\$703,000	(\$9,500)	712,500	(\$37,500)	\$750,000
Variable costs	<u>432,250</u>	<u>(4,750)</u>	<u>427,500</u>	<u>22,500</u>	<u>450,000</u>
Contribution margin	270,750	(14,250)	285,000	(15,000)	300,000
Fixed costs	<u>185,000</u>	<u>15,000</u>	<u>200,000</u>	<u>0</u>	<u>200,000</u>
Operating income	85,750	75	85,000	(15,000)	100,000

	<u>Revenue and Cost Formula Variable</u>	<u>Fixed</u>	<u>Planning Budget</u>
			1,100
Sales	\$750		\$825,000
Variable costs	<u>450</u>		<u>495,000</u>
Contribution margin	300		330,000
Fixed costs		\$220,000	<u>220,000</u>
Operating Income			\$110,000

**Problem #2**

Performance Report Part 1

		<u>Actual</u>	<u>Revenue and Spending Variances</u>	<u>Flexible Budget</u>
Patient visits		3,200		3,200
Revenue	\$49.60q	\$165,680	\$6,960 F	\$158,720
Expenses:				
Personnel expenses	\$31,200 + \$15.10q	76,190	3,330 F	79,520
Medical expenses	\$700 + \$9.60q	31,790	370 U	31,420
Occupancy expenses	\$10,000 + \$2.00q	15,960	440 F	16,400
Administrative expenses	\$7,000 + \$0.20q	<u>7,600</u>	<u>40 F</u>	<u>7,640</u>
Total expenses		<u>131,540</u>	<u>3,440 F</u>	<u>134,980</u>
Operating income		\$34,140	\$10,400 F	\$23,740

Performance Report Part 2

		<u>Flexible Budget</u>	<u>Activity Variances</u>	<u>Planning Budget</u>
Patient visits		3,200		2,700
Revenue	\$49.60q	\$158,720	\$24,800 F	\$133,920
Expenses:				
Personnel expenses	\$31,200 + \$15.10q	79,520	7,550 U	71,970
Medical expenses	\$700 + \$9.60q	31,420	4,800 U	26,620
Occupancy expenses	\$10,000 + \$2.00q	16,400	1,000 U	15,400
Administrative expenses	\$7,000 + \$0.20q	<u>7,640</u>	<u>100 U</u>	<u>7,540</u>
Total expenses		<u>134,980</u>	<u>13,450 U</u>	<u>121,530</u>
Operating income		\$23,740	\$11,350 F	\$12,390



**Problem #3**

Performance Report Part 1

		<u>Actual</u>	<u>Revenue and Spending Variances</u>	<u>Flexible Budget</u>
Students q1		1,670		1,670
Courses q2		172		172
Revenue	\$336q1	\$550,600	\$10,520 U	\$561,120
Expenses:				
Personnel expenses	\$2,000q1	350,110	6,110 U	344,000
Medical expenses	\$52q1 + \$30q2	93,040	1,040 U	92,000
Administrative exp.	\$47,700+ \$13q1+\$29q2	<u>75,728</u>	<u>1,330 U</u>	<u>74,398</u>
Total expenses		<u>518,878</u>	<u>8,480 U</u>	<u>510,398</u>
Operating income		\$31,722	\$19,000 U	\$50,722

Performance Report Part 2

		<u>Flexible Budget</u>	<u>Activity Variances</u>	<u>Planning Budget</u>
Students q1		1,670		1,870
Courses q2		172		174
Revenue	\$336q1	\$561,120	\$67,200 U	\$628,320
Expenses:				
Personnel expenses	\$2,000q1	344,000	4,000 F	348,000
Medical expenses	\$52q1 + \$30q2	92,000	10,460 F	102,460
Administrative exp.	\$47,700+ \$13q1+\$29q2	<u>74,398</u>	<u>2,658 F</u>	<u>77,056</u>
Total expenses		<u>510,398</u>	<u>17,118 F</u>	<u>527,516</u>
Operating income		\$50,722	\$30,082 U	\$100,804

## Solutions to Multiple Choice Questions

1. C
2. C
3. D
4. A
5. C
6. D