

The Cash Budget

Overview of the Cash Budget

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Overview of The Cash Budget

Review: The Three Elements of Cash Management

Safeguard, Manage, and Control

A cash budget is the third element of cash management. As we previously discussed, to fully manage cash, the most important asset, the following three topics must be considered:

- **Internal control:** As we discussed in Learning Goal 16, internal control means the procedures and systems that safeguard cash from theft, error, and mismanagement. Internal control is the most basic and important function.
- **Statement of cash flows:** The statement of cash flows (Learning Goal 21) is a management-level view of all the sources and uses of cash during a financial reporting period. This provides information for review of recent cash operating, investing, and financing activities and for strategic cash planning.
- **The cash budget:** A cash budget is designed to: 1) identify and help control near and mid-range future cash inflows and outflows by category, and 2) work together with the statement of cash flows to create a tactical action plan that ensures future cash flows are always adequate to maintain solvency and to achieve company goals.

What Is a Cash Budget?

Definition

A **cash budget** is a plan that shows the details of expected cash receipts and expected cash payments by type of receipt and type of expenditure, for designated time periods.

The Basic Structure

A cash budget has a simple basic structure that looks like this:

	Time Period 1	Time Period 2	Time Period 3
Beginning Cash Balance	\$	\$	\$
Add: Cash Receipts			
.....	\$	\$	\$
.....	\$	\$	\$
Less: Cash Payments			
.....	\$	\$	\$
.....	\$	\$	\$
Ending Cash Balance	\$	\$	\$

There can be many variations and modifications from this format; however, what you will always see is the basic structure of a beginning balance, receipts, payments, and an ending balance, over a designated number of time periods.

What Is a Cash Budget?, *continued*

Why It Matters

Cash is the most critical asset for an economic entity of any type or size. Without sufficient cash a business will not operate effectively, will not be able to grow or take advantage of opportunities, and in the worst case, will cease to exist as it becomes insolvent and unable to pay liabilities as they become due.

A cash budget helps managers plan for cash requirements. It helps avoid cash shortages by discovering the need for making financing arrangements and for increasing cash. With a good cash budget, managers can optimize the method of financing, identify when to defer optional expenses, large capital purchases, or discretionary debt repayment, and identify when cash will be available for desired strategic changes.

Cash Budget Procedures

Overview

Three Parts

There are three procedures related to the completion and use of a cash budget. These are:

- The forecast
- The budget
- Comparison to actual

The Forecast

Overview

A forecast is a prediction or estimate of what is likely to happen. A forecast is the first step in the preparation of a cash budget—the more time spent to improve the accuracy of the forecast, the greater will be the accuracy of the cash budget.

The Initial Steps

Decide on a time horizon.

- A longer forecast with more time periods into the future provides greater advance information and warning.
- A longer forecast is less accurate than a shorter forecast

Decide on the length of time intervals.

- Accuracy decreases as the length of a period increases, and longer periods are more difficult to prepare.
- Shorter time periods are usually more accurate and are easier to update, but require updating more frequently.

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The Forecast, *continued*

Set up categories in the forecast

- Most cash receipts and expenditures will be the result of transactions that originate with income statement accounts. Therefore, use the same account categories that you see in the income statement as the basis for the cash forecast categories. Depreciation and amortization are excluded, because these never involve cash.
- There may be some asset accounts such as supplies, investments, or property, plant, and equipment accounts that need to be purchased or sold. Operating liabilities are also included in the forecast.

Example

For our example, let's assume the cash forecast below is for a small company called Andie's Garden Bulbs, which sells a certain popular type of flower bulb. The managers and stockholders are Andrea and Marlowe Miller. The company prepares monthly financial statements and has a December 31 fiscal year-end. At the end of last year after difficulties meeting some payments, Andrea and Marlowe decide to begin using a cash budget, beginning January 1 of the current year.

After considering different options, they decide that a weekly cash flow forecast will provide the greatest accuracy and will also make it easier to revise forecast assumptions, rather than using a monthly period, which contains much more data. From past experience, the managers feel that data will remain sufficiently accurate for about six weeks. For longer-term visibility they will maintain a separate schedule of estimated major payments. The example below illustrates a forecast for the six week weekly periods ending March 7 to April 11 of the current year with a separate schedule for major expenditures.

The Forecast, *continued*

Cash Forecast: Weeks Ending March 7–April 11, 2017							
		3/7	3/14	3/21	3/28	4/4	4/11
Adjustment to actual		(\$350)					
1	Beginning cash balance	24,290	26,590	23,380	6,890	3,980	13,380
2	Cash receipts forecast						
3	From sales to customers	40,290	41,640	46,690	27,200	33,430	39,870
4	From investments	—	—	—	—	500	—
5	From capital asset sales	—	—	—	—	—	—
6	Other	—	—	—	—	—	—
7	Total cash receipts	40,290	41,640	46,690	27,200	33,930	39,870
8	Total cash available	64,580	68,230	70,070	34,090	37,910	53,250
9	Cash payments forecast						
10	Merchandise purchases	34,480	34,590	22,200	18,930	23,830	26,810
11	Marketing—wage/commission	—	3,290	—	2,260	—	2,800
12	Marketing—other	100	200	2,500	400	200	1,500
13	Wages—General and Admin.	—	2,500	—	2,500	—	2,500
14	Other payroll expenses	—	1,020	—	950	—	960
15	Rent	—	—	—	3,200	—	—
16	Insurance	700	—	—	700	—	—
17	Supplies	360	150	200	120	50	150
18	Professional fees and services	2,150	250	3,900	750	250	400
19	Income tax	—	2,500	—	—	—	—
20	Miscellaneous other	200	350	180	300	200	200
21	Investments	—	—	—	—	—	—
22	Capital asset purchases	—	—	34,200	—	—	—
23	Loan Principal	—	—	—	—	—	126
24	Loan Interest	—	—	—	—	—	52
25	Dividends/withdrawals	—	—	—	—	—	2,000
26	Total cash payments	37,990	44,850	63,180	30,110	24,530	37,498
27							
28	Cash balance before financing	26,590	23,380	6,890	3,980	13,380	15,752
29	Less: minimum cash reserve	15,000	15,000	15,000	15,000	15,000	15,000
30	Excess/(Deficiency)	\$11,590	\$8,380	(\$8,110)	(\$11,020)	(\$1,620)	\$752

Major Expenditures						
Item	Jan.	Feb.	March	April	May	June
Computer system + installation costs			\$34,200			

Major Expenditures						
Item	July	Aug.	Sept.	Oct.	Nov.	Dec.
Shipping contract renewal				\$7,500		
Fixtures replacement					\$10,000	
Debt repayment	\$4,000	\$4,500				

The Forecast, *continued*

A Closer Look at the Forecast

- We are viewing the forecast as of the beginning of the week of March 7.
- Notice that the beginning forecast balance for this week has been adjusted to an actual cash balance. This balance is the reconciled cash balance as of the end of the prior week, in the amount of \$24,290.

A budget really only becomes effective when budget amounts are compared to actual cash results and individual variances are calculated and analyzed. (Discussed later). This is an important, but time-consuming task that is not always fully completed. For that reason, in this format the beginning cash balance of the first week of the forecast is adjusted to the actual cash balance. This provides the following benefits:

- 1) This at least provides an indicator of the prior budget period accuracy (although not year to date). Here, the adjustment indicates a \$350 total variance between budget and actual cash balances from the prior week. A series of large adjustments should indicate a need to revisit forecast assumptions.
 - 2) The accuracy of the forecast final cash balances (line 28) improves because an accurate beginning balance is being used.
- Most of the forecast recurring cash inflow is the cash received from customers.
 - The largest frequently recurring expenditures are for merchandise purchases (buying the bulbs from growers). Other expenditures are incurred at various intervals. Some of these are discretionary.
 - There appears to be trouble ahead. For the week ending March 21, the forecast is indicating an \$8,110 cash deficiency below the minimum required reserve of \$15,000; the deficiency becomes worse in the following week. The deficiency appears to be primarily created by a large capital purchase (for a new computer system) and an increase in professional fees, offset by a decrease in merchandise payments.
 - The major expenditure schedule indicates a number of major expenditures; however, some of these appear to be discretionary and possible to defer if necessary.

The Minimum Required Reserve

Setting a realistic minimum cash balance is very important. Cash flows can never be predicted with certainty. A forecast is at best an estimate, and as you will see below, consists of many individual estimates, all of which can change.

What is a proper minimum cash balance? This depends on: 1) the uncertainty of inflows and outflows 2) the size of inflows and outflows 3) the speed of inflows and outflows. As these become greater, it is prudent to increase the minimum cash reserve amount, unless a reliable source of short-term financing is readily available.

As a general rule: When a company has cut expenses as much as possible and has also reached a practical borrowing limit, the minimum cash reserve balance should be at the very least the difference between expected

The Forecast, *continued*

future receipts and the lowest possible receipts. A last point to consider: maintaining an ample, continuous, cash balance often improves the banking relationship with a potential lender.

The Steps to Prepare the Forecast

Step 1 Estimate Sales Revenue

A cash budget forecast always begins with sales. Once sales are estimated, then collections from customers can be estimated. The sales estimate should begin with units sold. For a merchandising company or manufacturing company, this would be physical units. For a service company, this would be in units of service, such as billable hours. After units are estimated, the sales price per unit is multiplied by units to obtain forecast sales revenue.

For example, from Table 1 we see that 9,760 bulbs are estimated to be sold in the week ending March 14, based on 1,800 bulbs of cash sales and 7,960 bulbs of sales on account. Each of these are multiplied by their sales prices of \$4.00 and \$5.00 per bulb to obtain the sales forecast in Table 2 of \$47,000. The data used for the estimates would be based on recent experience and knowledge of the market.

Unit Net Sales Forecast: Weeks Ending March 7–April 11, 2017 (Table 1)						
	<u>3/7</u>	<u>3/14</u>	<u>3/21</u>	<u>3/28</u>	<u>4/4</u>	<u>4/11</u>
Cash unit sales*	2,125	1,800	2,125	1,800	1,875	2,125
On account unit sales*	<u>7,300</u>	<u>7,960</u>	<u>4,000</u>	<u>4,400</u>	<u>5,780</u>	<u>6,200</u>
Total units	<u>9,425</u>	<u>9,760</u>	<u>6,125</u>	<u>6,200</u>	<u>7,655</u>	<u>8,325</u>
Cash unit sales price*	\$4.00	\$4.00	\$4.00	\$4.00	\$4.00	\$4.00
Account unit sales price*	\$5.00	\$5.00	\$5.00	\$5.00	\$5.00	\$5.00

*** Forecast data input for table 1**

- Cash unit sales: above
- On account unit sales: above
- Cash unit sales price: above
- Account unit sales price: above

Dollar Value Net Sales Forecast: Weeks Ending March 7–April 11, 2017 (Table 2)						
	<u>3/7</u>	<u>3/14</u>	<u>3/21</u>	<u>3/28</u>	<u>4/4</u>	<u>4/11</u>
Cash sales	\$8,500	\$7,200	\$8,500	\$7,200	\$7,500	\$8,500
Sales on account	<u>36,500</u>	<u>39,800</u>	<u>20,000</u>	<u>22,000</u>	<u>28,900</u>	<u>31,000</u>
Total	<u>\$45,000</u>	<u>\$47,000</u>	<u>\$28,500</u>	<u>\$29,200</u>	<u>\$36,400</u>	<u>\$39,500</u>

The Steps to Prepare the Forecast, *continued*

Step 2 Estimate Collections From Sales

At this point, the company has estimated sales revenue, but not collections. As we recall from our discussion on cash basis accounting (Learning Goal 2) and the statement of cash flows (Learning Goal 21), revenue is not the same as cash flow. Therefore, we have to convert the revenue into collections by making the following estimates for sales on account: 1) 5% will be uncollectible 2) actual collections of the balance will average 80% in the following week as customers take advantage of the 2/10, n/30 discount terms 3) the remaining 20% of the balance will be collected over the next 4 months, 5% at the end of every 4 weeks. (Table 3).

Example: Andie's Garden Bulbs is showing estimated collections from customers for the week of March 14 as \$41,640. This is the amount that you see in the forecast for the week.

Cash Collections From Customers Forecast: Weeks Ending March 7–April 11, 2017
(Table 3)

	<u>3/7</u>	<u>3/14</u>	<u>3/21</u>	<u>3/28</u>	<u>4/4</u>	<u>4/11</u>
Cash sales	\$8,500	\$7,200	\$8,500	\$7,200	\$7,500	\$8,500
Accounts receivable						
Prior weeks (data given)	29,790	5,250	5,550	4,100	5,810	5,950
Current period (3/7–4/11)	-	a. <u>27,190</u>	b. <u>29,640</u>	c. <u>14,900</u>	d. <u>18,120</u>	e. <u>23,420</u>
Total from A/R	29,790	32,440	35,190	19,000	23,930	29,370
Customer advances	<u>2,000</u>	<u>2,000</u>	<u>3,000</u>	<u>1,000</u>	<u>2,000</u>	<u>2,000</u>
Total	<u>\$40,290</u>	<u>\$41,640</u>	<u>\$46,690</u>	<u>\$27,200</u>	<u>\$33,430</u>	<u>\$39,870</u>

Forecast data input for table 3

- Uncollectible accounts: 5% of sales.
- Discount terms on accounts receivable sales: 2%—Payment period: 10 days
- Collection within 2/10, n/30 discount period: 80% of sales on account (by end of following week)
- Remaining balance (no discount): 5% collected at the end of each four-week period after sale.

Calculation example for A/R collections:

- a. $\$36,500 \times .95 \times .80 = \$27,740 \times .98$ (for discount) = \$27,190 (rounded)
- b. $\$39,800 \times .95 \times .80 = \$30,248 \times .98 = \$29,640$ (rounded)
- c. $\$20,000 \times .95 \times .80 = \$15,200 \times .98 = \$14,900$ (rounded)
- d. $\$22,000 \times .95 \times .80 = \$16,720 \times .98 = \$16,385.60 + (\$36,500 \times .95 \times .05) = \$18,120$ (rounded)
- e. $\$28,900 \times .95 \times .80 = \$21,964 \times .98 = \$21,524.72 + (\$39,800 \times .95 \times .05) = \$23,420$ (rounded)

(Final calculation amounts are rounded to the nearest \$10.)

The Steps to Prepare the Forecast, *continued*

Step 3 Estimate Other Collections

Other collections are generally either smaller (such as interest or dividends) or discretionary such as selling assets. In this example, there is one other collection in the forecast: an investment is estimated to be sold for the amount of \$500 in the week ending April 4.

Step 4 Estimate Purchases

Using the estimate for unit sales, the company estimated the number of units required for the sales plus maintaining a desired level of inventory at the end of the week. Example: the bulbs required to purchase for the week ending March 14 is 6,852 (Table 4). The unit sales also would be the units for cost of goods sold. Total unit purchases are multiplied by the average unit cost to determine total purchases cost.

For the week ending March 14, the company has estimated purchases at 6,852 units. Using an average cost of \$3.29, the cost of the purchases total is \$22,540 (Table 5).

Unit Purchases: Weeks Ending March 7–April 11, 2017
(Table 4)

	<u>3/7</u>	<u>3/14</u>	<u>3/21</u>	<u>3/28</u>	<u>4/4</u>	<u>4/11</u>
Unit sales (table 1)	9,425	9,760	6,125	6,200	7,655	8,325
Add: ending inventory*	<u>7,808</u>	<u>4,900</u>	<u>4,960</u>	<u>6,124</u>	<u>6,660</u>	a. <u>6,660</u>
Total inventory needed	17,233	14,660	11,085	12,324	14,315	14,985
Less: beginning inventory	<u>7,540</u>	<u>7,808</u>	<u>4,900</u>	<u>4,960</u>	<u>6,124</u>	<u>6,660</u>
Unit purchases	<u>9,693</u>	<u>6,852</u>	<u>6,185</u>	<u>7,364</u>	<u>8,191</u>	<u>8,325</u>

(Final calculation amounts are rounded to the nearest \$10.)

a. Based on estimate of same unit sales as week 4/11.

Inventory, Cost of Goods Sold, and Purchases Forecast: March 7–April 11, 2017
(Table 5)

	<u>3/7</u>	<u>3/14</u>	<u>3/21</u>	<u>3/28</u>	<u>4/4</u>	<u>4/11</u>
Unit purchases (table 4)	<u>9,693</u>	<u>6,852</u>	<u>6,185</u>	<u>7,364</u>	<u>8,191</u>	<u>8,325</u>
Average cost per unit*	<u>\$3.623</u>	<u>\$3.290</u>	<u>\$3.108</u>	<u>\$3.285</u>	<u>\$3.323</u>	<u>\$3.355</u>
Cost of purchases	<u>\$35,120</u>	<u>\$22,540</u>	<u>19,220</u>	<u>\$24,190</u>	<u>\$27,220</u>	<u>\$27,930</u>

****Forecast data input for tables 4 and 5:***

- Desired ending inventory: (80% × next week unit sales)
- Average cost per unit: data given based on best estimates by management
- 3/7 beginning inventory is prior week's ending inventory.

(Final calculation amounts are rounded to the nearest \$10.)

continued ►

The Steps to Prepare the Forecast, *continued*

Step 5 Estimate the Payments for Purchases

It is company policy to take advantage of all purchase discounts. Using an average purchase discount of 1.5% payable in 10 days, the company estimates 98.5% payment in the week following purchase (Table 6)

For the week ending March 14, the company has estimated payments for purchases at \$34,590. This is the amount you see in the cash forecast for the week.

Cash Payments Forecast for Inventory Purchases: March 7–April 11, 2017
(Table 6)

	3/7	3/14	3/21	3/28	4/4	4/11
Purchases (table 5)	<u>\$35,120</u>	<u>\$22,540</u>	<u>\$19,220</u>	<u>\$24,190</u>	<u>\$27,220</u>	<u>\$27,930</u>
Payment	a. \$34,480	b. \$34,590	c. \$22,200	d. \$18,930	e. \$23,830	f. \$26,810

* Forecast data input for table 6

The company takes all inventory purchase discounts within the discount period.

- Average of discounts: 1.5%,
 - Balance is payable within: 10 days (check written by end of following week).
- a. Purchases from prior week at $\$35,000 \times .985 = \$34,480$
 b. $\$35,120 \times .985 = \$34,590$ c. $\$22,540 \times .985 = \$22,200$
 d. $\$19,220 \times .985 = \$18,930$ e. $\$24,190 \times .985 = \$23,830$
 f. $\$27,220 \times .985 = \$26,810$

(Final calculation amounts rounded to nearest \$10.)

The Steps to Prepare the Budget

Overview

A forecast is necessary to prepare a budget, but a forecast is not a budget. A forecast is a prediction or an estimate. A budget is a plan. A budget is created by using the information from the forecast to make changes in order to create a plan of action, and to achieve a desired outcome. Usually the desired outcome is some dollar amount above the minimum cash reserve while also working toward specific company goals. The plan of action is created in two ways:

- 1) Forecast amounts and timing are changed according to what management thinks is necessary and possible to achieve the desired outcome.
- 2) Financing sources are added. Notice that budget below has a new section at the bottom for financing sources. “Financing” means transactions that obtain cash from lenders and/or investors.



Reminder: it is useful to keep in mind that we are discussing cash flow, not the proper accrual accounting used to record transactions and prepare financial statements. As we have discussed in earlier learning goals, the accrual accounting revenues, expenses, and net income are not the same as cash receipts, cash payments, and net cash flow.

The Budget Preparation

Budget Example

Cash Budget: Weeks Ending March 7–April 11, 2017							
	3/7	3/14	3/21	3/28	4/4	4/11	
	Adjustment to actual	(\$350)					
1	Beginning cash balance	24,290	\$28,590	\$34,380	\$19,390	\$17,300	\$26,300
2	Cash receipts						
3	From sales to customers	40,290	41,640	46,690	27,200	33,430	39,870
4	From investments	2,000	—	—	—	500	2,500
5	From capital asset sales	—	—	—	—	—	—
6	Other	—	—	—	—	—	—
7	Total cash receipts	42,290	41,640	46,690	27,200	33,930	42,370
8	Total cash available	66,580	70,230	81,070	46,590	51,230	68,670
9	Cash payments						
10	Merchandise purchases	34,480	34,590	22,200	18,930	23,830	26,810
11	Marketing—wage/commission	—	3,290	—	2,260	—	2,800
12	Marketing—other	100	200	1,000	400	200	1,500
13	Wages	—	2,500	—	2,500	—	2,500
14	Other payroll expenses	—	1,020	—	950	—	960
15	Rent	—	—	—	3,200	—	—
16	Insurance	700	—	—	700	—	—
17	Supplies	360	150	200	50	50	150
18	Professional fees	2,150	250	3,900	-0-	650	820
19	Income tax	—	2,500	—	—	—	—
20	Miscellaneous other	200	350	180	300	200	200
21	Investments	—	—	—	—	—	—
22	Capital asset purchases	—	—	34,200	—	—	—
23	Loan Principal	—	—	—	—	—	126
24	Loan Interest	—	—	—	—	—	52
25	Dividends/withdrawals	—	—	—	—	—	2,000
26	Total cash payments	37,990	44,850	61,680	29,290	24,930	37,918
27							
28	Cash balance before financing	28,590	25,380	19,390	17,300	26,300	30,752
29	Less: minimum cash reserve	15,000	15,000	15,000	15,000	15,000	15,000
30	Excess/(Deficiency)	13,590	10,380	4,390	2,300	11,300	15,752
31		—	—	—	—	—	—
32	Financing sources						
33	Borrowing	—	9,000	—	—	—	—
34	Stockholder/owner investment	—	—	—	—	—	—
35	Total financing effect	-0-	9,000	-0-	-0-	-0-	-0-
36	Ending cash balance (lines 28+35)	\$28,590	\$34,380	\$19,390	\$17,300	\$26,300	\$30,752

continued ►

The Budget Preparation, *continued*

Cash Flow Effect From Budget Changes to Forecast						
	3/7	3/14	3/21	3/28	4/4	4/11
Line 4	\$2,000					\$2,500
Line 33		\$9,000				
Line 12			\$1,500			
Line 17				\$ 70		
Line 18				750	(\$400)	(420)
Prior cumulative adjustments		2,000	11,000	12,500	13,320	12,920
Line 28: Forecast	26,590	23,380	6,890	3,980	13,380	15,752
Line 36: Budget (Above)	\$28,590	\$34,380	\$19,390	\$17,300	\$26,300	\$30,752

Key Points

- The budget includes a new section for financing sources. This is shown at the bottom of the statement to emphasize possible borrowing and investment sources available to meet cash requirements.
- The budget changes to the forecast are highlighted in dark blue. They are also summarized in the table below the budget, indicating the positive or negative effect each change has on the cash balance. For example, in the week ending 3/21 the reduction in “other” marketing expenses from \$2,500 to \$1,000 results in a \$1,500 increase in cash flow.
- Selling \$2,000 of investments in the first week plus a \$9,000 loan in the second week appears to be enough to cover the forecast deficiency below minimum. The available cash for the week ending March 28 shows only \$2,300 in excess of the minimum reserve.
- The cash balance before financing grows larger during the last two weeks, particularly in the last week when an investment is planned to be sold for \$2,500. Professional fees also have been shifted into the last two weeks in the budget.
- Monthly loan payments begin in the last week in the budget. Also, because the cash balance is growing, there is a planned cash dividend distribution to the owners during the last week in the amount of \$2,000.
- No changes have been made to the sales estimates and collections from customers. Apparently the managers feel confident in the estimate.

Connecting to the Statement of Cash Flows

The basic budget format that you see above can also be re-formatted so that its data will be comparable to the format of a statement of cash flows. In this way, cash budget planning can be measured against the same categories in a statement of cash flows. However, each activity category of operating, investing, and financing would show its own receipts and expenditures, so there would also be complexity due to the additional categories.

For example, sales receipts and operating expenditures would be categorized as operating activities. Receipts and expenditures related to investments and capital assets would be formatted in a section for investing activities. The financing activities section would contain borrowing and investing related cash flows.

Comparison to Actual Results

Overview

The final procedure related to a cash budget is the comparison of budgeted to actual receipts and expenditures by individual category. The comparison provides highly valuable data to revise forecast assumptions and to make changes in the budget based on the most recent cash transactions. Comparing actual amounts to budget amounts focuses management's attention on key categories such as sales collections and purchase expenditures that have the greatest impact on cash flow as well as strategic planning. However, despite these advantages, this function is not always completed, and sometimes the process ceases with only a cash budget.

Even though it is important, development of a comparative budget such as you see below is more expensive and more time-consuming than only preparing a budget such as you see above. It requires additional resources to purchase or develop a system that continuously identifies actual receipts and expenditures in defined cash budget categories. It also requires time to analyze category differences.

continued ►

Comparison to Actual Results, *continued*

Example

Cash Budget Comparison to Actual: Week Ending March 7, 2017							
	3/7	3/7	3/7	YTD	YTD	YTD	
	Budget	Actual	Variance	Budget	Actual	Variance	
1	Beginning cash balance (actual)	\$24,290	\$24,290	-0-	\$9,380	\$9,380	-0-
2	Cash receipts						
3	From sales to customers	40,290	42,230	1,940	412,320	413,650	1,330
4	From investments	2,000	2,000	-0-	2,000	2,000	-0-
5	From capital asset sales	—	—	—	—	—	—
6	Other	—	—	—	—	—	—
7	Total cash receipts	42,290	44,230	1,940	414,320	415,650	1,330
8	Total cash available	66,580	68,520	1,940	423,700	425,030	1,330
9	Cash payments						
10	Merchandise purchases	34,480	35,930	1,450	342,600	343,450	850
11	Marketing—wage/commission	—	—	—	15,110	15,140	30
12	Marketing—other	100	200	100	1,900	2,650	750
13	Wages	—	—	—	10,000	10,000	-0-
14	Other payroll expenses	—	—	—	4,140	4,160	20
15	Rent	—	—	—	8,100	9,600	1,500
16	Insurance	700	700	-0-	650	700	50
17	Supplies	360	250	(110)	1,500	510	(990)
18	Professional fees	2,150	650	(1,500)	2,880	2,120	(760)
19	Income tax	—	—	—	3,120	3,120	-0-
20	Miscellaneous other	200	200	-0-	3,600	2,990	(610)
21	Investments	—	—	—	—	—	—
22	Capital asset purchases	—	—	—	—	—	—
23	Loan Principal	—	—	—	—	—	—
24	Loan Interest	—	—	—	—	—	—
25	Dividends/withdrawals	—	—	—	—	—	—
26	Total cash payments	37,990	37,930	(60)	393,600	394,440	840
27							
28	Cash balance before financing	28,590	30,590	2,000	30,100	30,590	490
29	Less: minimum cash reserve	15,000	15,000	-0-	15,000	15,000	-0-
30	Excess/(Deficiency)	13,590	15,590	2,000	15,100	15,590	490
31							
32	Financing sources						
33	Borrowing	—	—	—	—	—	—
34	Stockholder investment	—	—	—	—	—	—
35	Net financing effect	-0-	-0-	-0-	-0-	-0-	-0-
36	Ending cash balance (lines 28+35)	\$28,590	\$30,590	\$2,000	\$30,100	\$30,590	\$490

Analysis

- The comparison that you see above is prepared after the week that ends on March 7. The budget, actual, and variance amounts are presented for the week ending March 7 and for the year to date (YTD) ending on March 7, assuming a calendar year for reporting.
- For the week ending March 7, we see a current week total positive variance of \$2,000 (line 36). This consists of a \$1,940 positive variance for receipts (more received than budgeted) and a \$60 negative variance for payments (less spent than budgeted). Although the \$60 negative overall variance for

Comparison to Actual Results, *continued*

expenditures is rather small, the amount includes two much larger offsetting variances: a \$1,450 positive variance for merchandise purchases and a \$1,500 negative variance for professional fees payments, which are delayed until later weeks. The \$2,000 total positive variance will be an adjustment to the following week's budgeted beginning cash balance.

- The YTD “budget” column is simply the total budgeted amounts for the entire period, beginning with the January 1 reconciled cash balance. It is not adjusted for prior weeks' budget/actual differences. Therefore the \$490 total positive variance is the entire budget/actual variance YTD. The variance consists of a positive \$1,330 total cash receipts variance (more cash received than budgeted) and a total \$840 positive payments variance (more cash spent than budgeted).
- At this point in time, no financing has yet been required.
- For any category, the difference between receipts and payments is line 7 minus line 26.
- Positive and negative receipts variances should not necessarily be interpreted as good and bad. For example, a higher than expected tax refund is simply receiving back an overpayment that could have been used for other purposes. Particularly for payments, it is also not always correct to say that positive expenditure variances are bad and negative ones are good. For example, more may be spent on professional fees than budgeted (positive variance) because the quality of service is better. Less may be spent on merchandise, but perhaps it is inferior quality or delivered late. It is always important to investigate the reasons for significant variances.

Using Technology

Various Choices

Realistically, a cash budget cannot be developed and maintained without the use of an electronic spreadsheet or a specialized data system. Here are common choices:

- **Electronic spreadsheet:** An electronic spreadsheet method works well for the development of a forecast and a budget. Although initial set-up can be time consuming, once the spreadsheets have been correctly developed, forecast assumptions can be quickly re-defined and data input amounts can be quickly changed to answer “what if?” questions (called “sensitivity analysis”) and to revise forecasts and budgets as conditions change. This is quite useful.

Using a spreadsheet to record transaction data is not practical. To record actual transaction data and integrate the data into a cash budget format, other software systems must be purchased.

- **Accounting software:** The essential function of accounting software is to record transaction data, maintain accounting records, and produce financial statements. Depending on the cost of the software, other functions also become available, such as producing budgets.

continued ►

Using Technology, *continued*

However, this requires careful evaluation, particularly with lower-cost software: 1) The forecasting capabilities may be too limited and unable to provide the level of detail presented here, or may not possess the same “what if” capability of a spreadsheet. 2) The term “budget” may refer to a budgeted income statement, not a cash budget. 3) If a cash budget is available, it does not include a budget vs. actual data feature, even though the transaction data has been recorded as part of the accounting functions.

At higher price levels, these limitations diminish and accounting software offers more comprehensive features that include integration of transaction data with a cash budget process and a budget format. Of course, a more basic accounting system can also be used in combination with spreadsheets.

- **Enterprise resource planning:** Enterprise resource planning (*ERP*) systems are designed to integrate current accounting transaction data as well as other data for use in a wide range of business functions, including cash budgeting. ERP systems automate many processes, including budgeting. ERP systems can represent the highest price levels.
- **Special applications:** Special applications are available that add enhanced features, including budgeting, to other software used in accounting.
- **Design differences:** There are numerous design differences for forecasts and budgets. Data can be arranged in many different formats. These design variations can make a real difference not only in functionality but in the suitability and ease of use of a system. Be sure to evaluate which design is both useful and adaptable in your own situation.



A cost-effective method to obtain actual transaction data for comparison use in a cash budget is to use low-cost to moderate-cost accounting software that allows for both accrual basis and cash basis accounting (Learning Goal 2). The software should allow the production of both accrual basis and cash basis financial statements. A cash basis income statement will contain transaction data that may provide almost all (sometimes all) of the needed actual data input for a cash budget, although the category names may be somewhat different.

Low-cost accounting software that converts accrual to cash basis might not complete the entire process without a some extra manual input. Higher cost software will generally complete the process automatically and allow for export to a spreadsheet. In either case, it should be possible to copy and paste the cash basis data into a comparative budget spreadsheet. Although this is not an efficient method that automatically produces a complete and formatted comparative budget, it can be an initially more economical alternative. In all cases, carefully compare the alternatives available.

The Rolling Budget

Overview

The cash budget that we have created up to this point was developed only for a fixed period of time. After that time has passed, another budget will need to be developed. In our example of Andie's Garden Bulbs Company, the budget period was a six week period ending on April 11.

The problem with this approach is that as you move further into a budget period, the visibility becomes progressively more limited until, as in this example, only one week of planning will remain. After that point, it becomes necessary to create a new forecast and a new budget for the next six weeks, which is a significant time requirement at a single point in time. An alternative to this method is the **rolling budget**, also called a continuous or perpetual budget.

The concept is relatively simple. After one period has passed, that period is removed from the forecast and the budget, and a new period is added. In the examples below, the week ending March 7 has passed. Therefore that period has been removed and a new forecast and budget time period has been added: the week ended April 18. All other procedures remain the same.

Unit Net Sales Forecast: Weeks Ending March 14–April 18, 2017
(Table 1)

	<u>3/14</u>	<u>3/21</u>	<u>3/28</u>	<u>4/4</u>	<u>4/11</u>	<u>4/18</u>
Cash unit sales*	1,800	2,125	1,800	1,875	2,125	2,200
On account unit sales*	7,960	4,000	4,400	5,780	6,200	6,500
Total units	<u>9,760</u>	<u>6,125</u>	<u>6,200</u>	<u>7,655</u>	<u>8,325</u>	<u>8,700</u>
Cash unit sales price*	\$4.00	\$4.00	\$4.00	\$4.00	\$4.00	\$4.00
Account unit sales price*	\$5.00	\$5.00	\$5.00	\$5.00	\$5.00	\$5.00

*** Forecast data input for table 1**

- Cash unit sales: above
- On account unit sales: above
- Cash unit sales price: above
- Account unit sales price: above

Dollar Value Net Sales Forecast: Weeks Ending March 14–April 18, 2017
(Table 2)

	<u>3/14</u>	<u>3/21</u>	<u>3/28</u>	<u>4/4</u>	<u>4/11</u>	<u>4/18</u>
Cash sales	\$7,200	\$8,500	\$7,200	\$7,500	\$8,500	\$8,800
Sales on account	<u>39,800</u>	<u>20,000</u>	<u>22,000</u>	<u>28,900</u>	<u>31,000</u>	<u>32,500</u>
Total	<u>\$47,000</u>	<u>\$28,500</u>	<u>\$29,200</u>	<u>\$36,400</u>	<u>\$39,500</u>	<u>\$41,300</u>

continued ►

The Rolling Budget, *continued*

Cash Collections From Customers Forecast: Weeks Ending March 14–April 18, 2017
(Table 3)

	<u>3/14</u>	<u>3/21</u>	<u>3/28</u>	<u>4/4</u>	<u>4/11</u>	<u>4/18</u>
Cash sales	\$7,200	\$8,500	\$7,200	\$7,500	\$8,500	\$8,500
Accounts receivable						
Prior weeks	5,250	5,550	4,100	5,810	5,950	5,100
Current period	a. <u>27,190</u>	b. <u>29,640</u>	c. <u>14,900</u>	d. <u>18,120</u>	e. <u>23,420</u>	f. <u>24,040</u>
Total from A/R	39,640	43,690	24,200	23,930	29,370	29,140
Unearned revenue	<u>2,000</u>	<u>3,000</u>	<u>1,000</u>	<u>2,000</u>	<u>2,000</u>	<u>2,000</u>
Total	<u>\$41,640</u>	<u>\$46,690</u>	<u>\$27,200</u>	<u>\$33,430</u>	<u>\$39,870</u>	<u>\$39,640</u>

Forecast data input for table 3

- Uncollectible accounts: 5% of sales.
- Discount terms on accounts receivable sales: 2%. Payment period: 10 days.
- Collection within 2/10, n/30 discount period: 80% of sales on account (by end of following week)
- Remaining balance (no discount): 5% collected at the end of each four-week period after sale.

Calculation example for A/R collections:

a. $\$36,500$ (from 3/7) $\times .95 \times .80 = \$27,740 \times .98$ (for discount) = $\$27,190$ (rounded)

b. $\$39,800 \times .95 \times .80 = \$30,248 \times .98 = \$29,640$ (rounded)

c. $\$20,000 \times .95 \times .80 = \$15,200 \times .98 = \$14,900$ (rounded)

d. $\$22,000 \times .95 \times .80 = \$16,720 \times .98 = \$16,385.60 + (\$36,500 \times .95 \times .05) = \$18,120$ (rounded)

e. $\$28,900 \times .95 \times .80 = \$21,964 \times .98 = \$21,524.72 + (\$39,800 \times .95 \times .05) = \$23,420$ (rounded)

f. $\$31,000 \times .95 \times .80 = \$23,560 \times .98 = \$23,088.80 + (\$20,000 \times .95 \times .05) = \$24,040$ (rounded)

(Final calculation amounts are rounded to the nearest \$10.)

Unit Purchases: Weeks Ending March 14–April 18, 2017
(Table 4)

	<u>3/14</u>	<u>3/21</u>	<u>3/28</u>	<u>4/4</u>	<u>4/11</u>	<u>4/18</u>
Unit sales (table 1)	9,760	6,125	6,200	7,655	8,325	8,700
Add: ending inventory *	<u>4,900</u>	<u>4,960</u>	<u>6,124</u>	<u>6,660</u>	<u>6,960</u>	a. <u>6,960</u>
Total inventory needed	14,660	11,085	12,324	14,315	15,285	15,660
Less: beginning inventory	<u>7,808</u>	<u>4,900</u>	<u>4,960</u>	<u>6,124</u>	<u>6,660</u>	<u>6,960</u>
Unit purchases	<u>6,852</u>	<u>6,185</u>	<u>7,364</u>	<u>8,191</u>	<u>8,625</u>	<u>8,700</u>

(Final calculation amounts are rounded to the nearest \$10.)

a. Based on estimate of same unit sales as week 4/18.

The Rolling Budget, *continued*Inventory, Cost of Goods Sold, and Purchases Forecast: Weeks Ending March 14–April 18, 2017
(Table 5)

	<u>3/14</u>	<u>3/21</u>	<u>3/28</u>	<u>4/4</u>	<u>4/11</u>	<u>4/18</u>
Unit purchases (table 4)	<u>6,852</u>	<u>6,185</u>	<u>7,364</u>	<u>8,191</u>	<u>8,625</u>	<u>8,700</u>
Average cost per unit*	<u>\$3.290</u>	<u>\$3.108</u>	<u>\$3.285</u>	<u>\$3.323</u>	<u>\$3.238</u>	<u>\$3.440</u>
Cost of purchases	<u>\$22,540</u>	<u>19,220</u>	<u>\$24,190</u>	<u>\$27,220</u>	<u>\$27,930</u>	<u>\$29,930</u>

*** Forecast data input for tables 4 and 5:**

- Desired ending inventory: (80% × next month unit sales)
- Average cost per unit: data given based on best estimates by management

(Final calculation amounts are rounded to the nearest \$10.)

Cash Payments Forecast for Inventory Purchases: Weeks Ending March 14–April 18, 2017
(Table 6)

	<u>3/14</u>	<u>3/21</u>	<u>3/28</u>	<u>4/4</u>	<u>4/11</u>	<u>4/18</u>
Purchases (table 5)	<u>\$22,540</u>	<u>\$19,220</u>	<u>\$24,190</u>	<u>\$27,220</u>	<u>\$27,930</u>	<u>\$29,930</u>
Payment	a. 34,590	b. \$22,200	c. \$18,930	d. \$23,830	e. \$26,810	f. \$27,510

Forecast data input for table 6

The company takes all inventory purchase discounts within the discount period.

- Average of discounts: 1.5%,
- Balance is payable within: 10 days (check written by end of following week).

- a. Purchases from prior week at $\$35,120 \times .985 = \$34,590$
 b. $\$22,540 \times .985 = \$22,200$ c. $\$19,220 \times .985 = \$18,930$
 d. $\$24,190 \times .985 = \$23,830$ e. $\$27,220 \times .985 = \$26,810$
 f. $\$27,930 \times .985 = \$27,510$

(Final calculation amounts rounded to nearest \$10.)

Cash Payments Forecast for Marketing Wages and Commissions:
Weeks Ending March 14–April 18, 2017
(Table 7)

	<u>3/14</u>	<u>3/21</u>	<u>3/28</u>	<u>4/4</u>	<u>4/11</u>	<u>4/18</u>
Payment	a. \$3,290	—	b. \$2,260	—	c. \$2,800	—

***Forecast data input for table 7**

- Sales commissions: 3% of prior week sales on account.
- Marketing base wages: \$500 per week. Payments are made every other week.

continued ►

The Rolling Budget, *continued*

- a. Week 3/7 + week 3/14 sales on account: $\$76,300 \times .03 = \$2,289 + \$1,000 = \$3,290$ (rounded).
- b. Week 3/21 + week 3/28 sales on account: $\$42,000 \times .03 = \$1,260 + \$1,000 = \$2,260$ (rounded).
- c. Week 4/4 + week 4/11 sales on account: $\$59,900 \times .03 = \$1,797 + \$1,000 = \$2,800$ (rounded).

(Final calculation amounts are rounded the nearest \$10.)

Other Payment Forecast Categories
(Table 8)

Wages are paid every other week.

Other:

1. Marketing—other: This could include travel, meals, and supplies expenditures.
2. Other payroll: Payroll tax and employee benefits such as medical insurance are primarily a percentage of gross wages, although some payments may be a fixed amount per employee.
3. Rent: This is a fixed amount, usually paid monthly.
4. Insurance: Usually prepayments are required at designated intervals.
5. Supplies: The calculations for supplies are based on estimated usage and desired balance on hand.
6. Professional fees and services: This would include accounting, legal, maintenance, and other services. A separate forecast for each service could be prepared.
7. Income tax: Income tax requires regular (usually quarterly) payments based on an annual estimate, and then a balance due (or a refund) occurs after completion of the income tax return. In this example, the large payment in the second week of March is an annual balance due plus the first estimated tax payment.

Forecast Changes

The next forecast can contain two types of changes from the previous forecast:

- Changes in the forecast itself
- Changes in the forecast amounts due to prior budgetary changes.

Here, the only changes in the forecast are the changes that result from developing the previous budget amounts. Prior forecast changes due to 3/11–4/11 prior budget changes:

Week ended	Receipt Item	Expenditure Item	Revised Amount
3/21		Marketing -other	1,000
3/28		Supplies	50
3/28		Professional fees	-0-
4/11	From investments		2,500

The Rolling Budget, continued**Example**

Cash Forecast: Weeks Ending March 14–April 18, 2017							
		3/14	3/21	3/28	4/4	4/11	4/18
Adjustment to actual		\$ 2,000					
1	Beginning cash balance	30,590	27,380	10,890	7,980	17,380	19,752
2	Cash receipts forecast						
3	From sales to customers	41,640	46,690	27,200	33,430	39,870	39,640
4	From investments	—	—	—	500	—	—
5	From capital asset sales	—	—	—	—	—	—
6	Other	—	—	—	—	—	—
7	Total cash receipts	41,640	46,690	27,200	33,930	39,870	39,640
8	Total cash available	72,230	74,070	38,090	41,910	57,250	59,392
9	Cash payments forecast						
10	Merchandise purchases	34,590	22,200	18,930	23,830	26,810	27,510
11	Marketing—wage/commission	3,290	—	2,260	—	2,800	—
12	Marketing—other	200	2,500	400	200	1,500	1,100
13	Wages—General and Admin.	2,500	—	2,500	—	2,500	—
14	Other payroll expenses	1,020	—	950	—	960	—
15	Rent	—	—	3,200	—	—	—
16	Insurance	—	—	700	—	—	—
17	Supplies	150	200	120	50	150	770
18	Professional fees and services	250	3,900	750	250	400	200
19	Income tax	2,500	—	—	—	—	—
20	Miscellaneous other	350	180	300	200	200	300
21	Investments	—	—	—	—	—	—
22	Capital asset purchases	—	34,200	—	—	—	—
23	Loan Principal	—	—	—	—	126	—
24	Loan Interest	—	—	—	—	52	—
25	Dividends/withdrawals	—	—	—	—	2,000	—
26	Total cash payments	44,850	63,180	30,110	24,530	37,498	29,880
27							
28	Cash balance before financing	27,380	10,890	7,980	17,380	19,752	29,512
29	Less: required cash reserve	15,000	15,000	15,000	15,000	15,000	15,000
30	Excess/(Deficiency)	\$12,380	(\$4,110)	(\$7,020)	\$2,380	\$4,752	\$14,512

The Budget

As before, after the forecast has been completed, a budget is prepared (below). In this example, no changes to the forecast have been made for the new week.

continued ►

The Rolling Budget, *continued*

Example

Cash Budget: Weeks Ending March 14–April 18, 2017						
	3/14	3/21	3/28	4/4	4/11	4/18
Adjustment to actual	\$2,000	—	—	—	—	—
1 Beginning cash balance	30,590	\$36,380	\$21,390	\$19,300	\$28,300	\$32,752
2 Cash receipts						
3 From sales to customers	41,640	46,690	27,200	33,430	39,870	39,640
4 From investments	—	—	—	500	2,500	—
5 From capital asset sales	—	—	—	—	—	—
6 Other	—	—	—	—	—	—
7 Total cash receipts	41,640	46,690	27,200	33,930	42,370	39,640
8 Total cash available	72,230	83,070	48,590	53,230	70,670	72,392
9 Cash payments						
10 Merchandise purchases	34,590	22,200	18,930	23,830	26,810	27,510
11 Marketing—wage/commission	3,290	—	2,260	—	2,800	—
12 Marketing—other	200	1,000	400	200	1,500	1,100
13 Wages	2,500	—	2,500	—	2,500	—
14 Other payroll expenses	1,020	—	950	—	960	—
15 Rent	—	—	3,200	—	—	—
16 Insurance	—	—	700	—	—	—
17 Supplies	150	200	50	50	150	770
18 Professional fees	250	3,900	-0-	650	820	200
19 Income tax	2,500	—	—	—	—	—
20 Miscellaneous other	350	180	300	200	200	300
21 Investments	—	—	—	—	—	—
22 Capital asset purchases	—	34,200	—	—	—	—
23 Loan Principal	—	—	—	—	126	—
24 Loan Interest	—	—	—	—	52	—
25 Dividends/withdrawals	—	—	—	—	2,000	—
26 Total cash payments	44,850	61,680	29,290	24,930	37,918	29,880
27						
28 Cash balance before financing	27,380	21,390	19,300	28,300	32,752	42,512
29 Less: minimum cash reserve	15,000	15,000	15,000	15,000	15,000	15,000
30 Excess / (Deficiency)	12,380	6,390	4,300	13,300	17,752	27,512
31	—	—	—	—	—	—
32 Financing sources	—	—	—	—	—	—
33 Borrowing	9,000	—	—	—	—	—
34 Stockholder/owner investment	—	—	—	—	—	—
35 Total financing effect	9,000	-0-	-0-	-0-	-0-	-0-
36 Ending cash balance (lines 28+35)	\$36,380	\$21,390	\$19,300	\$28,300	\$32,752	\$42,512

Cash Flow Effect From Budget Changes to Forecast						
Line 4					\$2,500	
Line 33	\$9,000					
Line 12		\$1,500				
Line 17			\$ 70			
Line 18			750	(\$400)	(420)	
Prior cumulative adjustments		9,000	10,500	11,320	10,920	13,000
Line 28: Forecast	27,380	10,890	7,980	17,380	19,752	29,512
Line 36: Budget (Above)	\$36,380	\$21,390	\$19,300	\$28,300	\$32,752	42,512

PRACTICE**Appendix 1**

Solutions are in the disk at the back of the book and at: www.worthyjames.com

Multiple Choice

Select the best answer

1. Select the most accurate choice:
 - a. A cash budget is the only element of cash management
 - b. A cash budget is the most important element of cash management.
 - c. A cash budget is one of three element of cash management.
 - d. None of the above
2. When deciding on a budget time horizon,
 - a. the longer the horizon the more accurate a forecast will be.
 - b. shorter time horizons are usually more accurate and easier to update.
 - c. shorter time horizons require more time periods.
 - d. none of the above are correct.
3. The complete procedure(s) related to the completion and use of budget are:
 - a. Preparing an accrual basis income statement
 - b. Preparing a forecast.
 - c. Preparing a cash-basis income statement.
 - d. None of the above.
4. Using a minimum cash balance in the budget should be considered as which of the following?
 - a. Useful and optional.
 - b. Optional.
 - c. Normally unnecessary
 - d. Necessary and required.
5. In order to maintain consistent future visibility in a budget, which of the following is used?
 - a. Sales budget.
 - b. Static budget.
 - c. Flexible budget.
 - d. Rolling budget.
6. An electronic spreadsheet should be used
 - a. primarily for forecasting.
 - b. for forecasting and recording accounting transactions.
 - c. for preparing financial statements.
 - d. both b and c.
7. The first step in preparing a forecast is the
 - a. Purchases estimate.
 - b. Sales estimate.
 - c. Cash vs. actual budget
 - d. Payroll estimate.
8. A forecast is
 - a. an estimate used for a budget, but not a budget.
 - b. a different name, but essentially the same as a budget.
 - c. a plan of action.
 - d. a required financial report.
9. The amount of a proper minimum balance depends primarily on:
 - a. The uncertainty of cash inflows and outflows.
 - b. The size of inflows and outflows and outflows.
 - c. The speed of inflows and outflows and outflows.
 - d. All the above.
10. The categories to use in a forecast come primarily from
 - a. a statement of cash flows.
 - b. a balance sheet.
 - c. an income statement.
 - d. a statement of stockholders' equity.

PRACTICE**Appendix 1, continued**

Solutions are in the disk at the back of the book and at: www.worthyjames.com

Discussion Questions and Brief Exercises

1. What is the difference between a forecast and a budget?
2. Explain the three elements of cash management and why each is important.
3. Draw a simple illustration of the basic structure of a cash budget.
4. Explain the three procedures necessary for the completion and use of a cash budget.
5. Explain how a rolling budget is different than a fixed period budget.
6. Why are depreciation and amortization not included in a cash budget forecast?
7. Explain the use of a minimum cash balance and how to determine an appropriate amount.
8. Suppose that you are preparing a monthly cash budget. Your forecast sales estimate for the month of June indicates \$200,000 of sales on account. What factors are likely to affect the amount and timing of collecting that amount?
9. The following information is available from your company for the current week:

Unit sales forecast.....	8,400 units	Next week sales estimate	9,200 units
Ending inventory.....	75% of next week sales	Beginning inventory.....	3,900 units
Cost per unit.....	\$3.25	Discount terms.....	2/10, n/30

 - Calculate the total dollar forecast purchase price for the current week. Your company always pays within the discount period.
 - Calculate the next week payment, assuming your company always takes a discount offered.
 - What is the estimated cost of goods sold for the current week?
10. What categories are included in the financing section of a cash budget? Why do you think the financing section is shown as a separate section at the bottom of a cash budget?
11. Preston Company expects to sell 350 lamps in November and 450 in December at an average price of \$120 per lamp. 20% of the sales are for cash and the rest are on account. The company expects 4% of remaining sales to be uncollectible and collect 60% of remaining sales on account in the month of sale and 25% of the sales on account in the month after the month of sale, with all of these customers paying within the discount period. The company offers a 1/15, n/30 discount (1% discount). Using the information above, calculate the forecast cash receipts for December.
12. Return to the initial budget for Andie's Garden Bulbs for the weeks ending through April 11. Suppose that during the week of March 21, the sales forecast changes and indicates to the owners that collections from customers for the week ending March 28 will drop by \$7,000 to \$20,200. Indicate the following:
 - a) Identify the effects this will have on the budget.
 - b) What advice you would offer to the owners?

PRACTICE

Appendix 1, continued

Solutions are in the disk at the back of the book and at: www.worthyjames.com

Reinforcement Problems

A1-1. Forecasting purchase expenditures. Metairie Enterprises is preparing a weekly purchases forecast and provides you're the following table for weeks 0, 1, 2, 3, and 4.

	Week 0	Week 1	Week 2	Week 3	Week 4
Unit sales	15,000	14,100	16,800	15,500	16,000
Add: ending inventory	11,985				
Total inventory needed	26,985				
Less: beginning inventory	12,750				
Unit purchases	14,235				

Other information:

- The company wants to maintain an ending inventory of 85% of the next week's sales.
- Average unit cost of inventory: Week 0: \$1.50; Week 1: \$1.60; Week 2: \$1.55; Week 3: \$1.70
- Supplier offers 1/10, n/45 discount terms. All payments are made the week following purchase.

Instructions:

- a. Complete the table for weeks 1, 2, and 3.
- b. Calculate cost of goods sold for weeks 2 and 3 assuming first costs purchased are the first sold.
- c. Calculate the payments to suppliers for weeks 2 and 3. Round amounts to the nearest dollar.

A1-2. Forecasting sales collections. Duluth Company is preparing a monthly sales forecast for the next three months, and provides you the following estimates:

	July	August	Sept.
Cash unit sales	5,150	5,280	4,500
Sales on account	<u>18,700</u>	<u>21,640</u>	<u>18,630</u>
Total units	<u>23,850</u>	<u>26,920</u>	<u>23,130</u>
Average unit price	<u>\$1.80</u>	<u>\$2.00</u>	<u>\$1.90</u>

June sales on account were \$28,000. The company offers a 2/10, n/30 discount for sales on account and estimates 5% of sales to customers on account will be uncollectible. The discount is taken on 80% of the remainder, with collections of 60% in the month of sale and 20% in the next month. 50% of the remaining balance is estimated to be received in each of the two months after the month of the sale.

Instructions: Calculate the cash collections from customers for August and September. Round final answers to the nearest dollar.

PRACTICE

Appendix 1, continued

Solutions are in the disk at the back of the book and at: www.worthyjames.com

A1-3. Complete the budget. Progress Enterprises prepared the following cash budget. The company policy is to eliminate any cash deficiency by borrowing the remaining amount of the deficiency after any stockholder investment has been made. The company has a \$100,000 line of credit that requires monthly payments over 10 years and currently charges 7% interest.

Instructions: Complete the missing items in the budget. As you complete the budget, observe the cash situation and the changes occurring.

Cash Budget: Weeks Ending June 8 , 15, and 22				
		6/8	6/15	6/22
Adjustment to actual		\$1,350	?	\$(480)
1	Beginning cash balance	12,600	30,700	?
2	Cash receipts			
3	From sales to customers	82,920	78,650	85,800
4	From investments	2,500	-0-	-0-
5	From capital asset sales	-0-	-0-	-0-
6	Other	-0-	-0-	-0-
7	Total cash available	?	109,350	?
8				
9	Cash payments			
10	Merchandise purchases	?	?	57,100
11	Marketing—wage/commission	4,140	3,200	3,580
12	Marketing—other	5,000	2,500	2,000
13	Wages	7,400	7,400	7,400
14	Other operating expenditures	12,870	11,900	13,960
15	Income tax	-0-	5,000	-0-
16	Investments	-0-	-0-	-0-
17	Capital asset purchases	-0-	12,000	-0-
18	Other	-0-	-0-	-0-
19	Total cash payments	85,010	?	84,040
20				
21	Cash balance before financing	?	?	26,280
22	Less: minimum cash reserve	25,000	25,000	25,000
23	Excess / (Deficiency)	(11,990)	(14,500)	?
24				
25	Financing activities			
26	Borrowing	?	?	?
27	Stockholder/owner investment	17,000	-0-	-0-
28	Principal payments	-0-	-0-	?
29	Interest payments	-0-	-0-	?
30	Dividends/withdrawals	-0-	-0-	-0-
31	Net financing effect	17,000	?	-0-
32	Ending cash balance	\$30,010	\$25,000	?

PRACTICE**Appendix 1, continued**

Solutions are in the disk at the back of the book and at: www.worthyjames.com

Standard Introduction here for IA problems

IAA1-1. Forecasting purchase expenditures. Metairie Enterprises is preparing a weekly purchases forecast and provides you're the following table for weeks 0, 1, 2, 3, and 4.

	Week 0	Week 1	Week 2	Week 3	Week 4
Unit sales	18,000	21,400	15,500	19,900	17,800
Add: ending inventory					
Total inventory needed					
Less: beginning inventory					
Unit purchases					

Other information:

- The company wants to maintain an ending inventory of 80% of the next week's sales.
- Average unit cost of inventory: Week 0: \$2.50; Week 1: \$2.75; Week 2: \$2.50; Week 3: \$2.65
- Supplier offers 2/10, n/30 discount terms. All payments are made the week following purchase.

Instructions:

- a. Complete the table for weeks 0, 1, 2, and 3.
- b. Calculate cost of goods sold for weeks 2 and 3 assuming first costs purchased are the first sold.
- c. Calculate the payments to suppliers for weeks 2 and 3. Round amounts to the nearest dollar.

IAA1-2. Forecasting sales collections. Duluth Company is preparing a monthly sales forecast for the next three months, and provides you the following estimates:

	<u>Oct.</u>	<u>Nov.</u>	<u>Dec.</u>
Cash unit sales	6,720	6,850	7,800
Sales on account	<u>20,400</u>	<u>19,750</u>	<u>21,440</u>
Total units	<u>27,120</u>	<u>26,600</u>	<u>29,240</u>
Average unit price	<u>\$2.00</u>	<u>\$2.10</u>	<u>\$1.70</u>

September sales on account were \$34,000. The company offers a 2/10, n/30 discount for sales on account and estimates 5% of sales to customers on account will be uncollectible. The discount is taken on 90% of the remaining accounts, with collections of 70% in the month of sale and 20% in the next month. 50% of the remaining balance is estimated to be received in each of the two months after the month of the sale.

Instructions: Calculate the cash collections from customers for November and December. Round final answers to the nearest dollar.

PRACTICE

Appendix 1, continued

Solutions are in the disk at the back of the book and at: www.worthyjames.com

IAA1-3. Complete the budget. Progress Enterprises prepared the following cash budget. The company policy is to eliminate any cash deficiency by borrowing the amount of the remaining deficiency plus \$5,000, after any stockholder investment has been made. The company has a \$100,000 line of credit that requires monthly payments over 10 years and currently charges 6% interest.

Instructions:

- Complete the missing items in the budget.
- What are your observations concerning the cash situation of the company? Identify the causes and effects that you see. What actions has the company taken in its budget planning?

Cash Budget: Weeks Ending November 2, 9 and 16				
		11/2	11/9	11/16
Adjustment to actual		(\$500)	?	(\$350)
1	Beginning cash balance	35,600	35,400	34,650
2	Cash receipts			
3	From sales to customers	?	?	126,500
4	From investments	6,800	-0-	-0-
5	From capital asset sales	-0-	9,500	-0-
6	Other	-0-	210	-0-
7	Total cash available	163,890	?	161,150
8				
9	Cash payments			
10	Merchandise purchases	86,340	85,100	?
11	Marketing—wage/commission	10,900	9,370	9,840
12	Marketing—other	8,000	5,500	4,500
13	Wages	15,000	14,000	12,000
14	Other operating expenditures	29,420	20,380	17,330
15	Income tax	-0-	28,000	-0-
16	Investments	-0-	-0-	-0-
17	Capital asset purchases	-0-	-0-	-0-
18	Other	-0-	-0-	-0-
19	Total cash payments	?	162,350	?
20				
21	Cash balance before financing	14,230	?	33,980
22	Less: minimum cash reserve	30,000	30,000	?
23	Excess/(Deficiency)	(?)	(29,620)	3,980
24				
25	Financing activities			
26	Borrowing	?	9,620	-0-
27	Stockholder/owner investment	-0-	?	-0-
28	Principal payments	-0-	-0-	?
29	Interest payments	-0-	-0-	?
30	Dividends/withdrawals	-0-	-0-	-0-
31	Net financing effect	20,770	?	-0-
32	Ending cash balance	\$35,000	\$35,000	\$33,980