

Show me the money! An introduction to cash budgets

Cori Crews
Valdosta State University

George Wilson
Valdosta State University

ABSTRACT

This case is designed to introduce the idea of how to prepare and analyze a cash budget using a familiar context for most undergraduate students. Since students often have limited exposure to business entities, this case is based on a fictional undergraduate student who wants to prepare and analyze his own cash budget. The case includes calculations for both cash inflows from and outflows for items that are typical for most students, as well as simple variance calculations. This case can be used by instructors to assist students in developing a fundamental grasp of cash budgeting before moving to more complex entities.

Keywords: Cash Budget, Budget Variance



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INTRODUCTION

Dominique pulled into a parking space at his favorite Mexican restaurant. It had been a long day of school and work and he was ready to unwind with his friends. He walked in and found them already seated at their usual table deciding what to order.

“The fajita special sounds good but I’m not sure I’ve got that much to spend”, stated Karen.

“My pockets are straight!” declares Kyle.

“What does that mean?” asks Isabella.

“It means that I’m coasting down the financial highway of life and everything is good money wise” boasted Kyle.

“Oh really!” laughed Dominique. “Are you sure about that? We went over cash budgets in accounting class today and I started thinking about how much I spend and what exactly I spend it on.”

“I never know where all my money goes!” exclaimed Karen. It’s a surprise every time I look at my checking account balance online.”

“It sounds like Kyle needs to pay tonight since he’s got everything together”, said Isabella.

“Whoa, wait a minute! I didn’t say anything about sharing my pockets”, replied Kyle.

SETTING THE BUDGET

When Dominique got home, he sat down at his desk and started thinking about his spending habits. It would be nice to know exactly how much he had coming into his bank account and exactly how much he had going out of his bank account each month. That would tell him if he had any excess cash. That would also help him save up for a new laptop and that trip to New York he wanted to take.

Dominique started to make a list. He currently had 512.84 USD in his bank account. For cash receipts, he only had one source: his paycheck. Sure, he may get the occasional birthday cash from grandma but that is not a regular source of cash. That would just be extra. He was paid a weekly gross wage of 600 USD with a net wage of 468 USD. He works every week and only takes off if he is sick or for vacation both of which he has paid leave to cover. He also has paid holidays.

For cash payments, there was a lot more to consider. He began thinking about everything he paid for in a month. There were quite a few things: his share of the apartment rent, the electric bill, the water bill, his Netflix subscription, his Hulu subscription, the internet bill, food, gas, clothes, toilet paper, toothpaste....and the list went on and on. The longer he thought, the more he came up with. He made categories and compiled a list with estimates in each category of his monthly spending based on current bills and past spending activity as displayed in Exhibit 1.

Dominique looked at the clock. It was 2am! He hadn't realized he'd spent so much time working on his budget. He needed to get some sleep. He had all he needed to set up a budget and start tracking his cash receipts and cash payments. It would be interesting to see how well he could stay within the budgetary amounts he set. Would he be right on target or would he have some variance between his estimates and the actual amounts he spent?

TRACKING THE MONEY

Dominique started tracking his cash receipts and cash payments the next day. He set up a spreadsheet to keep track of all his transactions as displayed in Exhibit 2. On one worksheet, he kept track of all his cash receipts. On another worksheet, he kept up with all cash payments. He coded each cash payment by the category to which it corresponded. He then totaled up the amounts for each category and could then compare them to the budgeted amount for each category.

CONCLUSION

It had been a month since Dominique set his budget. He had a spreadsheet full of transactions and was ready to review the results. Now it was time to see how well he had done. Did he stay on budget? Or, were there some accounts that missed the mark and had a variance? If so, did that mean he needed to change his budget or his spending habits? He had even convinced Karen, Isabella, and Kyle to set a budget and keep track of their transactions too. They were meeting up tonight to review the results. Now they could determine if Kyle knew what he was talking about and if his "pockets were straight" or not!

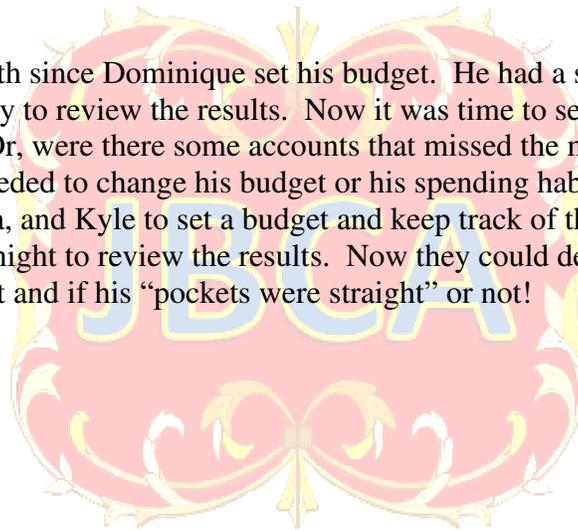


Exhibit I – Budget Categories and Amounts

Category	Budgeted Amount
Rent	\$ 300.00
Utilities	160.00
Food	300.00
Household	50.00
Clothing & Personal	200.00
Gas	120.00
Insurance	503.00
Miscellaneous	45.00
Car payment	250.00



Exhibit II – Monthly Transactions**Cash Receipts**

Date	Vendor/Payee	Amount	Description
5-Apr	Tucker Industries	468.00	Paycheck
12-Apr	Tucker Industries	468.00	Paycheck
19-Apr	Tucker Industries	468.00	Paycheck
26-Apr	Tucker Industries	468.00	Paycheck

Cash Payments

Date	Vendor/Payee	Amount	Description	Category
1-Apr	Starbucks	4.31	Coffee	Food
1-Apr	Sunny Day Apartment Rental	300.00	Monthly rent	Rent
2-Apr	Starbucks	4.31	Coffee	Food
2-Apr	Downtown Sandwich Shop	7.23	Lunch	Food
2-Apr	Publix	62.12	Groceries	Food
2-Apr	Target	41.98	toilet paper, paper towels, shampoo, toothpaste, deodorant, trash bags, etc.	Household
3-Apr	Starbucks	4.31	Coffee	Food
4-Apr	Starbucks	4.31	Coffee	Food
4-Apr	Tacotastic	6.88	Lunch	Food
5-Apr	Starbucks	4.31	Coffee	Food
5-Apr	It's Electric Power Company	37.38	Electric	Utilities
5-Apr	Let It Flow Water Company	23.61	Water	Utilities
5-Apr	Happy Trash Service	9.05	Trash service	Utilities
5-Apr	Pizza Pizza Pizza	8.32	Eat out	Food
6-Apr	Run For Your Life	121.37	Running shoes	Clothing & Personal
6-Apr	Under Armour	81.66	Exercise clothes	Clothing & Personal
6-Apr	The Best Café	12.44	Eat out	Food
7-Apr	The Fill Up Station	30.63	Gas	Gas
8-Apr	Starbucks	4.31	Coffee	Food
8-Apr	Netflix	12.99	Netflix subscription	Utilities
9-Apr	Starbucks	4.31	Coffee	Food
9-Apr	The Noodle Shop	6.28	Lunch	Food
10-Apr	Starbucks	4.31	Coffee	Food
10-Apr	All Coverage Insurance	503.00	Insurance	Insurance
10-Apr	Hulu	44.99	Hulu Live subscription	Utilities

11-Apr	Starbucks	4.31	Coffee	Food
11-Apr	Subs R Us	6.78	Lunch	Food
12-Apr	Starbucks	4.31	Coffee	Food
12-Apr	Super Speedy Internet Inc.	21.27	Internet provider	Utilities
12-Apr	Mi Casa Es Taco Casa	7.95	Eat out	Food
13-Apr	Cozy Cattle Co.	18.26	Eat out	Food
14-Apr	The Fill Up Station	28.54	Gas	Gas
15-Apr	Starbucks	4.31	Coffee	Food
15-Apr	ProctorU	20.00	Exam proctor fee	Miscellaneous
16-Apr	Starbucks	4.31	Coffee	Food
16-Apr	Sky High Burger	5.39	Lunch	Food
16-Apr	Publix	84.71	Groceries	Food
19-Apr	Grub at the Pub	15.82	Eat out	Food
17-Apr	Starbucks	4.31	Coffee	Food
18-Apr	Starbucks	4.31	Coffee	Food
18-Apr	Zacadoos	7.12	Lunch	Food
19-Apr	Starbucks	4.31	Coffee	Food
20-Apr	Thai Smile	19.27	Eat out	Food
20-Apr	First Town Bank	250.00	Car payment	Car payment
21-Apr	The Fill Up Station	31.31	Gas	Gas
22-Apr	Starbucks	4.31	Coffee	Food
23-Apr	Starbucks	4.31	Coffee	Food
23-Apr	Oink Oink Moo BBQ	7.02	Lunch	Food
23-Apr	Amazon	7.99	Phone charger cable	Miscellaneous
24-Apr	Starbucks	4.31	Coffee	Food
25-Apr	Starbucks	4.31	Coffee	Food
25-Apr	Tuk Tuk	6.28	Lunch	Food
26-Apr	Starbucks	4.31	Coffee	Food
26-Apr	Fortune Cookie Chinese	8.63	Eat out	Food
27-Apr	Macy's	52.77	Clothes	Clothing & Personal
27-Apr	Catch A Wave Seafood	24.45	Eat out	Food
28-Apr	The Fill Up Station	34.99	Gas	Gas
29-Apr	Starbucks	4.31	Coffee	Food
30-Apr	Starbucks	4.31	Coffee	Food
30-Apr	The Weenie Wagon	5.97	Lunch	Food

INTENDED COURSE AND AUDIENCE

This case is intended for introductory level courses in managerial accounting. It is appropriate for undergraduate students at the freshman or sophomore level, and it should be used as the introduction to cash budgeting to establish a foundation prior to the study of more complex entities.

SUGGESTED QUESTIONS

1. Based on Dominique's information, prepare his cash budget.
2. Will Dominique be able to save some money (excess cash) or will he have to borrow funds (deficiency of cash)? How much?
3. Based on Dominique's transactions during the month, prepare a budget variance report.
4. How well did Dominique do with sticking to his budget? Which categories had an unfavorable variance?
5. Based on the variance report, what changes would you recommend Dominique makes to either the budget or his spending habits?
6. Have you ever set a personal budget and tracked your transactions over a period of time? If so, what insights did it provide? If not, would you consider doing so? Why or why not?

DISCUSSION OF SUGGESTED QUESTIONS

1. *Based on Dominique's weekly pay described in the case and the budgeted cash disbursements in Exhibit 1, prepare his monthly cash budget.*
Students usually begin the cash budgeting process by projecting cash receipts for the period. This will permit the instructor, if they choose, to discuss the fact that Dominique's cash receipts are not uniform each month. He receives four paychecks some months, and five paychecks other months. Creating a cash budget based on four paychecks results in a cash deficit but creating a cash budget based on 4.33 paychecks per month (52 weekly paychecks / 12 months) results in excess cash. Instructors may also choose to allow students to compute the cash budget without any prior discussion of uneven monthly cash receipts. This will likely result in different answers among students, thus giving the instructor an opportunity to discuss why each answer could be correct depending on the purpose of the budget. The suggested solutions are presented below.

Monthly Cash Budget			
based on 4 weekly paychecks			
Beginning cash balance			\$ 512.84
Add cash receipts:			
	Net paychecks		1,872.00
Total cash available			2,384.84
Less cash disbursements:			
	Rent		300.00
	Utilities		160.00
	Food		300.00
	Household		50.00
	Clothing & Personal		200.00
	Gas		120.00
	Insurance		503.00
	Misc		45.00
Total cash disbursements			1,678.00
Excess (deficiency) of cash available over disbursements			706.84
Financing			
	Borrowings		
	Repayments		(250.00)
Total financing			(250.00)
Ending cash balance			\$ 456.84

Monthly Cash Budget			
based on 4.333 weekly paychecks			
Beginning cash balance			\$ 512.84
Add cash receipts:			
	Net paychecks		2,028.00
Total cash available			2,540.84
Less cash disbursements:			
	Rent		300.00
	Utilities		160.00
	Food		300.00
	Household		50.00
	Clothing & Personal		200.00
	Gas		120.00
	Insurance		503.00
	Misc		45.00
Total cash disbursements			1,678.00
Excess (deficiency) of cash available over disbursements			862.84
Financing			
	Borrowings		
	Repayments		(250.00)
Total financing			(250.00)
Ending cash balance			\$ 612.84

2. *Will Dominique be able to save some money (excess cash) or will he have to borrow funds (deficiency of cash)? How much?*

Students' response to this question is dependent on how they choose to calculate cash receipts in Question 1. Using cash receipts based on four paychecks during the month results in a cash deficit of 56 USD. Using cash receipts based on 4.333 paychecks per month results in a cash excess of 100 USD. Similar to Question 1, both answers are acceptable. This gives the instructor an opportunity to discuss that a monthly budget using cash receipts based on four paychecks will be more accurate for the month being calculated since Dominique will actually receive four paychecks in that month, but that a monthly budget based on 4.333 paychecks per month will be more accurate when annualized since a budget based on four paychecks per month would only account for 48 paychecks over the course of 12 months rather than 52. A common mistake students make when computing the cash budget is to mix budgeted amounts and actual amounts. Instructors should accentuate that the budget is done prior to the actual expenses being incurred, therefore actual numbers do not belong in a budget.

3. *Based on Dominique's transactions during the month, prepare a budget variance report.* Question 3 allows instructors to extend the assignment from the basic computation of a cash budget to the analysis of actual results versus budget. Regardless of whether students prepare the variance report based on a budgeted four paychecks or 4.333 paychecks, the line item analysis will give them insight into where Dominique's actual cash receipts and cash disbursements varied from what he had expected. The various line items in the cash budget are items that students commonly incur, and thus they should be able to easily envision why Dominique might spend more or less than anticipated. Instructors can use this portion of the assignment to discuss topics such as why some items (e.g., Rent or Insurance) have no variance when other items (e.g., Food or Utilities) have a variance. Students with a firm grasp of cost behavior will make the connection that fixed costs often have little variance unlike variable and mixed costs since they are much more predictable.

Budget Variance Report
Based on budgeted 4.333 paychecks
And four actual paychecks

	Actual	Budget	Variance	
Cash receipts	<u>\$1,872.00</u>	<u>\$2,028.00</u>	<u>\$(156.00)</u>	U
Cash disbursements				
Rent	300.00	300.00	-	F
Utilities	149.29	160.00	10.71	F
Food	415.74	300.00	(115.74)	U
Household	41.98	50.00	8.02	F
Clothing & Personal	255.80	200.00	(55.80)	U
Gas	125.47	120.00	(5.47)	U
Insurance	503.00	503.00	-	F
Miscellaneous	27.99	45.00	17.01	F
Car payment	<u>250.00</u>	<u>250.00</u>	<u>-</u>	F
Total cash disbursements	2,064.96	1,928.00	(141.27)	U
Net cash	\$(197.27)	\$100.00	\$(297.27)	U

Budget Variance Report
Based on budgeted four paychecks
And four actual paychecks

	Actual	Budget	Variance	
Cash receipts	<u>\$1,872.00</u>	<u>\$1,872.00</u>	<u>\$-</u>	F
Cash disbursements				
Rent	300.00	300.00	-	F
Utilities	149.29	160.00	10.71	F
Food	415.74	300.00	(115.74)	U
Household	41.98	50.00	8.02	F
Clothing & Personal	255.80	200.00	(55.80)	U
Gas	125.47	120.00	(5.47)	U
Insurance	503.00	503.00	-	F
Miscellaneous	27.99	45.00	17.01	F
Car payment	<u>250.00</u>	<u>250.00</u>	<u>-</u>	F
Total cash disbursements	2,064.96	1,928.00	(141.27)	U
Net cash	\$(197.27)	\$(56.00)	\$(141.27)) U

4. *How well did Dominique do with sticking to his budget? Which categories had an unfavorable variance?*

Student responses to Question 4 can widely vary given its subjective phrasing and given that Dominique has certain line items with favorable variances, no variances, or small unfavorable variances. This gives the instructor an opportunity to construct a proper framework for evaluating budget performance. In terms of cash receipts, Dominique either has zero variance or a 156 USD unfavorable variance based on the cash receipts budget used. A zero variance is an indication of accurate budgeting and expected performance. The 156 USD unfavorable variance is an artifact of budgeting choices rather than performance. Thus, students are likely to respond that Dominique has done a good job in terms of cash receipts. The student responses for cash disbursements can vary widely. Some students may respond that having a 141.27 USD unfavorable variance based on 1,928 USD of budgeted cash disbursements is acceptable. Instructors

can then contextualize that variance by pointing out that it is 7.3% of budgeted cash disbursements. Other students will prefer to go line item by line item and point out that Dominique performed close to budget in most cash disbursement categories with the exception of Food and Clothing and Personal. Instructors then have the chance to tie the budget variance report to the concept of management by exception. That naturally leads in to Question 5.

5. *Based on the variance report, what changes would you recommend Dominique makes to either the budget or his spending habits?*

Students will target two spending categories based on large unfavorable variances – Food and Clothing and Personal. The instructor should start by posing the question of whether Dominique budgeted too little or spent too much in these categories. This implies to students the reality that budget variances can be the result of inaccurate budgeting, performance differing from the budget, or a combination of the two. Students should quickly realize that while increasing the budgeted amounts for these categories would shrink potential unfavorable variances, Dominique is not a position to spend more on these categories. This means that Dominique's cash constraints demand that he spend less to shrink the unfavorable variances. Many students will look to the detail of Exhibit 2 to make recommendations for Dominique's spending. A common suggestion is that Dominique either drink less coffee or make coffee at home since he has 22 coffee expenditures totaling 94.82 USD during the month.

6. *Have you ever set a personal budget and tracked your transactions over a period of time? If so, what insights did it provide? If not, would you consider doing so? Why or why not?*

It is useful for the instructor to conclude this exercise by inviting students to share their experiences with cash budgeting. Having one or more students share their personal experience can demonstrate to the class that budgeting and budget analysis are not mere academic exercises, but they have very practical personal and business applications.

STRATEGIES FOR USING THE CASE

This case is designed to be flexible enough that an instructor could use it as a short 20-minute exercise or as a longer full class exercise. The case is designed to take 75-90 minutes including discussion when used in its entirety. Instructors, however, have a variety of options to shorten the time required to complete the case. Providing blank budget templates is an effective tool for directing students towards the correct solution path while substantially reducing the amount of time required. Instructors can also shorten the case by directing students how many paychecks to budget for during the month or by omitting the final discussion question. For instructors with time constraints, they have the option of only focusing on the cash budget in questions 1-2 for a quick, light introduction to preparing a cash budget.

EVIDENCE OF EFFICACY

The primary goal of this case is to be an introductory tool for teaching the cash budgeting process using a familiar context for undergraduate students. In order to evaluate the efficacy and

usefulness of the case, we piloted it in a class of undergraduate students enrolled in a introductory managerial accounting class at a mid-sized regional public university. Students were given the case, exhibits, and blank budget and variance templates. They were not given any other direction from the instructor.

Since this is an introductory tool, the case is not meant to be highly rigorous. The intent, instead, is for students to build confidence and use the familiar context of the case to solidify their understanding of basic cash budgeting skills prior to the introduction of more complex business entities. Our results indicate that the case presented a moderate challenge without being overwhelming to students. 50% of students completed the case without any error (outstanding level), 31% of students completed the case with minor errors (acceptable level), 6% completed the case with moderate errors, and 12% completed the case with major errors. This distribution of errors is a preliminary indication that the rigor of the case is appropriate at the introductory accounting level.

Another important facet of this case is the familiar context for undergraduate students. 56% of students responded that they had personal experience with the type of budget presented in the case, and many students gave elaboration on their successes and failures in their personal budgeting attempts. Several students also said they related to Dominique's budget woes with food items such as coffee and smoothies since they also commonly overspent on those items.

Students were largely uniform in their recommendations based on their budget analyses with 94% recommending that Dominique curtail spending on food and clothing. These preliminary results indicate that the areas designed to draw attention as areas of concern are appropriately salient to students. They were also uniform in their computation of cash receipts for the case. Every student, 100%, calculated cash receipts based on four paychecks for the month rather than 4.333 paychecks.

Anecdotal feedback from students about the usefulness and practicality of the case was positive. Written feedback included, "I think the assignment was a great way to use the material we have learned and put it into practice so that we can better understand and learn it." Another student responded, "I really enjoyed the assignment as an educational tool and think it is very useful."