

SOLUTIONS MANUAL

PERSONAL
FINANCE

THIRD EDITION



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Chapter 2

Planning with Personal Financial Statements

■ Chapter Overview

Among the first steps in developing a financial plan for an individual or a family is assessing the current financial position. This chapter introduces three personal financial statements that may be used as tools in this assessment: the cash flow statement, the budget, and the balance sheet.

The personal cash flow statement tracks cash inflows and outflows. The chapter discusses the major sources of cash inflows, such as, salary, interest, and dividends. Also, the chapter discusses the expenses, both large and small, that make up cash outflows. Because maximizing net cash flows enhances wealth, the chapter addresses factors that affect cash inflows: stage in career path, type of job, and number of income earners in the household; as well as factors that affect cash outflows: size of family, age, and personal consumption behavior.

An extension of the personal cash flow statement is the personal budget. A budget is simply a cash flow statement based on forecasted cash flows for a future period. Developing a budget helps to determine whether cash inflows are sufficient to cover cash outflows. A budget can help determine the excess cash that will be available for investment, as well as help anticipate future cash shortages. Periodically, the budget should be compared with the cash flow statement to determine the accuracy of the budget. An accurate budget is more likely to detect future cash flow shortages so that they may be prepared for in advance. Also, an accurate budget presents a clearer picture of progress made toward economic goals.

A personal balance sheet is a summary of what an individual owns (assets), what an individual owes (liabilities), and the difference between the two (net worth). Assets may be classified as liquid assets, household assets, or investments. Liabilities represent debt and can be divided into current debt or long-term debt. Creating a personal balance sheet aids in determining changes in wealth over time. Level of liquidity, amount of debt, and ability to save can be monitored through a personal balance sheet.

■ Chapter Objectives

The objectives of this chapter are to:

- explain how to create your personal cash flow statement,
- identify the factors that affect your cash flows,
- show how to create a budget based on your forecasted cash flows,
- describe how to create your personal balance sheet,
- explain how your net cash flows are related to your personal balance sheet (and therefore affect your wealth).

■ Teaching Tips

1. For most students all of their financial planning is “in their heads.” Many will tell you that they have a budget and know what they spend each month. Seeing the numbers on paper often presents a much different picture. This is particularly true of out-of-pocket, day-to-day spending. Have students track their out-of-pocket spending for a period of two weeks or a month. Tell them to keep a small pad or piece of paper with them and to write down everything they spend. Ask them to summarize their spending into categories such as snacks, lottery, cigarettes, etc. Once they have done this for the assigned period, help the students to annualize their spending (\$1 a day spent on the lottery becomes \$365; \$3 a day for snacks becomes \$1,095). Discuss with students the idea of opportunity costs—that is, what else they might have done with that money. One thousand dollars a year invested at 6% grows to over \$40,000 in 20 years, just by giving up snacks.
2. Have students record their monthly budgets “off the top of their heads.” Collect and return them when the students have calculated their real net cash flow and budgets, so they may see the differences. Also, have students make estimates of their net worth before they actually prepare their personal balance sheets. Students usually underestimate their net worth.
3. Remind students that household assets don’t just include the car, the house, and the furnishings. Musical instruments, fine jewelry, collectibles, antiques, and tools, among other things, may have a greater value than they realize. Also, remind students that the information they collect on the value of their assets will help them to determine the sufficiency of their insurance coverage in a later chapter.
4. As students collect information on their monthly payments for their personal cash flow statements, they should also collect information on the current balances of their debts for the liabilities section of their personal balance sheet.
5. Have students research their chosen career for starting salaries for a given position in a given city. Next, they should identify whether they will be living alone, own a car, etc. Using this as a starting point, have them assemble a monthly budget for a full year—including estimated taxes, utilities, insurance, food, entertainment, etc. Students who have previously prepared a budget as another exercise may have some insight as to different types of expenses. However, it would be best to let them derive the different categories without a special format. Provide feedback after completion. This is a good starting point, even though they will generally not have included many items, and will estimate that much of their income will be unspent.
6. Team/online exercise—have students complete a questionnaire related to spending habits. (i.e. how much to save, how much to spend for a car and vacations and eating out, etc.) Point out how differently individuals allocate spending and saving and how important it is to discuss these differences *before* making a commitment in a relationship. Other questions, such as anticipated work hours in a week, number of children, stay-at-home spouse, will point out the significant differences that two people can have. These differences all have different financial ramifications and finances are a leading cause in the breakup of relationships.
7. Students commonly end up with a negative net worth on their respective balance sheets. This may be due in part to student loans. Remind them that education is considered the best reason to borrow and this money will be returned many times over in the future. The net worth will become a positive and progress towards this is a measure of reaching financial goals.

■ Answers to End-of-Chapter Review Questions

1. The personal cash flow statement and the personal balance sheet.
2. Cash inflows are monies coming in, usually from wages. Cash may also come from interest and dividends. Cash outflows are monies paid out for expenses such as rent, groceries, or gasoline.
$$\text{Net cash flows} = \text{Cash Inflows} - \text{Cash Outflows}$$
3. To increase your wealth, you maximize your cash flows by maximizing your cash inflows and/or minimizing the cash outflows.
4. Cash inflows are most directly affected by income. Factors in determining your income are the stage in your career path, your job skills and the type of job you hold. The number of income earners in the household will also affect your cash inflows.
5. Key factors affecting cash outflows are family status, including family size, age, and personal consumption behavior.
6. A budget is a forecast of cash inflows and cash outflows. A budget is developed to determine whether your anticipated cash inflows are sufficient to meet your cash outflows. When a period's budget indicates a cash shortage, you can plan to either use savings or borrow needed cash for the period. When a period's budget indicates a cash surplus, you can determine the amount of excess cash that you will have available to invest in additional assets.
7. You can assess the accuracy of your budget by comparing your actual cash inflows and cash outflows with your budgeted amounts. Finding forecasting errors can allow you to adjust your spending to stay within your budgeted outflows. Alternatively, you may choose not to adjust your spending but to make your budget more realistic.
8. Unexpected expenses should be budgeted for periodically. You should assume that you are likely to incur some unexpected expenses over the course of several months, such as health care expenses or car repairs. Unexpected expenses might then make your budget inaccurate for a specific month, but the budget would be reasonably accurate over several months.
9. Begin with a monthly budget and extend it out over the year. Once you have created the annual budget, adjust it to reflect anticipated large changes in your cash flows.
10. You could try to identify components of the budget that you can change to provide more cash for savings. For example, you could either attempt to increase your income or to reduce one or more expenses.
11. People who do not establish a budget may just deal with cash deficiencies when they occur. They often rely on family members or friends when they run short of funds, which may ultimately destroy relationships in the long run.
12. The personal balance sheet summarizes your assets (what you own), your liabilities (what you owe), and your net worth (assets minus liabilities).

13. Liquid assets are financial assets that can be easily sold without a loss in value. Examples include cash, savings account, and checking account. Household assets include items normally owned by a household. Examples include a home, car, and furniture. Investments are financial assets held with the intent of receiving a return. Examples include stocks, bonds, mutual funds, and real estate.
14. Bonds are certificates (IOUs) issued by borrowers to raise funds. They represent the debt of the issuer. You earn interest while you hold the bond for a specific period. Stocks are certificates representing partial ownership in a company. Your return from stocks comes either from dividends or from selling the stock for more than you paid for it. Mutual funds sell shares to individuals and invest the proceeds in an overall portfolio of investment instruments. They are professionally managed and require minimal investments. Return comes from an overall increase in the value of the portfolio.
15. Real estate may provide a return as rental property rented out to others or as land purchased in hopes that its value will increase over time.
16. Liabilities represent debt (what you owe). Current liabilities are debt that you will pay off within a year. Long-term liabilities are debt that will take longer than a year to pay off.
17. Your net worth is a snapshot of what you own deducting any money that you owe. Increases in your net worth represent increases in wealth.
18. Your net worth increases when the value of your assets increases more than your liabilities increase. The purchase of additional assets will not always increase your net worth if you gave up other assets (cash, for example) of equal value to acquire them or if you incurred a liability of equal value to acquire them.
19. You may monitor your level of liquidity ($\text{liquidity ratio} = \text{liquid assets} / \text{current liabilities}$), your debt level ($\text{debt-to-asset ratio} = \text{total liabilities} / \text{total assets}$), and your savings rate ($\text{savings rate} = \text{savings during the period} / \text{disposable income during the period}$).
20. The liquidity ratio measures your liquid assets against your current liabilities. It is an indication of the sufficiency of your funds over the short-term. The debt-to-asset ratio divides your total liabilities by your total assets. A high debt ratio indicates an excessive amount of debt. Your savings rate is determined by dividing your savings during the period by your disposable income during the period. The savings rate indicates the proportion of disposable income that you save.
21. You build wealth by using part of your income to invest in more assets or to reduce your debt. The more of your income you can allocate to invest in assets or to reduce your debt, the greater will be the increase in net worth. Your personal cash flow statement shows your cash inflows and outflows and can be used to determine where either might be adjusted. Your personal balance sheet can be compared from period to period to determine if your net worth is, in fact, increasing.

■ Answers to Financial Planning Problems

1. $\$2,170 + \$900 - \$650 = \$2,420$
2. Subtract all expenses from Angela's disposable income:
 $\$2,420 - \$2,120 = \$300$
3. Her cash outflows will exceed her cash inflows by \$75 for that month. She might take the amount out of savings, or she could set aside \$37.50 for the next two months in order to have it.
4. $(12 \times \$300) - \$375 = \$3,225$
5. Angela will increase her savings by $12 \times \$50 = \600 from \$3,225 to \$3,825.
6. $\$350/\$2,420 = 14.5\%$
7. Liquidity ratio = liquid assets/current liabilities = $\$20/\$2,000 = 0.01$. This indicates that Peter has 1 cent for every dollar of current liabilities. Peter is in trouble.
8. Debt-to-asset ratio = total liabilities/total assets = $\$2,000/(\$20 + \$100 + \$150) = 740.7\%$. A debt-to-asset ratio of about 741 percent indicates an overwhelming debt level. If Peter does not earn additional funds, he will be unable to pay off his credit card debt before he graduates.
9. Liquid assets: Savings account + checking account + cash = $\$5,000 + \$1,200 + \$150 = \$6,350$

 Household assets: Home + cars + furniture = $\$85,000 + \$22,000 + \$14,000 = \$121,000$

 Investments: Stocks + bonds + mutual funds + land = $\$10,000 + \$15,000 + \$7,000 + \$19,000 = \$51,000$
10. Current liabilities: Credit card balance + furniture note = $\$165 + \$1,200 = \$1,365$

 Long-term liabilities: Mortgage + car loan + student loans = $\$43,500 + \$2,750 + \$15,000 = \$61,250$

 Net Worth = total assets – total liabilities
 $= (\$6,350 + \$121,000 + \$51,000) - (\$1,365 + \$61,250)$
 $= \$178,350 - \$62,615$
 $= \$115,735$
11. Their net worth would decrease by \$500. Their assets would increase by $\$21,500 - \$7,000 = \$14,500$, while their liabilities would increase by \$15,000.
12. Liquidity ratio = liquid assets/current liabilities = $\$6,350/\$1,365 = 4.7$
 Debt-to-asset ratio = total liabilities/total assets = $\$62,615/\$178,350 = 35.1\%$

The liquidity ratio is greater than 1; for every dollar of current liabilities, they have \$4.7 of liquid assets. The debt-to-asset ratio indicates that the level of debt may be higher than is desirable, which may lead to debt repayment problems.

Ethical Dilemma

13. (a) Most of the class should conclude that Nancy and Dennis are not being ethical in withholding this very significant information. Even though Uncle Charley may not ask, financial relationships need to be based on openness and honesty.

The problems that could arise are obvious. Nancy and Dennis could find themselves overextended and unable to make payments to Uncle Charley and/or meet other financial obligations.

- (b) Borrowing from family can undermine self-reliance and create tensions among family members. It may also result in family members making sacrifices because of your inability to maintain a budget.

■ Answers to Questions in The Sampson Family: A Continuing Case

1. The Sampson's Personal Cash Flow Statement

Cash Inflows	\$4,000
Cash Outflows	
Mortgage payment (includes home insurance and real estate taxes)	\$ 900
Cable TV	60
Electricity and water	80
Telephone	70
Groceries	500
Health care insurance and expenses	160
Clothing	180
Car expenses (insurance, maintenance, and gas)	300
School expenses	100
Recreation	1,000
Credit card	<u>20</u>
Total Cash Outflows	<u>\$3,370</u>
Net Cash Flows	<u>\$630</u>

2. The Sampsons need to reduce their cash outflows so that they can achieve their desired net cash flows. Their expected net cash flows are \$630, while their desired savings level is \$800. Therefore, they are \$170 short of their savings goal. The Sampsons have various options to reduce their cash outflows, but recreational expenses are probably the most realistic target.

3.

Asset	
Liquid Assets	
Cash	\$300
Checking account	1,700
Savings account	<u>0</u>
Total liquid assets	\$2,000
Household Assets	
Home	\$100,000
Cars	9,000
Furniture	<u>3,000</u>
Total household assets	\$112,000
Investment Assets	
Stocks	0
Bonds	0
Mutual funds	<u>0</u>
Total investment assets	0
Total assets	\$114,000
Liabilities and Net Worth	
Current Liabilities	
Loans	\$0
Credit card balance	<u>2,000</u>
Total current liabilities	\$2,000
Long-Term Liabilities	
Mortgage	\$90,000
Car loan	<u>0</u>
Total long-term liabilities	\$90,000
Total liabilities	\$92,000
Net Worth	\$22,000

4. The Sampsons' net worth is \$22,000. The personal cash flow statement shows that the Sampsons will be saving money each month, so that they can build savings (an asset). As their assets increase without any increase in their liabilities, their net worth increases. Once part of the savings is used to purchase a new car for Sharon, the net worth would still increase, since the car represents an asset.
5. The advantage of accepting the uncle's offer to provide a loan to pay for Sharon's new car is obvious: The Sampsons would not have to set aside the money each month until they can afford the new car. The disadvantages are numerous. First, the Sampsons would still have to pay off the loan, which would reduce their monthly net cash flows. Second, if the Sampsons rely on family members for financial support, there may be a temptation to continually rely on them for needed funds. In the long run, this would create ill will and may ultimately destroy family relationships.