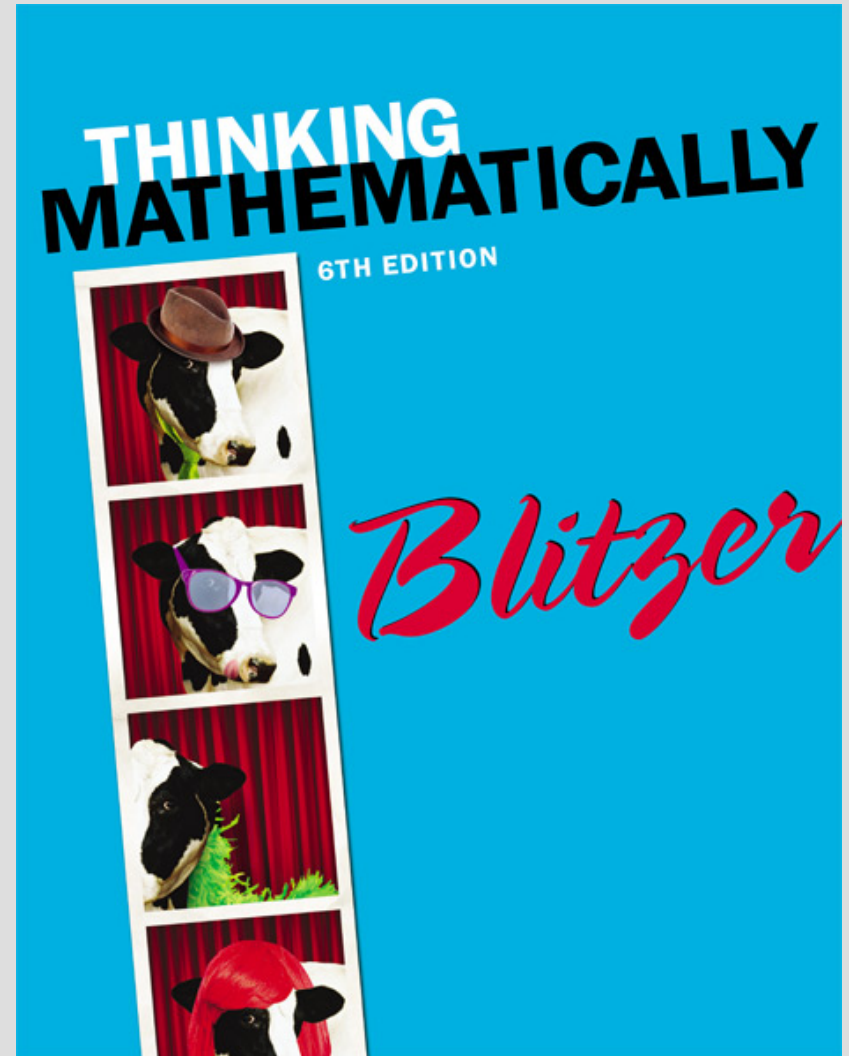


CHAPTER 8

Personal Finance



8.8

Credit Cards

Objectives

1. Find the interest, the balance due, and the minimum monthly payment for credit card loans.
2. Understand the pros and cons of using credit cards.
3. Understand the difference between credit cards and debit cards.
4. Know what is contained in a credit report.
5. Understand credit scores as measures of creditworthiness.

Open-End Installment Loans

Using a credit card is an example of an open-end installment loan, commonly called **revolving credit**. Open-end loans differ from fixed installment loans such as car loans and mortgages in that there is no schedule for paying a fixed amount each period. Credit card loans require users to make only a minimum monthly payment that depends on the unpaid balance and the interest rate.

Open-End Installment Loans

Most credit card customers are billed every month. A typical billing period is May 1 through May 31, but it can also run from, say, May 5 through June 4. Customers receive a statement, called an **itemized billing**, that includes the unpaid balance on the first day of the billing period, the total balance owed on the last day of the billing period, a list of purchases and cash advances made during the billing period, any finance charges or other fees incurred, the date of the last day of the billing period, the payment due date, and the minimum payment required. Customers who make a purchase during the billing period and pay the entire amount of the purchase by the payment due date are not charged interest.

Interest on Credit Cards: The Average Daily Balance Method

Interest is calculated using $I = Prt$, where r is the monthly rate and t is one month. The principal, P , is the *average daily balance*. The **average daily balance** is the sum of the unpaid balances for each day in the billing period divided by the number of days in the billing period.

Average daily balance

$$= \frac{\text{Sum of the unpaid balances for each day in the billing period}}{\text{Number of days in the billing period}}$$

Example: Balance Due on a Credit Card

The issuer of a particular VISA card calculates interest using the average daily balance method. The monthly interest rate is 1.3% of the average daily balance. The following transactions occurred during the May 1–May 31 billing period.

Transaction Description	Transaction Amount
Previous balance, \$1350.00	
May 1 Billing date	
May 8 Payment	\$250.00 credit
May 10 Charge: Airline Tickets	\$375.00
May 20 Charge: Books	\$ 57.50
May 28 Charge: Restaurant	\$ 65.30
May 31 End of billing period	
Payment Due Date: June 9	

Example: Balance Due on a Credit Card

- a. Find the average daily balance for the billing period. Round to the nearest cent.
- b. Find the interest to be paid on June 1, the next billing date. Round to the nearest cent.
- c. Find the balance due on June 1.
- d. This credit card requires a \$10 minimum monthly payment if the balance due at the end of the billing period is less than \$360. Otherwise, the minimum monthly payment is $\frac{1}{36}$ of the balance due at the end of the billing period, rounded up to the nearest whole dollar. What is the minimum monthly payment due by June 9?

Example (cont)

We begin by finding the average daily balance for the billing period. First make a table that shows the beginning date of the billing period, each transaction date, and the unpaid balance for each date.

Date	Unpaid Balance	
May 1	\$1350.00	previous balance
May 8	$\$1350.00 - \$250.00 = \$1100.00$	\$250.00 payment
May 10	$\$1100.00 + \$375.00 = \$1475.00$	\$375.00 charge
May 20	$\$1475.00 + \$57.50 = \$1532.50$	\$57.50 charge
May 28	$\$1532.50 + \$65.30 = \$1597.80$	\$65.30 charge

Example (cont)

We now extend our table by adding two columns. One column shows the number of days at each unpaid balance. The final column shows each unpaid balance multiplied by the number of days that the balance is outstanding.

Date	Unpaid Balance	Number of Days at Each Unpaid Balance	$\left(\begin{matrix} \text{Unpaid} \\ \text{Balance} \end{matrix} \right) \cdot \left(\begin{matrix} \text{Number} \\ \text{of Days} \end{matrix} \right)$
May 1	\$1350.00	7	$(\$1350.00)(7) = \9450.00
May 8	\$1100.00	2	$(\$1100.00)(2) = \2200.00
May 10	\$1475.00	10	$(\$1475.00)(10) = \$14,750.00$
May 20	\$1532.50	8	$(\$1532.50)(8) = \$12,260.00$
May 28	\$1597.80	4	$(\$1597.80)(4) = \6391.20

There are 4 days at this unpaid balance, May 28, 29, 30, and 31, before the beginning of the next billing period, June 1.

Total: 31

This is the number of days in the billing period.

Total: \$45,051.20

This is the sum of the unpaid balances for each day in the billing period.

Example (cont)

Divide the sum of the unpaid balances for each day in the billing period, \$45,051.20, by the number of days in the billing period, 31. This gives the average daily balance.

$$\frac{\$45,051.20}{31} \approx \$1453.26$$

b. Interest rate is 1.3%

$$I = Prt = (\$1453.26)(0.013)(1) \approx \$18.89$$

Example (cont)

- c. Balance due on June 1 is the unpaid balance on May 31 plus the interest.

$$\$1597.80 + \$18.89 = \$1616.69$$

- d. Because the balance due, \$1616.69, exceeds \$360, the customer must pay a minimum of 1/36 of the balance due.

$$\frac{\$1616.69}{36} \approx \$45$$

Determining the Average Daily Balance

Step 1 Make a table that shows the beginning date of the billing period, each transaction date, and the unpaid balance for each date.

Step 2 Add a column to the table that shows the number of days at each unpaid balance.

Step 3 Add a final column to the table that shows each unpaid balance multiplied by the number of days that the balance is outstanding.

Step 4 Find the sum of the products in the final column of the table. This dollar amount is the sum of the unpaid balances for each day in the billing period.

Step 5 Compute the average daily balance.

Average daily balance

$$= \frac{\text{Sum of the unpaid balances for each day in the billing period}}{\text{Number of days in the billing period}}$$

Advantage of Credit Cards

- Get to use a product before actually paying for it.
- No interest charges by paying the balance due at the end of each billing period.
- Responsible use is an effective way to build a good credit score. (See page 562 for a discussion of credit scores.)
- No need to carry around large amounts of cash.
- More convenient to use than checks.
- Offer consumer protections: If there is a disputed or fraudulent charge on your credit card statement, let the card issuer know and the amount is generally removed.
- Provide a source of temporary emergency funds.

Advantage of Credit Cards

- Extend shopping opportunities to purchases over the phone or the Internet.
- Simple tasks like renting a car or booking a hotel room can be difficult or impossible without a credit card.
- Monthly statements can help keep track of spending. Some card issuers provide an annual statement that aids in tax preparation.
- May provide amenities such as free miles toward air travel.
- Useful as identification when multiple pieces of identification are needed.

Credit Card Woes

- High interest rates on unpaid balances. In 2009, interest rates were as high as 30%.
- No cap on interest rates. In 2009, the U.S. Senate defeated an amendment that would have imposed a 15% cap on credit card interest rates. (The Credit Card Act, passed by Congress in 2009, does restrict when issuers can raise rates on existing unpaid balances.) Your initial credit card interest rate is unlikely to go down, but it can sure go up.

Credit Card Woes

- No cap on fees. *Consumer Reports* (October 2008) cited a credit card with an enticing 9.9% annual interest rate. But the fine print revealed a \$29 account setup fee, a \$95 program fee, a \$48 annual fee, and a \$7 monthly servicing fee. Nearly 40% of the \$40 billion in profits that U.S. card issuers earned in 2008 came from fees. Furthermore, issuers can hike fees at any time, for any reason. Read the fine print of a credit card agreement before you sign up.

Credit Card Woes

- Easy to overspend. Purchases with credit cards can create the illusion that you are not actually spending money.
- Can serve as a tool for financial trouble. Using a credit card to buy more than you can afford and failing to pay the bill in full each month can result in serious debt. Fees and interest charges are added to the balance, which continues to grow, even if there are no new purchases.
- The minimum-payment trap: Credit-card debt is made worse by paying only the required minimum, a mistake made by 11% of credit-card debtors. Pay the minimum and most of it goes to interest charges.

Debit Cards

Debit cards offer the convenience of making purchases with a piece of plastic without the temptation or ability to run up credit card debt. You can't spend money you don't have because the card won't work if the money isn't in your checking or savings account.

Debit cards have drawbacks. They may not offer the protection a credit card does for disputed purchases. It's easy to rack up overdraft charges if your bank enrolls you in an "overdraft protection" program. That means your card won't be turned down if you do not have sufficient funds in your account to cover your purchase. You are spared the embarrassment of having your card rejected, but it will cost you fees of approximately \$27 per overdraft.

Debit Cards

Debit card purchases should be treated like those for which you use a check. Record all transactions and their amounts in your checkbook, including any cash received from an ATM. Always keep track of how much money is available in your account. Your balance can be checked at an ATM or online.

Credit Reports and Credit Scores

As a college student, it is unlikely that you have a credit history. Once you apply for your first credit card, your personal *credit report* will begin. A **credit report** contains the following information:

- **Identifying Information:** This includes your name, social security number, current address, and previous addresses.
- **Record of Credit Accounts:** This includes details about all open or closed credit accounts, such as when each account was opened, the latest balance, and the payment history.

Credit Reports and Credit Scores

- **Public Record Information:** Any of your public records, such as bankruptcy information, appears in this section of the credit report.
- **Collection Agency Account Information:** Unpaid accounts are turned over to collection agencies. Information about such actions appear in this section of the credit report.
- **Inquiries:** Companies that have asked for your credit information because you applied for credit are listed here.

Credit Reports and Credit Scores

Organizations known as **credit bureaus** collect credit information on individual consumers and provide credit reports to potential lenders, employers, and others upon request. The three main credit bureaus are Equifax, Experian, and TransUnion. You can get your credit report from the three bureaus free at www.annualcreditreport.com.

Credit Reports and Credit Scores

Credit bureaus use data from your credit report to create a *credit score*, which is used to measure your creditworthiness. **Credit scores**, or **FICO scores**, range from 300 to 850, with a higher score indicating better credit. The table contains ranges of credit scores and their measures of creditworthiness.

Scores	Creditworthiness
720–850	Very good to excellent; Best interest rates on loans
650–719	Good; Likely to get credit, but not the best interest rates on loans
630–649	Fair; May get credit, but only at higher rates
580–629	Poor; Likely to be denied credit by all but a high-interest lender
300–579	Bad; Likely to be denied credit