

7. Loans: Avoiding Consumer and Minimizing Student/Mortgage Loans

Introduction

For many years, inspired religious leaders have urged their followers to get out of debt and live within their means. Gordon B. Hinckley spoke directly to members of the Church of Jesus Christ of Latter-day Saints in the October 1998 conference when he said:

I am suggesting that the time has come to get our houses in order. . . I am troubled by the huge consumer installment debt which hangs over the people of the nation, including our own people. I recognize that it may be necessary to borrow for a home, of course. But let us buy a home that we can afford and thus ease the payments which will constantly hang over our heads without mercy or respite for as long as 30 years. . . I urge you to look to the condition of your finances. I urge you to be modest in your expenditures; discipline yourselves in your purchases to avoid debt to the extent possible. Pay off debt as quickly as you can, and free yourselves from bondage.¹

As Gordon B. Hinckley points out, excessive debt is one of the financial problems that many people struggle with today. This chapter aims to explain exactly what consumer debt is. This chapter also offers tips to help you better manage consumer debt throughout your life.

Objectives

When you have completed this chapter, you should be able to do the following:

- A. Understand consumer loans, principles, characteristics and costs.
- B. Understand mortgage loan types, characteristics, and costs.
- C. Understand the key relationships for borrowing.
- D. Understand and create your Consumer Loans and Debt Plan.

Understand Consumer Loans, Principles, Characteristics and Costs

Consumer loans are loans you obtain to pay for items that are fairly expensive and that you usually don't need (at least not urgently). Such items include electronics, automobiles, furniture, and recreational vehicles. Consumer loans are very expensive and should rarely be used. They encourage you to buy now rather than to save for the future. Committing future earnings to today's consumption may keep you from achieving more important long-term personal goals. Consumer loans also reduce the amount of money you can save for your goals because they require you to pay interest with money you might otherwise have saved and invested. Most importantly,

loans are almost always unnecessary unless their purpose is to pay for an education or a home.

Dangers of Consumer Loans

When should you obtain a consumer loan? The following are a few questions to ask yourself if you are thinking of borrowing using a consumer loan:

1. Do I really need to make this purchase? Is this a need or a want? Separate these two categories.
2. Is this item in your budget and/or your financial plan? Most items should be saved for, not borrowed for.
3. Can I pay for this item without borrowing? What is the after-tax cost of borrowing versus the after-tax cost of using savings and losing your return on those savings? Compare these two alternatives.
4. What is the total cost of this loan, including interest costs, fees, and its impact on your other goals? Can you maintain sufficient liquidity and still achieve your other goals? Choose wisely.
5. Will this purchase bring you closer to your personal goals or take you further away from them? If the purchase brings you closer to your goals, including your goal of obedience to God's commandments (including the commandment to get out of debt), make the purchase. If the purchase takes you further away from your goals, don't make it.

If you answer these questions honestly, it will be much easier to determine whether you should take out a consumer loan or not.

The principles of effective consumer loan use are the same as the principles of effective loan use:

1. Know yourself, your vision, goals, and plans. What is important to you, not just now, but in the future? What do you want to accomplish with your life? What is the vision of what you want you and your family to become? The key is to have the vision of your bigger "yes" in the future so you can say no to the current temptations to spend. "Where there is no vision, the people perish."²

2. Seek, receive and act on the Spirit's guidance. This includes seeking diligently through study and prayer, living worthy of the Spirit's guidance, and then acting on it once it is received.

3. Understand the key areas of debt and know where you are financially. This including your assets, liabilities, spending and income. If married, do not hide any liabilities or assets from each other. How much do you owe, and what are your assets? In

order to be able to get where you want to go, you must know where you are now. Have a realistic idea of your income, spending, debt and investment progress. Get on your budget and plan for the things you want to accomplish.

4. Resolve not to go into debt except for a modest home or education. Decide now the things you will do and what you will not do with debt? Make those decisions now, so you won't have to re-decide time after time. Strive to learn from your experiences, the experiences of your family, and others. Thankfully, we have the teachings of leaders and scriptures who have given us counsel. Resolve to not go into debt except for a modest home and modest education. Be wise in your expenditures.

5. Finally, pay as you go. You cannot spend yourself into financial security. Live within your means, and do not spend that which you do not have, and follow your goals and decisions.

If you are in debt add, let me add a few points which will be discussed in the next chapter.

6. Prioritize your debts. Which are the most important? If you cannot pay them all, give priority to secured debts for house or car. If the time comes that you cannot pay all your debts, determine which are most important, such as a roof over your head and food and transportation.

7. Develop a debt repayment plan. Automate it and follow it closely. A debt repayment plan is how you will pay back your debts. You must be able to continue to meet your current needs for yourself and your family, and have sufficient to repay the debt when it comes due.

8. Do not take on any new debt. Debt stops growth, both physically and spiritually. Do not add to your debt burden as you strive to pay off your debts.

9. Once out of debt, continue paying yourself. This will help to catch up with your savings.

Finding Balance

As you work on managing consumer loans, finding balance among doctrines, principles and application is important in helping you become better. Below are a few ideas.

| <u>Principles</u> | <u>Doctrines</u> |
|--|------------------|
| Know yourself , your vision, goals and budget | Identity |
| Seek, receive and act on the Spirit's guidance | Obedience |
| Know where you are financially | Accountability |
| Use debt only for a modest home and education | Agency |
| Live within your means and avoid debt | Stewardship |

| | |
|--|----------------|
| If you are in debt, add: | |
| Develop a debt repayment plan | Stewardship |
| Do not take on any new debt | Accountability |
| Once out of debt, continue paying yourself | Stewardship |

From Obedience to Consecration

From the principles and doctrines, we can see that we are not just working on being wise with consumer loans, which is an application. Rather, from a higher perspective, or with increased vision,

We are children of a King (identity), striving to live worthy of the Spirit (obedience), using our agency wisely (stewardship) as we follow the prophet and scriptures in deferring our wants (agency). We can wait to pay cash for specific consumer items (stewardship) so that we are wiser stewards over the things that we have been blessed with, so we have the resources to accomplish our personal missions and our individual and family vision and goals.

Explain the Characteristics and Costs of Consumer Loans

It is important to understand that different consumer loans have different characteristics—there isn't just one type of consumer loan. Some of the different types of loans, which we will compare and discuss in the following paragraphs, include single-payment and installment loans, secured and unsecured loans, variable-rate and fixed-rate loans, and convertible loans. The following is a list of these different types of consumer loans and their characteristics:

Single-payment loans. These are also known as balloon loans. Normally, these loans are used for short-term lending of one year or less. They may also be used to temporarily finance a purchase until permanent, long-term financing can be arranged; this is why these loans are sometimes called bridge loans or interim loans. This type of loan is repaid in one lump sum, including interest, at the end of the specified term—for example, at the end of one year.

Lending institutions calculate interest on a single-payment loan using the simple-interest method. With the simple-interest method, the principal and interest are due when the loan matures. Simple interest is equal to your average amount borrowed multiplied by your interest rate multiplied by the time (in years) that you hold the loan. Your average amount borrowed for a single payment loan is the same as your principal. If there are no fees, your APR and your simple interest rate are the same. The APR formula is:

$$\text{APR} = [(\text{Interest payments} + \text{fees}) / \text{number of years}] / \text{Average amount borrowed}$$

Suppose you take out a \$1,000 loan for one year for 12 percent. Assume you pay fees of \$20 for a credit check and \$20 for a processing fee. Your interest rate is 12 percent. However, your APR = $[(\$120 \text{ in interest} + \$40 \text{ in fees}) / 1 \text{ year}] / \$1,000 \text{ (your average amount borrowed)} = 16$

percent. Notice how the imposition of fees raises your APR.

Now suppose this loan was for two years. Would your APR be different? The calculation would be:

$APR = [(\$240 \text{ in interest} + \$40 \text{ in fees}) / 2 \text{ years}] / 1,000 = 14 \text{ percent}$. The APR is lower with a two-year loan because you are allocating that \$40 in fees between two years instead of only one.

Installment loans. These are loans that are repaid at regular intervals—for example, every month. Each payment includes part of the principal and some interest. An installment loan amortizes over the length of the loan, which means that with each monthly payment you make, more of your payment goes toward paying off the principal and less goes toward paying for interest. The amount of interest you pay each month is calculated based on simple interest. Installment loans are typically used to finance purchases of houses, cars, appliances, and other expensive items.

Because of the complexity of this type of loan, it is best to calculate your payments using either a financial calculator or a spreadsheet program. The [Credit Card Repayment Spreadsheet](#) (LT18) can help you determine your payments and interest costs. With this spreadsheet you can also calculate how long it will take to pay off a specific credit card or loan based on the balance owed, annual percentage rate, compounding periods, and payments per month. The [Debt Amortization and Prepayment Spreadsheet](#) (LT09) can help you calculate how long it will take to pay off your debt as well.

For example, assume the same \$1,000 loan as above, but instead of a single-payment, we will pay for it monthly. How do you calculate the APR for installment loans? The formula is the same. From your spreadsheet, I will build a simple loan amortization table from which you can calculate two different items: average amount borrowed and interest rate paid (see Table 1).

Secured loans. These loans use one of your assets, such as a home or a car, as collateral to guarantee that the lending institution will get the amount of the loan back, even if you fail to make payments. Examples of secured loans include home equity loans and car loans. Because these loans are backed by collateral, they usually have lower interest rates.

Unsecured or signature loans. These loans do not require collateral and are generally offered only to borrowers with excellent credit histories. Unsecured loans typically have higher interest rates, which may range between 12 and 26 percent—sometimes even higher.

Fixed-rate loans. These loans maintain the same interest rate for the duration of the loan. The majority of consumer loans are fixed-rate loans. Normally, lenders charge higher interest rates for fixed-rate loans than they do for variable-rate loans. This is because lenders can lose money if market interest rates increase, leaving the loan rate lower than the current market interest rate.

Variable-rate loans. These loans have an interest rate that is adjusted at different intervals over the life of the loan. There is usually a maximum interest rate, or cap, that can be charged on the

loan as well as a maximum amount that the interest rate can increase each year. The interest rates on these loans may change monthly, semiannually, or annually. The interest rate is adjusted based on an index, such as the prime rate or the six-month Treasury bill, as well as on an interest-rate spread. Lenders usually charge a lower interest rate up front for variable-rate loans because the lender will not lose money if the overall market interest rates increase.

Chart 1. Secured Versus Unsecured Loans

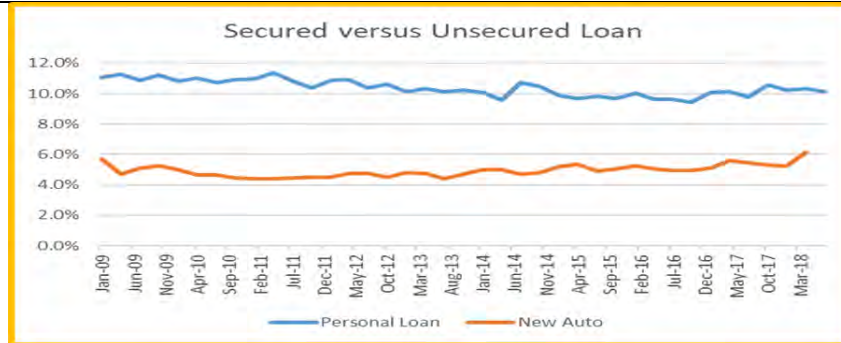


Table 1. Simple Interest Method

| | Amount | \$1,000 | Stated Interest | 12% | |
|----|---------------|----------------|---------------------------------|------------------|------------------|
| | P/Y | 12 | PMT Using Excel Function | | |
| | Years | 1 | Payment | \$88.85 | |
| | | | | Remaining | |
| | Amount | Payment | Interest | Principal | Principal |
| 1 | \$1,000.00 | \$88.85 | 10.00 | \$78.85 | \$921.15 |
| 2 | \$921.15 | \$88.85 | 9.21 | \$79.64 | \$841.51 |
| 3 | \$841.51 | \$88.85 | 8.42 | \$80.43 | \$761.08 |
| 4 | \$761.08 | \$88.85 | 7.61 | \$81.24 | \$679.84 |
| 5 | \$679.84 | \$88.85 | 6.80 | \$82.05 | \$597.79 |
| 6 | \$597.79 | \$88.85 | 5.98 | \$82.87 | \$514.92 |
| 7 | \$514.92 | \$88.85 | 5.15 | \$83.70 | \$431.22 |
| 8 | \$431.22 | \$88.85 | 4.31 | \$84.54 | \$346.68 |
| 9 | \$346.68 | \$88.85 | 3.47 | \$85.38 | \$261.30 |
| 10 | \$261.30 | \$88.85 | 2.61 | \$86.24 | \$175.07 |
| 11 | \$175.07 | \$88.85 | 1.75 | \$87.10 | \$87.97 |
| 12 | \$87.97 | \$88.85 | 0.88 | \$87.97 | \$0.00 |

Average = \$551.55 Total Interest= \$66.19 Actual APR = 12.0%

The total paid is \$66.19 interest and \$40 in fees. This is divided by one year and then divided by \$551.55, the average amount borrowed. This calculation gives us an APR of 19.3 percent.

Convertible loans. These are loans in which the interest-rate structure can change. For example, a convertible loan may start off having a variable interest rate and then switch to having a fixed interest rate at some predetermined time in the future; the opposite process may occur as well.

The Loan Contract

The loan contract is the most critical document of the loan process. It describes what the lender requires of you once you are granted the loan. Whenever you borrow, you put your future into someone else's hands; therefore, you need to know what you are doing. Read the entire contract and make sure you fully understand the details of the loan before you sign the loan agreement.

One of the most important things you should remember about loan contracts is that none of the clauses in the contract are in your favor. Let's talk about four clauses you should be aware of:

1. The insurance clause requires you to purchase life insurance that will pay off your loan in the event of your death. It benefits only the lender and increases the total cost of the loan. This clause is often used in mortgage loans.
2. The acceleration clause requires you to pay for the entire loan in full if you miss just one payment. This clause is often—but not always—disregarded if you make a good-faith effort to catch up on your missed payment, but it is still a risk.
3. The deficiency clause stipulates that if you do not pay back the loan, and the company takes your collateral, you must pay any amount in excess of the collateral's value; this clause takes effect if the money earned through the sale of your collateral does not satisfy the loan. You must also pay any charges incurred by the lender that are associated with the disposal of your collateral.
4. The recourse clause allows the lender to collect any outstanding balance via wage attachments and garnishments. This clause may also allow the lender to put liens on other properties you own (these properties can act as secondary collateral) should you fail to repay your loan.

Special Types of Consumer Loans

There are a number of special types of consumer loans that are different from traditional consumer loans. These include home equity loans, student loans, and automobile loans.

Home equity loans. These loans are also known as second mortgages. In a second mortgage, you use the equity in your house (i.e., the difference between what you paid for the house and what for the house is worth today) to secure your loan.

The benefits of a home equity loan are that you can usually borrow up to 80 percent of the equity in your home, and the interest payments may be tax-deductible. With this type of loan, you can also get a lower interest rate because the house is secure—it can't be moved. One disadvantage of this type of loan is that it limits your future financial flexibility because you can have only one outstanding home equity loan at a time. Moreover, a home equity loan puts your home at risk: if you default on a home equity loan, you can lose not only your high credit score but your home as

well.

Home equity lines of credit (HELOC). This line of credit is also a second mortgage that use the equity in your home to secure your loan. These are generally adjustable rate notes that have an interest-only payment, at least in the first few years of the note. These have lower rates of interest than other consumer loans.

The benefit of these loans is that the interest may be tax-deductible, reducing the cost of borrowing. The problem is that these loans will often keep people from making the hard financial choices to curb their spending. Why worry about spending when you can get a home equity loan or HELOC to pay off your credit cards each year? These loans also sacrifice future financial flexibility and put your home at risk if you default.

Chart 2. Home Equity and HELOC Loans

Current home equity interest rates

| <u>3-month trends</u> | <u>Home equity loan</u> | <u>30K HELOC</u> |
|-----------------------|-------------------------|------------------|
| 1/30/2019 | 5.91% | 6.78% |
| 1/23/2019 | 5.92% | 6.73% |
| 1/16/2019 | 5.89% | 6.73% |
| 1/9/2019 | 5.94% | 6.73% |
| 1/2/2019 | 5.88% | 6.52% |
| 12/19/2018 | 5.91% | 6.26% |
| 12/12/2018 | 5.92% | 6.27% |
| 12/5/2018 | 5.87% | 6.28% |
| 11/28/2018 | 5.91% | 6.23% |
| 11/21/2018 | 5.91% | 6.21% |
| 11/14/2018 | 5.92% | 6.21% |
| 11/6/2018 | 5.90% | 6.23% |
| 10/31/2018 | 5.96% | 6.23% |
| 10/24/2018 | 5.95% | 6.20% |

Student loans. Student loans have low, federally subsidized interest rates; these loans are often used to pay for higher education. Examples of federal student loans that are available to parents and students include federal-direct loans, plus-direct loans, Stafford loans, and Stafford-plus loans.

One benefit of federal student loans is that some have specific advantages, such as subsidized interest payments and lower interest rates. Also, you can defer payment of federal-direct loans and Stafford loans until six months after you graduate or discontinue full-time enrollment. The disadvantages of these loans are that there is a limit to how much you can borrow, and, like all debts, you must pay these loans back.

Automobile loans. These loans are secured by the automobile the loan is paying for. This type of loan usually has a term of two to six years.

The advantage of an automobile loan is that it usually charges a lower interest rate than an unsecured loan. The disadvantage is that you must make interest payments, and since vehicles depreciate quickly, you are often left with a vehicle that is worth less than what you owe on the loan.

Payday loans. These loans are scary. They are short-term loans of one or two weeks and are secured with a postdated check. The postdated check is held by the payday lender and cashed on the day specified. These loans charge very high interest rates—some payday loans charge more than 500 percent on an annual percentage rate basis (APR). I recommend you avoid using these loans completely.

Chart 3. Auto Loan

Current auto loan interest rates

| Dates | 60-month new car | 48-month new car | 36-month used car |
|------------|------------------|------------------|-------------------|
| 1/30/2019 | 4.77% | 4.71% | 5.34% |
| 1/23/2019 | 4.77% | 4.71% | 5.35% |
| 1/16/2019 | 4.74% | 4.69% | 5.33% |
| 1/9/2019 | 4.77% | 4.71% | 5.35% |
| 1/2/2019 | 4.95% | 4.90% | 5.48% |
| 12/19/2018 | 4.96% | 4.90% | 5.53% |
| 12/12/2018 | 4.93% | 4.86% | 5.54% |
| 12/5/2018 | 4.90% | 4.84% | 5.54% |
| 11/28/2018 | 4.93% | 4.87% | 5.58% |
| 11/21/2018 | 4.94% | 4.88% | 5.57% |
| 11/14/2018 | 4.95% | 4.89% | 5.60% |
| 11/6/2018 | 4.93% | 4.87% | 5.57% |
| 10/31/2018 | 4.93% | 4.87% | 5.57% |
| 10/24/2018 | 4.90% | 4.83% | 5.51% |

The APR is equal to the simple interest paid over the life of the loan. The APR takes into account all costs for a year, including the interest rate, the cost of pulling credit reports, and all other fees; the total cost may be significant. To calculate the APR for any loan, multiply the amount of money paid in fees and interest by the number of periods in a year to get the annual cost of the loan; then divide the annual cost by the amount borrowed.

For example, suppose you paid \$20 to borrow \$100 for two weeks by writing a postdated check for \$120. There are 26 two-week periods in a year. Thus the equation for finding your annual payment for this loan would be $\$20 * 26 = \520 . In other words, you would pay \$520 dollars in

interest for a \$100 loan: Consider that \$520/\$100 results in 520 percent interest. That is very expensive cash! Do not use payday loans!

Chart 4. Consumer Loan Types 2019

| Consumer Loan Comparisons 2019 MBA 620/Fin418/Fin200 Financial Planning (2/14/19) | | | | | | | | | | | | |
|--|--|---|--|---|---|--|--|---|--|--|---|--|
| Loan: | Type: | | Security: | | Rate Type: | | | Home Related: | | Specialty: | | |
| | Single Payment | Installment | Secured | Unsecured | Fixed Rate | Variable Rate | Convertible | Home Equity | HELOC | Student | Auto | Payday |
| Description: | Loan paid off in one payment. It may also be a balloon or other loan used to finance a purchase until more permanent financing is available. | Loans that are repaid at regular intervals, i.e., each month. Payment includes interest for the period plus some principal, which increases each period | Loans that are secured by a tangible asset, such as a car or boat, that will be sold if the loan is not repaid. Because it is secured by the asset, interest rates are less. | Loans that are not secured by any asset and are based on the credit worthiness of the borrower. | Loans that maintain a constant interest rate for the entire term of the loan. | Loans that have an interest rate that is tied to an index and that can change depending on market conditions and a spread. | Loans in which the interest rate structure can change, from a fixed or variable rate loan to the opposite. | Second mortgages which use the equity in your home to secure the loan. Borrowers use these for consumer purchases | Loans secured by the equity in a home for a specific amount and term. Generally used like a credit card with a revolving line of credit. | Loans by students to pay for higher education costs and may have Federally subsidized interest rates. AVOID PRIVATE EDUCATION LOANS | Loans secured by the vehicle the consumer is purchasing. Because it is secured, interest rates are lower. | Short-term loans of 1-2 weeks secured by a post-dated check, and the worst kind of borrowing. AVOID THESE LOANS LIKE THE PLAGUE |
| Annual Percentage Rate (APR): | 5-20% depending on where you borrow, your income and your credit | 4-20% depending on where you borrow, your income and your credit | 4-12% depending on the secured asset, your income and credit | 12-25+% depending on who you borrow from, your income, loan use and your credit | 4-20% depending on where you borrow, use of the proceeds and your credit | 4-20% depending on where you borrow, use of the proceeds and your credit | 4-20% depending on where you borrow, use of the proceeds and your credit | 3-6% depending on equity in the home, your income and the your credit | 3-6% depending on equity in the home, your income and the your credit | 6.8% for subsidized loans, and 10-24% for unsubsidized private loans depending on where you borrow | 5-14% depending on the type of auto, who you borrow from, how long, and your income and credit | 500-700% APR depending on your credit, income, where you borrow and for how long |
| Amount owed doubles every "x" Years (at highest rate): | Doubles every 3.5 years | Doubles every 3.5 years | Doubles every 6 years | Doubles every 3 years | Doubles every 3.5 years | Doubles every 3.5 years | Doubles every 3.5 years | Doubles every 12 years | Doubles every 12 years | At 6.8% doubles every 10 years, at 24%, every 3 years | Doubles every 7 years | Doubles every 1 month |
| Rate Type: | Variable or Fixed | Generally Fixed | Variable or Fixed, generally installment | Variable or Fixed, generally installment | Fixed Rate, can be either installment or single payment | Variable Rate, can be either installment or single payment | Variable or Fixed, generally installment | Variable or Fixed, generally installment | Variable or Fixed, generally installment | Fixed for subsidized and fixed or variable for unsubsidized, installment | Variable or Fixed, generally installment | Fixed, single payment |
| Cost Calculations: | [(Interest + fees)/years]/avg. borrowed | Amortization table | Amortization table | Amortization table | Can be either installment or single payment | Can be either installment or single payment | Can be either installment or single payment | Amortization table | Amortization table | Amortization table | Amortization table | [(Interest + fees)/years] / avg. borrowed |

Understand the Types, Characteristics and Costs of Mortgage Loans

Mortgage loans are used to finance the purchase of a home or investment property. There are a number of different things you should consider when deciding how to finance a home. Your choice of loans should be based on four key concepts:

1. Your time horizon: How long do you expect to have the mortgage, and how certain are you of that time horizon?
2. Your preference (if any) for low required payments: How important are lower payments in the initial years of the loan?
3. Your tolerance for interest-rate risk: Are you willing to assume the interest-rate risk of the loan?

4. Your work status: Are you or have you been a member of the armed forces? If so, you may qualify for special mortgage programs.

Types of Mortgage Loans

There is basic terminology you must understand before we discuss mortgages.

Conventional loans. These loans are neither insured nor guaranteed. They are loans with amounts below the maximum amount set by the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac) for a single family loan (see Table 2). Fannie Mae and Freddie Mac are the major purchasers of mortgages from the loan brokers or originators, so they set the standard as to the type of loans they will purchase. This maximum amount changes over time. Conventional loans require Private Mortgage Insurance (PMI) if the down payment is less than 20 percent. PMI guarantees payment to the lender should you fail to make payments. Borrowers can eliminate PMI by having equity greater than 20 percent.

Jumbo loans. Jumbo loans are loans in excess of the maximum eligible for purchase by the two Federal Agencies. Some lenders also use the term to refer to programs for even larger loans, such as loans in excess of \$500,000.

Table 2. Conventional Loan Limits for Fannie Mae and Freddie Mac (Single Family)

| Year | Loan Limits |
|-------------|--------------------|
| 2015 | \$417,000 |
| 2016 | \$417,000 |
| 2017 | \$424,100 |
| 2018 | \$424,100 |
| 2019 | \$484,350 |

Loan limits are 50 percent higher in Alaska, Guam, Hawaii, and the U.S. Virgin Islands.

Piggyback loans. These loans are two separate loans, one for 80 percent of the value of the home and one for 20 percent. The second loan has a higher interest rate due to its higher risk; it is used to eliminate the need for Private Mortgage Insurance, the cost of which can be substantial.

There are eight main types of mortgage loans available in the United States: fixed-rate mortgages (FRMs), variable- or adjustable-rate mortgages (ARMs), variable or fixed interest-only mortgages (IO), option adjustable-rate mortgages (Option ARMs), negative-amortization (NegAm), balloon mortgages, reverse mortgages, and special loans.

Fixed-rate mortgages (FRMs). FRMs have a fixed rate of interest for the life of the loan. These are the least risky types of mortgage from the borrower's point of view because the lender assumes the major interest-rate risk. For many years, this was the most common type of mortgage.

The benefits of fixed-rate mortgages include higher initial monthly payments (a greater percentage of each payment goes to pay down principal), no risk of negative amortization, and interest-rate risks that are transferred to the lender. The risks include higher interest rates (lenders must be compensated for increased interest-rate risk) and higher monthly payments that are more difficult to pay, particularly for those not on a regular salary.

Chart 5. Fixed Rate Loans

| Today's Mortgage Interest Rate | | |
|--------------------------------|--------------------|--------------------|
| 3-month trend | 30-year fixed rate | 15-year fixed rate |
| 1/30/2019 | 4.62% | 3.96% |
| 1/23/2019 | 4.62% | 3.99% |
| 1/16/2019 | 4.59% | 3.98% |
| 1/9/2019 | 4.63% | 4.07% |
| 1/2/2019 | 4.68% | 4.11% |
| 12/19/2018 | 4.75% | 4.13% |
| 12/12/2018 | 4.83% | 4.21% |
| 12/5/2018 | 4.90% | 4.33% |
| 11/28/2018 | 5.01% | 4.40% |
| 11/21/2018 | 5.01% | 4.41% |
| 11/14/2018 | 5.10% | 4.47% |
| 11/6/2018 | 5.10% | 4.46% |

Variable- or adjustable-rate mortgages (ARMs). ARMs have a rate of interest that is pegged to a specific interest-rate index that changes periodically. Generally, the initial interest rate is lower than that of a fixed-rate loan because the borrower assumes more of the interest-rate risk. However, due to the risk of rising future interest rates, ARMs may result in significantly higher interest rates in the future. ARMs may have a fixed rate for a certain period of time; after this period ends, the interest rate begins to adjust on a periodic basis.

The benefits of variable-rate loans include lower initial interest rates that vary with national interest rates, lower monthly payments (because of the lower interest rates), and no risk of negative amortization. The risks include a possible “payment shock” if interest rates rise, perhaps beyond what borrowers are able to pay, and somewhat higher monthly payments that may be difficult for those not on a regular salary.

Interest-only options on FRM or ARM loans. These loans are FRMs or ARMs with an option that allows the borrower to make interest-only payments for a certain number of years; payments are then reset to amortize the entire loan over the remaining duration of the loan. Some borrowers will take out an interest-only loan to free up principal to pay down other, more expensive debt. However, once the interest-only period has passed, the payment amount resets,

and the increase in payment can be substantial.

Chart 6. Adjustable Rate Mortgages (ARMs)

Bankrate Current Home Mortgage Rates

| PRODUCT | INTEREST RATE |
|-----------------------------------|---------------|
| 30-year fixed mortgage rate | 4.41% |
| 15-year fixed mortgage rate | 3.72% |
| 5/1 ARM mortgage rate | 4.05% |
| 7/1 ARM mortgage rate | 4.15% |
| 30-year fixed jumbo mortgage rate | 4.44% |
| 30 Year FHA mortgage rate | 4.02% |
| 10/1 ARM | 4.42% |
| 20-year fixed mortgage rate | 4.31% |
| 30-year VA mortgage rate | 4.05% |

Last update: 02/05/2019 at 6:00 AM

The benefits of fixed or variable interest-only loans include lower initial monthly payments and greater flexibility; these benefits may be helpful if the borrower could better use his or her money elsewhere. Because borrowers only pay interest costs (and not principal), they can afford higher loan amounts to buy more house, with the expectation that they may move before the payments increase. The risks of these kinds of loans include a substantial increase in monthly payments when the interest-only period ends and the fact that there is no amortization of principal during the initial interest-only period. For example, if a borrower takes out a fixed-rate interest-only mortgage with a 10-year interest-only option, the borrower pays interest for the first 10 years. In year 11, however, the borrower must pay substantially higher payments as the loan now must amortize over 20 years instead of the normal 30 years. The borrower must assume appreciation of the house to make money. The main risk of interest-only loans is that many borrowers do not have the discipline to invest savings from principal, so they spend it. In addition, there is the risk of borrowing too much money because of the lower initial payments.

Option adjustable-rate mortgages (option ARMs). Option ARMs have interest rates that adjust monthly and payments that adjust annually. There are “options” on the payment amount, one of which is a minimum payment option, which may be smaller than the interest-only payment. The minimum payment option often results in a growing loan balance (termed negative amortization). The lender specifies a specific maximum balance for the loan, i.e., 110 percent or 125 percent of its original value. Once this maximum is reached, payments are automatically increased. The loan becomes fully amortized after 5 or 10 years, regardless of the increase in the amount of principal and interest payments.

The benefits of option ARMs include lower initial monthly payments and greater flexibility; these benefits are especially appealing if borrowers have better use for their money elsewhere. Borrowers can afford more house, and they may move before the payments increase. The risks of

option ARMs include major “payment shock” when the negative amortization or option period ends and the payment is reset. There is the risk that the borrower will borrow too much money. There is also the risk that the minimum monthly payments will be insufficient to cover principal and interest costs, and the difference, called negative amortization, will be added to the loan principal. This type of loan should be avoided as it is highly risky for borrowers.

Negative-amortization mortgages (NegAms). NegAms are loans in which scheduled monthly payments are insufficient to amortize, or pay off, the loan. Interest expenses that have been incurred, but not paid, are added to the principal amount; this process increases the amount of the debt. Some NegAm loans have a maximum negative amortization that is allowed. Once that limit is reached, payments increase automatically to ensure that interest is sufficient to not exceed the limit.

A benefit of NegAm mortgages is that borrowers do not have to make full payments on the loans, and hence they conserve cash. The risk is that borrowers may find themselves at the negative-amortization limit, where payments are automatically reset to a level higher than the borrowers can afford.

Balloon mortgages. Balloons have scheduled interest and principal payments that will not result in the loan being paid in full at the end of the term. The final payment, or balloon, to pay off the loan can be very large. These loans are often used when the debtor expects to refinance the loan when it approaches maturity.

The benefit of balloon mortgages is that borrowers do not have to make full payments on the loans, and hence they conserve cash. The risk is that borrowers may get to the end of the payment period and not be able to come up with the required balloon payment.

Reverse mortgages. Reverse mortgages have proceeds that are made available against the homeowner’s equity. In essence, a financial institution purchases the seller’s home and allows the seller to stay in the home until he or she dies. Reverse mortgages are typically used by cash-poor but home-rich homeowners who need to access the equity in their homes to supplement their monthly income at retirement.

The benefit of these mortgages is that the homeowners have an increased income stream to use for retirement, and they can stay in their homes until they die. The disadvantage is that if death occurs soon after the loan is closed, the lender has purchased the house for a very low cost.

Special loans. These loans are insured or guaranteed. Insured loans are issued by others but insured by a United States federal agency. The Federal Housing Administration (FHA) does not originate any loans but insures the loans issued by others based on income and other qualifications. With an FHA loan, there is lower PMI (1.5 percent of the loan), but it is required for the entire life of the loan. While the required down payment is very low, the maximum amount that can be borrowed is also low.

Guaranteed Loans. Guaranteed loans are issued by others but guaranteed by a federal agency. The Veterans Administration (VA) guarantees loans issued by others. These loans are only for ex-servicemen and women as well as those on active duty. These loans may be for 100 percent of the home value.

Chart 7. FHA and VA Loans

| | |
|------------------------------------|-------|
| 30-year fixed jumbo mortgage rate | 4.44% |
| 30 Year FHA mortgage rate | 4.02% |
| 10/1 ARM | 4.42% |
| 20-year fixed mortgage rate | 4.31% |
| 30-year VA mortgage rate | 4.05% |
| Last update: 02/05/2019 at 6:00 AM | |

Understand the Key Relationships to Reduce Borrowing Costs

If you have consumer loans, the key is keeping your costs low. The least expensive types of consumer loans are obtained from parents or family (generally), home equity lenders, and secured-loan lenders (including mortgage lenders).

More expensive consumer loans are obtained from credit unions, savings and loan institutions, and commercial banks.

The most expensive types of consumer loans are obtained from credit card companies, retail stores, finance companies, and payday lenders.

The key is to only purchase those things you really need and to pay as little for the privilege of borrowing as you can. Ideally, you should save your money first and then purchase what you need with cash.

Reducing Your Borrowing Costs

Listed below are four ways to reduce your borrowing costs:

- 1. Understand the key relationships in borrowing.** The total interest cost of your loan is directly related to the interest rate and the maturity length. Keep the interest rate low and the maturity short. The amount of your periodic payment is inversely related to both the maturity and interest rate of your loan. Keep both low. Finally, some sources of lending are cheaper than others. Generally, parents are cheaper lenders than banks.

2. Understand the key clauses for consumer and mortgage loans. Remember, all clauses are in the lender's favor, and very few, if any, are in the borrower's favor. You are putting your future in someone else's hands when you borrow—you are committing future earnings to today's consumption. Use wisdom in your decisions and know what you are doing before you do it. Read documents very carefully and understand them before you sign them.

3. Know the steps to reducing consumer costs. First, if possible, don't get into debt in the first place. Remember what religious leaders have said about managing debt and staying out of debt. In emphasizing how burdensome debt can be, J. Reuben Clark Jr. said the following:

Once in debt, interest is your companion every minute of the day and night; you cannot shun it or slip away from it; you cannot dismiss it; it yields neither to entreaties, demands, or orders; and whenever you get in its way or cross its course or fail to meet its demands, it crushes you. ³

Second, remember your goals and budget. Remember that ignorance, carelessness, compulsiveness, pride, and necessity can be offset by wisdom, exactness, discipline, humility, and self-reliance. If you really need something, plan and save for it; don't borrow for it.

Third, compare the after-tax cost of borrowing with the after-tax cost of using savings and losing your return. It makes little sense to borrow at a high interest rate when you have savings earning a lower rate. Use the following formula:

$$\text{After-tax lost return} = \text{nominal interest rate} * (1 - \text{tax rate})$$
$$\text{Tax rate} = \text{federal, state, and local marginal tax rates}$$

For example, assume you are looking to purchase a new television set. You have \$500 in savings earning 4.0 percent or you can borrow \$500 from the television store at an APR of 14.5 percent for two years. If you are in the 25-percent federal marginal tax rate and 7-percent state marginal tax rate, your after-tax lost return is 2.7 percent or .04 from your savings account $*(1 - (.25 + .07))$. Clearly it would be better to take your savings and purchase the television set than to pay 14.5 percent interest.

Finally, maintain a strong credit rating. The more you do to increase your credit score, the more attractive you will be to potential lenders and the lower the interest rate you will have to pay on your loan.

4. Reduce the lender's risk. If you can reduce the risk of the loan to your lender, your lender may be able to offer you a lower interest rate. You can reduce the lender's risk in a number of ways:

- *Use a variable-rate loan.* If you choose to use a variable-rate loan, the lender is not penalized if market interest rates increase. Be aware that by choosing a variable-rate loan, you reduce the risk to the lender but increase the risk for yourself. While I prefer fixed-

rate mortgages, reducing the lender's risk may result in a lower rate (at least initially).

- *Keep the loan term as short as possible.* The shorter the term, the less time the lender is at risk.
- *Provide collateral for the loan.* If a lender has collateral for a loan, there is less risk for the lender because the collateral can be sold if you cannot pay back the loan as promised.
- *Put a large down payment on the item to be financed.* Lenders realize that the greater the amount of money you have already paid for an item, the less likely you are to walk away from your loan. Lending you money becomes less risky for lenders if you are willing to make a large down payment.

Understand and Create your Consumer Loan and Debt Plan

Following are a few ideas as you put together your Consumer Loans and Debt Plan. Be aware that we have yet to discuss some of these areas, so we will have more suggestions in specific areas later in the course.

Vision

- From your Plan for Life. Other ideas may include:
 - We will not pay any interest ever on consumer loans and non-mortgage or non-student loan debt.
 - We will defer our wants and always pay cash for our wants.
 - Debt will not be an option or a concern.

Goals

- We will always live on a budget and save 20%.
- We will shop around for best rates on necessary debt and avoid unnecessary debt like the plague.
- Consumer loans. We will never go into debt for consumer products, including autos.
- Student loans. We will only use subsidized Student loans and will repay them quickly.
- Mortgage loans. We will pay off our home by age 45, and we will not go into retirement with mortgage or other debt.

Plans and Strategies

Consumer Loans

- We will separate needs from wants.
- We pay cash for all consumer purchases.
- We will pay off all credit cards monthly.
- We avoid debt like the plague.
- We keep our emergency fund at 4 months and rebuild it quickly once it is drawn down.
- We defer all wants until we can pay cash for them.

- We may have to borrow for our first car, but after that, we will pay cash for all transportation needs.
- We will never buy toys with debt.

Student Loans

- We will spend loan money only on education.
- We will seek scholarships as much as possible.
- We defer all wants until we can pay cash for them and after we have paid off our student loans.
- We will not buy toys until our student loans are all paid off.
- We will understand our employment options to help pay off our student loan debt.
- We build our emergency fund to 3 months and then use the 20%+ to pay down non-subsidized and then subsidized loans.

Mortgage Loans

- We strive to have a 20% down payment to reduce the need for PMI.
- We ensure all housing payments are within the front- and back-end ratios recommended.
- We avoid debt like the plague.
- We keep our emergency fund at 4 months and rebuild it quickly when it is drawn down.
- We defer all wants until we can pay cash for them, except for student and mortgage loans.
- We will not borrow against the equity in our home.

Debt Reduction

- Once school is out, put enough in the company 401k for the match, then save 20% minimum to build our emergency fund.
- After that, I will use 20-30% to pay off debt as quickly as possible paying the highest interest rate first (LT20). Once debt is paid off, continue to pay 20% into savings.
- Continue to live like a student after college, build my emergency fund, then pay 30% each month against my debt using the debt snowball method until debt is all gone. I will then keep paying myself 20% into saving and investing.

Constraints

- Key is living on a budget and saving 20%.
- One half of all unexpected money (bonuses, tax refunds, etc.) will be put toward paying down principal (after our emergency fund).
- Do all required maintenance and plan on replacing key housing machinery as needed. We will also not skimp on required maintenance.
- Do most of the household work ourselves as a family, and will learn as we go, we will bring in experts in areas outside of our proficiency.
- We will stay strong in the gospel, keeping our covenants, attending the temple and serving.

Accountability

- We will share our vision and goals with our children.
- Children will have daily and weekly indoor jobs, as well as weekly yardwork.
- Home is where we teach our children to work. They will learn to use all landscaping and woodworking tools as we work together on our modest and model home.
- We will rotate the jobs weekly so all children will have the opportunities to work throughout the home and will become proficient on all tools.

Summary

Inspired religious leaders have urged their congregations to get out of debt and live within their means. We need to heed that counsel. In this chapter, we discussed the dangers of consumer loans and how these loans can keep you from achieving your goals. We also identified characteristics of specific types of consumer loans and learned how to calculate the costs of borrowing. Finally, we outlined the types of consumer loans according to their cost and discussed ways you can reduce the costs of borrowing.

Consumer loans pay for items that are fairly expensive; you usually don't need these items (at least not urgently). Such items include electronics, automobiles, furniture, and recreational vehicles.

Consumer loans are very expensive and should rarely be used. They encourage you to buy now rather than to save for the future, a practice that may keep you from achieving more important long-term personal goals. Consumer loans also require you to pay interest with money you might otherwise invest for your goals.

It is important for you to understand that different consumer loans have different characteristics. Know what you are getting into before committing to a loan.

Mortgage loans are used to finance the purchase of a home or investment property. Your choice of mortgage loans should be based on three key factors: time horizon and how certain are you of that time horizon, preferences (if any) for required payments, and tolerance for interest-rate risk.

There are four main ways to reduce your borrowing costs:

1. Understand the key relationships in borrowing.
2. Understand the key clauses for consumer loans and mortgage loans.
3. Know the steps to reduce borrowing costs.
4. Reduce the lender's risk.

Assignments

Financial Plan Assignments

Your assignment is to put together your Consumer Loan and Debt Plan. I recommend you use the [PFP Loans Template](#) (LT01-08) as a starting point. Think through the purpose of any consumer, student and other loans you may have. Are they necessary? Could you have gotten by without them? What is your view on loans and debt?

Develop your vision and goals for loans and debt? It need not be long.

Begin working on your plans and strategies as part of your action plan. Start with where you are. If you have consumer loans outstanding, write down the costs of those loans in terms of interest rates, fees, grace period, balance calculation method, and any other fees or expenses.

If you are in debt, what can you do to pay off these loans quickly and get back on the path to debt elimination? Resolve now not to get into debt except for a home or education. What is your debt reduction strategy? How long will it take for you to get out of debt (I recommend you use [Debt Elimination Schedule with Accelerator](#) (LT20) as a possible tool). Most importantly, what are your views and goals on future debt?

Learning Tools

The following Learning Tools may be helpful as you prepare your Personal Financial Plan:

[Credit Card Repayment Spreadsheet](#) (LT18)

This Excel spreadsheet helps you determine how long it will take you to pay off a specific credit card or loan based on the balance owed, annual percentage rate, compounding periods, and payments per month.

[Debt Amortization and Prepayment Spreadsheet](#) (LT09)

This Excel spreadsheet is a debt amortization and prepayment schedule to help you reduce and eliminate your debt.

[Debt Elimination Schedule with Accelerator](#) (LT20)

This spreadsheet allows you to input your different debts and interest rates. It then prioritizes that debt based on interest rates and creates a repayment plan based on the minimum payments due each month. This repayment plan is consistent with Marvin J. Ashton's plan in the article "One for the Money." This spreadsheet also allows you to include an accelerator amount and an amount in addition to your normal monthly payments; you will be able to see how long it will take you to pay off your debt.

Review Materials

Terminology Review

Auto Loans. Auto loans are consumer loans that are secured with an automobile. Because they are secured, they have a lower interest rate than an unsecured loan or credit card. They normally have a maturity length of 2 to 6 years. The risk is that you will often be left with a vehicle that is worth less than what you owe on it.

Balloon Loans. These are loans which payments including interest and principle are not sufficient to pay off the loan at the end of the loan period, but require a large “balloon” payment at some point in the future to fully pay off. This type of loan is not recommended.

Consumer Loans. Consumer loans are loans you obtain to pay for items that are fairly expensive and that you usually don’t need (at least not urgently). Such items include electronics, automobiles, furniture, and recreational vehicles. Consumer loans are very expensive and should rarely be used. They encourage you to buy now rather than to save for the future. Consumer loans also reduce the amount of money you can save for your goals because they require you to pay interest with money you might otherwise have saved and invested.

Convertible Loans. These loans begin as a variable-rate loan and can be locked into a fixed-rate loan at the then current interest rate at some predetermined time in the future (for a specific cost).

Fixed-rate Loans. Have the same interest rate for the duration of the loan. Normally have a higher initial interest rate as the lender could lose money if overall interest rates increase. The lender assumes the interest rate risk, so they generally add an interest premium to a variable rate loan

Home Equity Lines of Credit (HELOC). Home equity lines of credit are basically second mortgages which use the equity in your home to secure your loan. These are generally adjustable rate notes that have an interest only payment, at least in the first few years of the note. Interest rates are variable and are generally interest only in the first few years. They have lower rates of interest than other consumer loans.

Home Equity Loans. Home equity loans are basically second mortgages which use the equity in your home to secure your loan. Normally can borrow up to 80% of your equity in your home

Installment Loans. Installment loans are loans which are repaid at regular intervals and where payment includes both principal and interest. These are normally used to finance houses, cars, appliances, and other expensive items. These loans are amortized, which is the process of the payment going more toward principal and less toward interest each subsequent month. These may be secured or unsecured loans, variable-rate or fixed-rate loans.

Payday Loans. These are short-term loans of 1-2 weeks secured with a post-dated check which is “held” by the lender and then cashed later. These have very high interest rates and fees, APR > 720%. Typical users are those with jobs and checking accounts but who have been unable to manage their finances effectively.

Secured Loans. Secured loans are guaranteed by a specific asset, i.e. a home or a car, and typically have lower interest rates.

Single Payment (or balloon) Loans. These are loans that are repaid in only one payment, including interest. These are generally short-term lending of one year or less, sometimes called bridge or interim loans, often used until permanent financing can be arranged. These may be secured or unsecured.

Student Loans. These are loans with low, federally subsidized interest rates used for higher education. Examples include Federal Direct (S) and PLUS Direct (P) available through the school; Stafford (S) and PLUS loans (P) available through lenders. Some are tax-advantaged and have lower than market rates. Payment on Federal Direct and Stafford loans deferred for 6 months after graduation.

Unsecured Loans. Unsecured loans require no collateral, are generally offered to only borrowers with excellent credit histories, and have higher rates of interest – 12% to 28% (and higher) annually.

Variable-rate Loans. Have an interest rate that is tied to a specific index (e.g., prime rate, 6-month Treasury bill rate) plus some margin or spread, i.e. 5%). Can adjust on different intervals such as monthly, semi-annually, or annually, with a lifetime adjustment cap. Normally have a lower initial interest rate because the borrower assumes the interest rate risk and the lender won't lose money if overall interest rates increase

Mortgage Terminology

Balloon Mortgages. These are mortgage loans whose interest and principal payment won't result in the loan being paid in full at the end of the term. The final payment, or balloon, can be significantly large. These loans are often used when the debtor expects to refinance the loan closer to maturity.

Conventional loans. These are loans that are neither insured or guaranteed. They are below the maximum amount set by Fannie Mae and Freddy Mac. They require Private Mortgage Insurance (PMI) if the down payment is less than 20%.

FHA Loans. These are Federal Housing Administration (FHA) Insured Loans. The FHA does not originate any loans, but insures the loans issued by others based on income and other qualifications. There is lower PMI insurance, but it is required for the entire life of the loan (1.5% of the loan). While the required down payment is very low, the maximum amount that can be borrowed is also low.

Fixed rate mortgages (FRMs). These are mortgage loans with a fixed rate of interest for the life of the loan. These are the least risky from the borrower's point of view, as the lender assumes the major interest rate risk above the loan rate. These are the most-recommended option for new home buyers.

Interest Only Option Loans. These are FRMs or ARMs with an option that allows interest only payments for a certain number of years, and then payments are reset to amortize the entire loan over the remaining years. Some will take out an interest only loan to free up principal to pay down other more expensive debt. Once the interest-only period has passed, the payment amount resets, and the increase in payment can be substantial. These are generally not recommended.

Jumbo Loans. These are loans in excess of the conventional loan limits and the maximum eligible for purchase by the two Federal Agencies, Fannie Mae and Freddy Mac, of \$424,000 in 2018 (some areas have higher amounts). Some lenders also use the

term to refer to programs for even larger loans, e.g., loans in excess of \$500,000.

Negative Amortization Mortgages (NegAm). These are mortgage loans in which scheduled monthly payments are insufficient to amortize, or pay off the loan. Interest expense that has been incurred, but not paid is added to the principal amount, which increases the amount of the debt. Some NegAm loans have a maximum negative amortization that is allowed. Once that limit is hit, rates adjust to make sure interest is sufficient to not exceed the maximum limit.

Option Adjustable Rate Mortgages (Option ARMs). This is an ARM where interest rate adjusts monthly, and payments annually, with “options” on the payment amount, and a minimum payment which may be less than the interest-only payment. The minimum payment option often results in a growing loan balance, termed negative amortization, which has a specific maximum for the loan. Once this maximum is reached, payments are automatically increased and the loan becomes fully amortizing after 5 or 10 years, regardless of increase in payment and must be repaid within the 30 year limit. These are not recommended.

Piggyback Loans. These are two separate loans, one for 80% of the value of the home and one for 20%. The second loan has a higher interest rate due to its higher risk. The second loan is used to eliminate the need for PM Insurance. With a piggyback loan, PMI is not needed, but these are much harder to get now.

Reverse Mortgages. These are mortgage loans whose proceeds are made available against the homeowner’s equity. Financial institutions in essence purchase the home and allow the seller the option to stay in the home until they die. Once they die, the home is sold and the loan repaid, generally with the proceeds. These are typically used by cash-poor but home-rich homeowners who need to access the equity in their homes to supplement their monthly income at retirement.

VA Loans. These are Veterans Administration (VA) Guaranteed Loans. These loans are issued by others and guaranteed by the Veterans Administration. They are only for ex-servicemen and women as well as those on active duty. Loans may be for 100% of the home value.

Variable or Adjustable Rate Mortgages (ARMs). These are mortgage loans with a rate of interest that is pegged to a specific index that changes periodically, plus a margin that is set for the life of the loan. Generally the interest rate is lower compared to a fixed rate loan, as the borrower assumes more of the interest rate risk. The may have a fixed rate for a certain period of time, then afterwards adjust on a periodic basis.

Review Questions

1. What are seven different types of consumer loans?
2. What is the most critical document of the loan process? Why?
3. What are the three concepts that should be considered before obtaining a home mortgage?
4. What are the benefits of getting a fixed-rate mortgage? A variable-rate mortgage?

Case Studies

Case Study 1

Data

Matt is offered a \$1,000 single-payment loan for one year at an interest rate of 12 percent. He determines there is a mandatory \$20 loan-processing fee, \$20 credit check fee, and \$60 insurance fee. The calculation for determining your APR is (annual interest + fees) / average amount borrowed.

Calculations

- A. What is Matt's APR for the one-year loan, assuming principal and interest are paid at maturity?
- B. What is Matt's APR if this was a two-year loan with principal and interest paid only at maturity?

Case Study 1 Answers

Matt's interest cost is calculated as principal * interest rate * time.

- A. The APR for the one-year loan is:

$$\text{Interest} = \$1,000 * 0.12 * 1 \text{ year} = \$120$$

$$\text{Fees are } \$20 + \$20 + \$60 = \$100$$

$$\text{His APR is } (120 + 100) / 1,000 = 22.0\%$$

- B. The APR for the two-year loan is:

$$\text{Interest} = \$1,000 * 0.12 * 2 \text{ years} = \$240$$

$$\text{Fees are } \$20 + \$20 + \$60 = \$100$$

His APR is

$$[(240 + 100) / 2] / 1,000 = 17.0\%.$$

Since this is a single-payment loan, the average amount borrowed is the same over both years. Note that Matt's APR is significantly higher than his stated interest rate because of the fees charged. He should be very careful of taking out this loan.

Case Study 2

Data

Matt has another option with the same \$1,000 loan at 12 percent for two years. But now he wants to pay it back over 24 months and he has no other fees.

Calculations

Using the simple interest and monthly payments, calculate:

- A. The monthly payments
- B. The total interest paid
- C. The APR of this loan

Note: The simple-interest method for installment loans is simply using your calculator's loan amortization function.

Case Study 2 Answers

- A. To solve for simple interest monthly payments, set your calculator to monthly

payments, end mode:

$$PV = -1,000, I = 12\%, P/Y = 12, N = 24, PMT=?$$

$$PMT = \$47.074$$

B. Total interest paid = $47.074 \times 24 - 1,000 = ?$

$$\$129.76$$

To calculate the APR, it is $[(\text{interest} + \text{fees}) / 2] / \text{average amount borrowed}$ (which changes each year as you pay it down in an amortized or installment loan). The average amount borrowed of \$540.68, which is the average of the monthly principle outstanding (see Table 3). The APR is calculated as $(\$129.76 / 2 \text{ years}) / \$540.68 = 12\%$.

Case Study 3

Data

You are looking to finance a used car for \$9,000 for three years at 12 percent interest.

Calculations

- A. What are your monthly payments?
- B. How much will you pay in interest over the life of the loan?
- C. What percent of the value of the car did you pay in interest?

Case Study 3 Answers

A. To solve for your monthly payments, set PV equal to -9,000, I equal to 12, N equal to 36, and solve for PMT.

Your payment is \$298.93 per month.

B. To get your total interest paid, multiply your payment by 36 months. $\$298.92 \times 36 = \$10,761.44 - 9,000 = ?$

$$\$1,761.44$$

C. To determine what percent of the car you paid in interest, divide interest by the car's cost of \$9,000 = $\$1,761.44 / 9,000 = 19.56\%$

You paid nearly 1/5 the value of the car in interest. Why not save next time and buy a nicer car (or save some of that money)?

Table 3. APR Calculation

| Calculated rate using Excel "Rate" Function: | | | | 12.000% |
|--|--------------------|----------------------------|---------------------|--------------|
| Amount | 1,000 | Stated Interest | 12% | |
| P/Y | 12 | Payment | \$47.07 | |
| Years | 2 | PMT = from loan calculator | | |
| Amount Received: | | 1,000 | Remaining | |
| Amount | Payment | Interest | Principle | Principle |
| 1,000.00 | \$47.07 | 10.00 | \$37.07 | \$962.93 |
| \$962.93 | \$47.07 | 9.63 | \$37.44 | \$925.48 |
| \$925.48 | \$47.07 | 9.25 | \$37.82 | \$887.66 |
| \$887.66 | \$47.07 | 8.88 | \$38.20 | \$849.47 |
| \$849.47 | \$47.07 | 8.49 | \$38.58 | \$810.89 |
| \$810.89 | \$47.07 | 8.11 | \$38.96 | \$771.92 |
| \$771.92 | \$47.07 | 7.72 | \$39.35 | \$732.57 |
| \$732.57 | \$47.07 | 7.33 | \$39.75 | \$692.82 |
| \$692.82 | \$47.07 | 6.93 | \$40.15 | \$652.68 |
| \$652.68 | \$47.07 | 6.53 | \$40.55 | \$612.13 |
| \$612.13 | \$47.07 | 6.12 | \$40.95 | \$571.18 |
| \$571.18 | \$47.07 | 5.71 | \$41.36 | \$529.82 |
| \$529.82 | \$47.07 | 5.30 | \$41.78 | \$488.04 |
| \$488.04 | \$47.07 | 4.88 | \$42.19 | \$445.85 |
| \$445.85 | \$47.07 | 4.46 | \$42.62 | \$403.23 |
| \$403.23 | \$47.07 | 4.03 | \$43.04 | \$360.19 |
| \$360.19 | \$47.07 | 3.60 | \$43.47 | \$316.72 |
| \$316.72 | \$47.07 | 3.17 | \$43.91 | \$272.81 |
| \$272.81 | \$47.07 | 2.73 | \$44.35 | \$228.47 |
| \$228.47 | \$47.07 | 2.28 | \$44.79 | \$183.68 |
| \$183.68 | \$47.07 | 1.84 | \$45.24 | \$138.44 |
| \$138.44 | \$47.07 | 1.38 | \$45.69 | \$92.75 |
| \$92.75 | \$47.07 | 0.93 | \$46.15 | \$46.61 |
| \$46.61 | \$47.07 | 0.47 | \$46.61 | \$0.00 |
| \$540.68 | Total Int.= | 129.76 | Actual APR = | 12.0% |

Case Study 4

Data

Bill is short on cash for a date this weekend. He found he can give a postdated check to a payday lender who will give him \$100 now for a \$125 check that the lender can cash in two weeks. The APR equals the total fees divided by the annual amount borrowed. The effective annual rate = $[(1 + APR / \text{periods})^{\text{periods}}] - 1$.

Calculations

- A. What is the APR?
- B. What is the effective annual interest rate?

Application

- C. Should he take out the loan?

Case Study 4 Answers

A. The APR is the amount paid on an annual basis divided by the average amount you borrow.

$$APR = (\$25 * 26 \text{ two-week periods}) / \$100 = \$650 / \$100 = 650\%$$

B. To solve for your effective annual interest rate, put it into the equation for determining the impact of compounding.

The effective annual interest rate is $(1 + [6.5 / 26 \text{ periods}])^{26 \text{ periods}} - 1 = 32,987\%$

This is a very expensive loan.

D. No. It is just too expensive.

Case Study 5

Data

Wayne is concerned about his variable-rate mortgage. Assuming a period of rapidly rising interest rates, how much could his rate increase over the next four years if he had a

6-percent variable-rate mortgage with a 2-percent annual cap (that he hits each year) and a 6-percent lifetime cap?

Application

How would this affect his monthly payments?

Case Study 5 Answers

Assuming rates increased by the maximum 2 percent each year, at the end of the four years it could have reached its cap of 6 percent, giving a 12 percent rate. Nearly doubling the interest rate would significantly increase Wayne's monthly payment.

Case Study 6

Data

Anne is looking at the mortgage cost of a traditional 6.0 percent 30-year amortizing loan versus a 7.0 percent 30-year/10-year interest-only home mortgage of \$300,000.

Calculations

- A. What are Anne's monthly payments for each loan for the first 10 years?
- B. What is the new monthly payment beginning in year 11 after the interest-only period ends?

Application

- C. How much did Anne's monthly payment rise in year 11 in percentage terms?

Case Study 6 Answers

A. Anne's monthly payments are

Traditional: The amortizing loan payment is:

$$PV = -300,000, I = 6.0\%, P/Y = 12, N = 360, PMT = ?$$

$$PMT = \$1,798.65$$

Interest-only: The payment would be $\$300,000 * 7.0\% / 12 = \$1,750.00$

B. After the 10-year interest-only period, her new payment would be (she would have to amortize the 30-year loan over 20 years):

$$PV = -300,000, I = 7.0\%, P/Y = 12, N = 240, PMT = ?$$

$$PMT = \$2,325.89$$

C. The new payment is a 33% increase over the interest-only period in year 10.

Case Study 7

Data

Jon took out a \$300,000 30-year Option ARM mortgage for purchasing his home, which had a 7 percent mortgage. Each month he could make a minimum payment of \$1,317 (which did not even cover the interest payment), an interest-only payment of \$1,750, a payment of \$1,996 that included both principal and interest, or an additional amount. The loan had a negative-amortization maximum of 125 percent of the value of the loan. Jon was not very financially savvy, and for the first 10 years made the minimum payment only. As a result, at the end of year 10, he was notified that he had hit the negative-amortization maximum and that his loan had reset.

Calculations

- A. What is Jon's new monthly payment beginning in year 11 after he hit the negative amortization limit?
- B. How much did Jon's monthly payment rise over the minimum payment he was paying previously?

Case Study 7 Answers

A. After the negative-amortization limit is hit, he must now amortize the loan over 20 years instead of 30. His new loan amount is not \$300,000, but \$375,000 (300,000 * 125 percent) due to the fact he did not pay enough to even cover interest payments:

$PV = -375,000$, $I = 7.0\%$, $P/Y = 12$, $N = 240$, $PMT = ?$

$PMT = \$2,907.37$

B. His minimum payment was \$1,317, and his new payment is \$2,907.

It is a 121-percent increase over the minimum payment period.

Notes

Other good sources of information on mortgages are available at:

www.mtgprofessor.com

www.bankrate.com

¹ *Ensign*, Nov. 1998, 52–54

² Proverbs 29:18.

³ J. Reuben Clark Jr., *Improvement Era*, Jun. 1938, 328